

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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CENTER FOR BIOLOGICAL)	
DIVERSITY and CENTER FOR FOOD)	
SAFETY,)	
<i>Petitioners,</i>)	No. 23-1329
)	
v.)	
)	
UNITED STATES ENVIRONMENTAL)	
PROTECTION AGENCY,)	
<i>Respondent.</i>)	
<hr/>)	

PETITION FOR REVIEW

Pursuant to Section 16(b) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. § 136n(b), Rule 15 of the Federal Rules of Appellate Procedure, and Circuit Rule 15, the Center for Biological Diversity and Center for Food Safety (“Petitioners”) hereby petition the Court for review of Respondent United States Environmental Protection Agency’s (“EPA”) decision registering the use of the pesticide cyantraniliprole on a range of crops as set forth below in this petition.

These amended registrations and underlying registration decision are the subject matter, and the result of, an order from this Court in the pending case *In re Ctr. for Biological Diversity & Ctr. for Food Safety*, 53 F.4th 665, 669 (D.C. Cir. 2022). Petitioners believe that the panel of this Court issuing that opinion

maintains jurisdiction over EPA's actions below in the course of ensuring compliance with the Court's writ of mandate. However, EPA has argued that if the Petitioners "want to allege that EPA's approval of these amendments to the registration is contrary to the ESA, that would be a new claim to be brought in the appropriate court in a new challenge to EPA's approval of the registration amendments." *In re Ctr. for Biological Diversity & Ctr. for Food Safety*, DC Cir. Case No. 21-1270, Doc. 2026758, EPA's Response in Support of Its Notice of Completion (November 13, 2023). In light of the sixty-day time limit for appellate court jurisdiction in FIFRA, this petition is therefore submitted as an appropriate protective measure to ensure preservation of Petitioners' claims. Petitioners will move to stay this Petition for Review pending the outcome of the Court's consideration of compliance with its order in *In re Ctr. for Biological Diversity & Ctr. for Food Safety*. 53 F.4th 665, 669 (D.C. Cir. 2022).

This petition challenges EPA's following cyantraniliprole registrations:

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide (September 27, 2023), EPA-HQ-OPP-2011-0668-0133 (Attachment 1);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential, (September 27, 2023), EPA-HQ-OPP-2011-0668-0134 (Attachment 2);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0135 (Attachment 3);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Benevia Insect Control, Exirel Insect Control and Verimark Insect Control, (September 27, 2023), EPA-HQ-OPP-2011-0668-0136 (Attachment 4);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Benevia Insect Control, Exirel Insect Control and Verimark Insect Control, (September 27, 2023), EPA-HQ-OPP-2011-0668-0137 (Attachment 5);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0138 (Attachment 6);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0139 (Attachment 7);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0140 (Attachment 8);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo

Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0141 (Attachment 9);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Benevia Insect Control, Exirel Insect Control and Verimark Insect Control, (September 27, 2023), EPA-HQ-OPP-2011-0668-0142 (Attachment 10);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Name: Lumiderm Insecticide Seed Treatment, (September 27, 2023), EPA-HQ-OPP-2011-0668-0143 (Attachment 11);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0144 (Attachment 12);

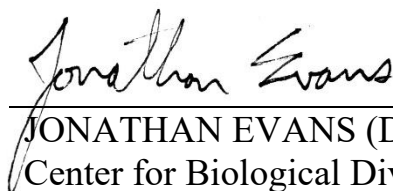
Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait,

Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0145 (Attachment 13);

Registration Amendment – Amended Terms and Conditions, and Revised Labeling Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide, (September 27, 2023), EPA-HQ-OPP-2011-0668-0146 (Attachment 14); and

the underlying Registration of the New Active Ingredient Cyantraniliprole (January 24, 2014) EPA-HQ-OPP-2011-0668-0057 (Attachment 15).

Respectfully submitted this 22nd day of November, 2023,



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*Counsel for Petitioners Center for Biological
Diversity and Center for Food Safety*

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RULE 26.1 DISCLOSURE STATEMENT

Pursuant to Fed. R. App. P. 26.1 and Circuit Rule 26.1, Petitioners make the following disclosures:

Center for Biological Diversity has no parent companies, and no publicly held company has a ten percent or greater ownership interest in Center for Biological Diversity.

Center for Food Safety has no parent companies, and no publicly held company has a ten percent or greater ownership interest in Center for Biological Diversity.

Respectfully submitted this 22nd day of November, 2023,



 JONATHAN EVANS (DC Cir Bar #53186)
 Center for Biological Diversity

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*Counsel for Petitioners Center for Biological
Diversity and Center for Food Safety*

Attachment 1



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

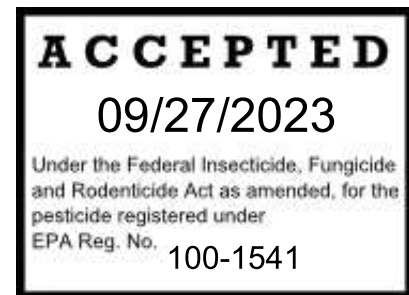
¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master Label]

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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ZYROX® FLY GRANULAR BAIT**Insecticidal Bait**

- Granular insect bait for use in and around residential, commercial, institutional, and agricultural structures to control listed fly pests and kill listed cockroaches
- [Kills Oriental, German, and American cockroaches]
- [Kills Houseflies, Stable flies, and other nuisance flies]
- [Ready to use bait]
- [Apply at 0.2 to 0.4 pounds per 1,000 sq ft]
- [Highly attractive bait to flies and cockroaches]

**Active Ingredient:**

Cyantraniliprole*

3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino)

carbonyl]phenyl]-1H-pyrazole-5-carboxamide: 0.5%

Other Ingredients: 99.5%

Total: 100.0%

*Cyantraniliprole belongs to the anthranilic diamide chemical class.

Zyrox Fly Granular Bait is a ready-to-use granular insect bait containing 0.005 lb cyantraniliprole per pound of product.

KEEP OUT OF REACH OF CHILDREN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

EPA Reg. No. 100-1541

EPA Est. No.

Net Contents

[Batch Code: _____] (For nonrefillables only.)

FIRST AID**HOTLINE NUMBER**

For 24-Hour Medical Emergency Assistance (Human or Animal)
or Chemical Emergency Assistance (Spill, Leak, Fire or Accident),
Call
1-800-888-8372

PRECAUTIONARY STATEMENTS**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Shirt and long pants
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users Should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water. Runoff may be hazardous to aquatic organisms in water adjacent to use sites.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Read and understand the entire label before using this product.

Zyrox Fly Granular Bait must be used in accordance with the directions for use on this label, or exemptions under FIFRA (Special Local Need Registrations, FIFRA Section 18 exemptions, FIFRA 2(ee) Bulletins). Always read the entire label, including the Limitation of Warranty and Liability.

PRODUCT INFORMATION

Zyrox Fly Granular Bait contains the active ingredient cyantraniliprole in a ready-to-use granular bait formulation:

- Controls listed fly pests and kills cockroaches in and around residential, commercial, institutional and agricultural structures;
- Provides an alternative mode of action for insecticide resistance management;
- Can be an important tool in an integrated pest management program.

APPLICATION USE SITES

Zyrox Fly Granular Bait may be applied in these areas:

- outdoor waste-storage areas around commercial establishments, such as restaurants, taverns, hotels, grocery stores, supermarkets, bakeries, warehouses, and sports complexes;
- outdoor areas of commercial operations, such as canneries; beverage-processing plants; dairy-, meat-, and poultry-processing plants; fruit- and vegetable-processing plants; seafood-processing plants; tanneries; rendering plants; grease-collection stations; kennels; schools; recycling plants; and military installations;
- outdoor areas of agricultural animal-production facilities, such as poultry/broiler houses, swine-production structures, livestock-housing structures, and horse stables.

To control house fly, stable fly, dump fly, fruit flies, dung fly, and black-eyed fly, and to kill cockroaches, Zyrox Fly Granular Bait may be used indoors at the sites listed above as a water-diluted application. For flies only, Zyrox may be applied as a granular if placed in bait stations. In walkways within caged-layer houses or in penned-animal facilities, Zyrox may be applied as a broadcast, scatter bait. Refer to the TARGET PESTS table describing **Use in Bait Stations** or **Alternative Application Methods** for specific use instructions.

USE RESTRICTIONS AND PRECAUTIONS

- **DO NOT** apply as a scatter bait indoors in residential structures, commercial establishments, food- and feed-handling establishments, food-processing plants, restaurants and animal-production facilities. Bait stations or the alternative application methods (see following section) must be used when applying Zyrox Fly Granular Bait inside these buildings/structures, except for walkways within caged-layer houses or penned-animal facilities.
- **DO NOT** apply as a scatter bait in areas accessible to children and pets. When bait stations or the alternative application methods (see following section) are used, place stations, ropes, or cards out of the reach of children and pets.
- **DO NOT** place bait within reach of food-producing animals or animals being grown for food.
- **DO NOT** apply as a scatter bait outdoors when raining.
- **DO NOT** apply as scatter bait within 30 ft of aquatic habitats (such as, but not limited to, lakes, rivers, reservoirs, permanent streams, wetlands or natural ponds, estuaries, and commercial fishponds).
- **DO NOT** use outdoors as a scatter bait in the Nassau, Suffolk, Kings, and Queens Counties of New York State.
- For outdoor broadcast applications, **DO NOT** apply more than 2 lb per 1,000 sq ft per calendar year (equivalent to 0.01 lb ai per 1,000 sq ft per calendar year or 0.44 lb ai/A per calendar year).

RESISTANCE MANAGEMENT

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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Zyrox Fly Granular Bait is a Group 28 Insecticide that contains the active ingredient cyantraniliprole. Due to the inherent risk of the development of resistance to any pesticide, it is strongly advised that Zyrox Fly Granular Bait be used in a sound resistance-management program that includes, but is not limited to:

- Applying Zyrox Fly Granular Bait according to the label-use directions;
- Alternating Zyrox Fly Granular Bait with products with different modes of action;
- Avoiding treatment of successive generations with Zyrox Fly Granular Bait.

For additional information about implementing these or other resistance management practices, consult a local or state Extension specialist or Syngenta representative.

Food- and Feed-Handling Establishments

(Food- and feed-handling establishments are places other than private residences in which food and feed are held, processed, prepared or served.)

- For indoor areas of residential, institutional, public, agricultural buildings/structures, or food- and feed-handling establishments, Zyrox Fly Granular Bait must be placed in bait stations suitable for granular insect baits or prepared and applied as a water-diluted product. Indoor use as a scatter bait is permitted only on walkways in caged-layer houses or penned-animal facilities.
- **DO NOT** apply to areas or surfaces where food, feed, food utensils or food-processing surfaces may come into contact and become contaminated.

Applications in Non-food and Non-feed Areas

Zyrox Fly Granular Bait is approved for use to control house flies and other listed fly pests and to kill cockroaches in residential structures and the non-food and non-feed areas of commercial, industrial, public, agricultural and institutional buildings/structures, including restaurants, warehouses, food- and feed-processing plants, supermarkets, hospitals, nursing homes, motels, hotels, schools, daycares, laboratories, computer facilities, aircraft, buses, boats/ships, trains, pet shops and zoos.

Non-food and non-feed areas of food- and feed-handling establishments include areas such as garbage rooms, lavatories, floor drains (to sewers), entries, and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets and storage (after bottling or canning).

Refer to section below for use directions and restrictions when making applications in food/feed handling areas of Food- and Feed-Handling Establishments.

Applications in Food- and Feed-Handling Areas

Application to food/feed areas of food- and feed-handling establishments may only be made using bait stations suitable for use with granular insect control baits.

Food- and feed-handling areas include areas for receiving, storage, packing (canning, bottling, wrapping, boxing), preparing edible waste storage, and enclosed processing systems (mills, dairies, edible oils, syrups). Serving areas are also considered a food and feed area when food is exposed and facility is in operation.

APPLICATION PROCEDURES AND USE RATES

Broadcast

Broadcast or scatter Zyrox Fly Granular Bait using suitable granular spreader equipment or directly from the container evenly to the target areas. Avoid placing the bait granules in piles and scatter bait as evenly as possible over surfaces.

Apply 0.2 lb (3.2 oz) of Zyrox Fly Granular Bait per 1,000 sq ft when listed fly and cockroach pest populations are low. Apply 0.4 lb (6.4 oz) of bait per 1,000 sq ft when populations are high. Reapply bait every 7 days until insect pest population is at acceptable levels. For outdoor broadcast applications, **DO NOT** apply more than 2 lb per 1,000 sq ft per calendar year.

Use in Bait Stations (For flies only)

Use bait stations that are suitable for granular baits.

Apply 0.2 lb (3.2 oz) of Zyrox Fly Granular Bait when listed fly pest populations are low using enough bait stations to make the necessary amount of bait available per 1,000 sq ft. Apply 0.4 lb (6.4 oz) of bait in bait stations per 1,000 sq ft when listed fly pest populations are high. Replenish bait stations until the fly population is at acceptable levels in the target area.

Alternative Application Methods (for Listed Pests)

Application of Zyrox Fly Granular Bait to Glue-Boards or Sticky Cards

Zyrox Fly Granular Bait may be applied as a dry scatter bait to the sticky surfaces of glue boards or other sticky cards as a way to present granular bait to listed fly and cockroach pests. Apply Zyrox Fly Granular Bait to sticky surface of cards in a way so that the sticky material is covered with an even layer of bait (approximately 0.1 oz per sq inch of card surface). The amount used per card depends on the size and type of sticky surface. Hang cards from ceiling supports or other means to provide a treated surface for flies to land. Replace cards as bait is consumed or if cards become dirty, but not more frequently than every 7 days.

Use of Water-Diluted Zyrox Fly Granular Bait Product – How to Prepare Dilution

Zyrox Fly Granular Bait may be applied by diluting granules in warm water at ratios ranging from 0.5-1.5 oz Zyrox Fly Granular Bait per 1 fl oz water. Mix in non-food use container and stir until bait has dissolved. Let mixture stand until a suitable consistency is achieved that allows one to paint the mixture onto a surface or apply to disposable cards or rope wicks.

Methods of Applications of Water-Diluted Product (not for Stable Flies)

- **Paint-on method.** Prepare water-diluted product as described above. Apply as a spot treatment or in 6-12 inch wide bands to surfaces every 10 ft where flies are likely to rest using a paint brush, roller or other applicator suited to spreading water-diluted bait onto a surface. Rinse applicator thoroughly after using. Reapply diluted bait as needed, but not more frequently than every 7 days. Some surfaces may become temporarily discolored when painting with diluted bait so it is advisable to test paint a small area to determine surface compatibility.
- **Application to disposable cards.** Water-diluted bait may also be applied to cards. Hang cards from ceiling supports or other means to provide a treated surface for flies to land. Treated cards may be disposed of when they are no longer attractive to pests or when they become dirty and may be replaced with freshly treated cards every 7 days.
- **Rope-wick application of water-diluted product.** Rope wick may be used as a disposable surface for exposing flies to water-diluted Zyrox Fly Granular Bait. Prepare water-diluted product as described above in a container. Place short

pieces of rope-wick (approximately 6-36 inch lengths) into diluted product and allow to soak up diluted bait for 3-5 minutes. Remove rope pieces, allow to dry, and hang in areas where flies are likely to rest.

Surfaces that may be treated with paint-on treatments or where disposable boards/cards and/or rope wicks may be hung include doors and windows, building perimeter foundations, walls, beam edges, eaves, corners, cracks, crevices, wall voids, unfinished attics, crawl spaces, under appliances, along wall edges, conduits to light fixtures, pillars and other structures such as, but not limited to, fences, awnings, dumpsters, refuse containers and other areas where flies or fly specks are found.

Do not paint surfaces or place boards/cards or rope wicks within the reach of children, pets or livestock.

TARGET PESTS

Pest Group	Including	Application Method		Comments
		Indoors	Outdoors	
Flies	<ul style="list-style-type: none"> House Fly 	Broadcast ¹ Bait Stations Scatter application to Glue-Boards or Sticky Cards Water-Diluted Product ² (Paint-on or Rope- Wick)	Broadcast Bait Stations	Use bait stations suitable for flies.
	<ul style="list-style-type: none"> Stable Fly 	Bait Stations Scatter application to Glue-Boards or Sticky Cards		
	<ul style="list-style-type: none"> Dump fly Fruit Flies (including spotted wing <i>Drosophila</i>) [Nuisance Flies 	Broadcast ¹ Bait Stations	Broadcast Bait Stations Scatter application to	

	(including black-eyed fly, dung fly) ^{3]}	Scatter application to Glue-Boards or Sticky Cards Water-Diluted Product ² (Paint-on or Rope-Wick)	Glue-Boards or Sticky Cards Water-Diluted Product (Paint-on or Rope-Wick)	
Cockroaches	such as: <ul style="list-style-type: none"> American Cockroach German Cockroach Oriental Cockroach 	Broadcast ¹ Scatter application to Glue-Boards or Sticky Cards	Broadcast Scatter application to Glue-Boards or Sticky Cards	
<p>¹ DO NOT broadcast indoors except for walkways of penned-animal facilities.</p> <p>² DO NOT USE DILUTED APPLICATIONS (Paint-On or Rope-Wick) for INDOOR RESIDENTIAL SITES.</p> <p>³ Not approved for use in California.]</p>				

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

Pesticide Disposal

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling [bags]

Non-refillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or by other procedures approved by state and local authorities.

Container Handling [plastic containers less than or equal to 50 pounds]

Non-refillable container. Do not reuse or refill this container. Completely empty container into application equipment. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [fiber drums with liners]

Non-refillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling if available or dispose of liner in a sanitary landfill or by incineration, or by other procedures approved by state and local authorities. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

Zyrox®, the ALLIANCE FRAME
the SYNGENTA Logo and the PURPOSE ICON
are Trademarks of a Syngenta Group Company

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For non-emergency information (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481

Manufactured for:
Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, North Carolina 27419-8300

Zyrox Fly Granular Bait 1541 MAS 0920 AMEND 0623-CL - JVB - 6/14/2023
000100-01541.20230616.ZYROX_FGB.AMEND-0623-CL.pdf

Attachment 2



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master Label]

GROUP	28	INSECTICIDE
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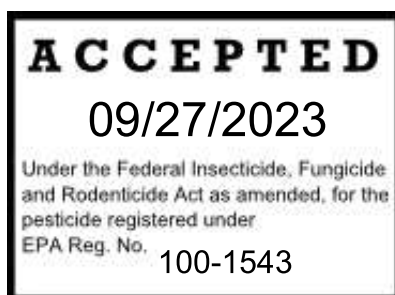
Mainspring™ GNL

Insecticide

For control of insects on ornamental plants; ornamental bulb, corm and tuber crops; conifers; Christmas trees; [vegetable plants] and non-bearing fruit and nut trees grown in greenhouses and nurseries (including field- and container-grown plants grown outdoors and in shade houses, lath houses and other ornamental production structures), conifer nurseries, retail nurseries, residential and commercial landscapes, and interior plantscapes

[Optional marketing statements]

1. [Effective on both chewing and sucking pests]
2. [Effective thrips control]
3. [Effective whitefly control]
4. [Excellent for insecticide resistance management programs]
5. [Controls resistant insect pests]
6. [Mode of action like no other in greenhouse and nursery production]
7. [Excellent choice for IPM programs]
8. [Low application rates]
9. [Has both contact and systemic activity]
10. [Systemic activity by foliar or soil application]
11. [Flexible application methods, can be foliar or soil applied]
12. [Taken up by the roots and systemically moves through the plant]
13. [Systemically protects plants from labeled insect pests]
14. [Root absorbed, with systemic movement through plant]
15. [Systemically moves through the plant]
16. [Starts impacting labeled insect pests upon ingestion [contact]]
17. [Insect feeding stops upon ingestion]
18. [Provides quick cessation of insect feeding and residual control]
19. [Effective control of ornamental insect pests on trees and shrubs]
20. [Protects ornamentals from Japanese beetle adults [and other pests]]
21. [Protects ornamentals from Japanese beetles [and leaf feeding caterpillars]]



Active Ingredient:

Cyantraniliprole*:

3-bromo-1-(3-chloro-2-pyridinyl)-N- [4-cyano-2-methyl-6-[(methylamino)

carbonyl]phenyl]-1H-pyrazole-5-carboxamide: 18.66%

Other Ingredients: 81.34%

Total: 100.00%

Mainspring™ GNL is a suspension concentrate (SC) formulation containing 1.67 pounds of cyantraniliprole per gallon.

*Cyantraniliprole belongs to the anthranilic diamide chemical class.

KEEP OUT OF REACH OF CHILDREN. / MANTÉNGASE FUERA DEL ALCANCE DE LOS NIÑOS.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

[See additional precautionary statements and directions for use inside booklet. Vea más declaraciones de precaución e instrucciones del uso en folleto.]

EPA Reg. No. 100-1543

EPA Est. No.

Net Contents

FIRST AID

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

HOT LINE NUMBER

For 24-Hour Medical Emergency Assistance (Human or Animal)
or Chemical Emergency Assistance (Spill, Leak, Fire or Accident),
Call

1-800-888-8372

Cuando llame a un centro de control de envenenamiento, a un médico, o intente obtener tratamiento, tenga a la mano el envase o la etiqueta del producto. Para más información sobre el tratamiento médico de emergencia, llame al

1-800-888-8372.

PRECAUTIONARY STATEMENTS**Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

After the product has been diluted in accordance with label directions for use, shirt, pants, socks, and shoes are sufficient Personal Protective Equipment (PPE). Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users Should: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Equipo de Protección Personal (PPE)

Los aplicadores y otros manipuladores de pesticidas necesitan usar:

- Camisa de manga larga y pantalones largos.
- Zapatos y calcetines.

Después de diluir el pesticida de acuerdo a las instrucciones de uso en la etiqueta, es suficiente usar el equipo de protección como camisa de manga larga, pantalones, calcetines y zapatos. Sigue las instrucciones del fabricante para la limpieza/mantenimiento del Equipo de Protección Personal. En el caso de no existir dichas instrucciones de limpieza para equipos de protección, utilice detergente y agua

caliente. Mantenga y lave el Equipo de Protección Personal separadamente de otras prendas de vestir.

Recomendaciones de Seguridad para los Manipuladores de Pesticidas

Los Manipuladores Deben: Lávese minuciosamente con agua y jabón después de manipular los pesticidas, y antes de comer, beber, masticar chicle, usar tabaco o utilizar el sanitario. Quítese la ropa sucia y lávela antes de volverla a usar.

Environmental Hazards

This pesticide is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

Surface Water Advisory

This product may impact surface water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application.

- Do not apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
- Do not cultivate within 30 feet of the aquatic area to allow growth of a vegetative filter strip.
- Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Ground Water Advisory

This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Spray Drift Advisory

Mainspring GNL may be applied by ground equipment or aerial application.

Ground Application

For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

Aerial Application

Avoid spraying at a height greater than 10 ft above the ground or vegetative canopy unless a greater application height is necessary for pilot safety.

If the windspeed is 10 miles per hour or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full swath displacement upwind at the downwind edge of the field.

DO NOT apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.

DO NOT apply during temperature inversions.

For fixed wing and helicopter aerial applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other fixed wing and helicopter aerial applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1)

Physical or Chemical Hazards

DO NOT place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS

PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications.
- Ingestion of residues in nectar and pollen resulting from seed treatment, soil application, and foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants in and around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

Read and understand the entire label before using this product. Mainspring GNL must be used in accordance with the directions of this label.

1. FOR FOOD CROPS AND COMMERCIALY GROWN OUTDOOR ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT WHICH ARE ATTRACTIVE TO POLLINATORS



Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset.
- The application is made to the target site when temperatures are below 55°F.
- The application is made in accordance with a government-initiated public health response.
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

NON-AGRICULTURAL PRODUCTS:



Do not apply Mainspring GNL while bees are foraging. Do not apply Mainspring GNL to plants that are flowering. Only apply after all flower petals have fallen off.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms (sod farms included), forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Exception: If the product is drenched, soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. No restricted-entry interval (REI) is required following soil-injected, soil-incorporated or soil drench application.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides, 40 CFR Part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Professional applications to golf courses, residential, industrial and commercial lawns and landscapes, and sports fields are not within the scope of the Worker Protection Standard. Do not enter or allow others to enter the treated area until sprays have dried

USE RESTRICTIONS AND PRECAUTIONS

• For crops and plants grown outdoors:

- Do not apply more than 32 fluid ounces of product per acre per year (equivalent to 0.4 lb of active ingredient per acre per year).
- Unless otherwise stated for a specific crop or plant, do not apply a total of more than 0.4 lb ai/A of cyantraniliprole-containing products per year. This is the total from all application methods (e.g., seed, soil, foliar).
- [Do not apply to greenhouse- or field-grown vegetables. Only apply to vegetable plants grown in enclosed structures.]
- **DO NOT** allow chemigation water to run off or puddle following application.
- Avoid application to areas that are waterlogged or saturated or frozen, which will not allow penetration into the root zone of the plant.
- Keep people and pets away from treated area until treatment has dried.
- Wait a minimum of 7 days to retreat.

Nassau and Suffolk Counties, State of New York: Mainspring GNL may only be applied for listed greenhouse and interior plantscape uses. **DO NOT** apply Mainspring GNL to any outdoor use site, including shade houses, lath houses or other non-enclosed ornamental production structures.

SURFACE WATER PROTECTION STATEMENT

For foliar uses: **DO NOT** apply during rain.

PRODUCT INFORMATION

Mainspring GNL is an insecticide that controls listed insect pests on ornamental plants; ornamental bulb, corm and tuber crops; conifers; Christmas trees; [vegetable plants] and non-bearing fruit and nut trees grown in greenhouses and nurseries (including field- and container-grown plants grown outdoors and in shade houses, lath houses and other ornamental production structures), conifer nurseries, retail nurseries, residential and commercial landscapes, and interior plantscapes.

Mainspring GNL may be applied to plants and grassy areas that are grown for aesthetic recreational or other property maintenance purposes or climatic modification in or around home lawns, residential dwellings, business and office complexes, shopping complexes, multi-family residential complexes, institutional buildings, airports, cemeteries, interior plantscapes, ornamental gardens, wildlife plantings, parks, playgrounds, schools, daycare facilities, other landscaped areas. Mainspring GNL may also be applied to plants in and around small and large companion-animal (including horses) boarding and exercising areas providing the animals exposed to the treated areas are not used for human consumption.

Mainspring GNL can be applied as a foliar spray, a soil broadcast spray, a soil drench, and soil injection and by chemigation. When applied as a foliar spray, the product will have translaminar and systemic movement, providing residual efficacy of foliar insect pests. When Mainspring GNL is applied by drench to the root system of plants, it will be translocated upward in the plant due to its systemic activity. Systemic upward movement in herbaceous plants will be quicker than in those of woody plants, such as trees and shrubs. Soil applications should be made prior to anticipated pest infestation to allow adequate systemic movement to achieve optimum levels of control.

Mainspring GNL controls a broad range of chewing and sucking pests. Insecticidal activity is primarily through ingestion. This results in paralysis, rapid inhibition of feeding and disruption of other key physiological functions. Depending on the target pest, mortality occurs within two to seven days. The rapid cessation of feeding results in less plant injury. It is recommended that Mainspring GNL be applied when pest populations are low to prevent targeted insects from increasing to damaging levels.

Integrated Pest Management (IPM) Programs

Mainspring GNL can be used in an IPM program with biological agents for controlling ornamental pest. Beneficial arthropods can help control other insect and mite pests and reduce the potential for secondary pest outbreaks. Mainspring GNL can reduce the target pest species that serve as a food source for beneficial arthropods, which can indirectly affect their populations. If Mainspring GNL is tank-mixed with a product that negatively impacts beneficial arthropods, the full benefit of Mainspring GNL to an IPM program may not be realized.

Resistance Management

GROUP	28	INSECTICIDE
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Mainspring GNL is in GROUP 28 of the EPA's Insecticide and Acaricide Groups based on Target Site of Action.

Some insects are known to develop resistance to products that have been used repeatedly for control. When this occurs, the label use rates can fail to reduce the pest population below threshold levels. As the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of active classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local Cooperative Extension Service specialist or pest control advisor for the latest information on resistance management in your area or crop.

Plant Safety

Mainspring GNL has been found to be generally safe when applied according to label use directions to the listed plants. Phytotoxicity testing has not been performed on all possible species and cultivars. Individual plant species or cultivars may be sensitive to the final spray solution, including tank mixes. If local experience is not available, a small number of plants should be treated and observed for phytotoxicity for at least one week before making an application to the entire planting to ensure plant safety.

APPLICATION EQUIPMENT CLEANING

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all application equipment to reduce the risk of forming hardened deposits that might become difficult to remove. Drain application equipment. Thoroughly rinse application equipment and flush hoses, boom and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. **DO NOT** clean equipment near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

CALIBRATION OF APPLICATION EQUIPMENT

Proper maintenance and calibration of spraying and chemigation equipment are essential for optimal insect pest control. If you have questions about calibration, contact a State Extension Service specialist, the equipment manufacturer or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments if the need arises.

MIXING INSTRUCTIONS

Mainspring GNL is a suspension concentrate (SC) formulation. Mainspring GNL must be diluted with water before application.

Mainspring GNL readily mixes with water and may be used in many different types of application equipment and applied to either the foliage or root system. Mix product with the required amount of water and apply according to label use directions.

The pH of application mixtures containing Mainspring GNL should be adjusted to a pH of 8 or less using a commercially available acidifier. When applying Mainspring GNL by chemigation, adjust the pH of the chemigation systems supply or nurse tank using a commercially available acidifier. Adjust the pH of application mixtures after all products being applied have been added to the tank and uniformly mixed for broadcast and drench applications.

Mixing Directions

1. Use clean, well maintained and properly calibrated application equipment.
2. Fill sprayer tank 1/4 to 1/2 full of water.

3. Shake the container of Mainspring GNL well before pouring.
4. Add the appropriate amount of Mainspring GNL directly into the spray tank.
5. If preparing a tank mixture, follow the tank-mixing sequence below.
6. Mix the spray solution thoroughly and continue agitation to keep the insecticide in suspension. Use mechanical or hydraulic agitation. Do not use air agitation.
7. It is recommended that the mixture not be stored in the spray or mix tank overnight.

Tank mixtures

Mainspring GNL may be tank-mixed with other pesticides. When tank-mixing Mainspring GNL with other pesticides, observe the restrictions and precautions on all product labels.

- **DO NOT** exceed the label application rates for any product.
- **DO NOT** mix Mainspring GNL with any product containing a label prohibition against such mixing.
- Always follow the tank mix instructions of the product label that is most restrictive.

The physical compatibility of Mainspring GNL may vary with different sources of pesticide products and local cultural practices. A jar compatibility test is recommended prior to tank-mixing with other pesticides, fertilizers or adjuvants to ensure the compatibility of Mainspring GNL with the other products. For a jar compatibility test, mix the proper proportions of any pesticides, adjuvants, or fertilizers in water in a pint or quart jar and allow it to stand at least 20 minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered physically compatible.

Tank-mixing Sequence

Add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after the addition of each product.

1. Water-soluble bags
2. Water-dispersible granules
3. Wettable powders
4. Mainspring GNL and other water-based suspension concentrates
5. Water-soluble concentrates
6. Oil-based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants, oils
9. Soluble fertilizers

APPLICATION PROCEDURES

Mainspring GNL may be used in many different types of application equipment and applied to either the foliage or root system. Mix product with the required amount of water and apply as desired dependent upon the selected use pattern.

Consult your Cooperative Extension Service specialist or pest control advisor for regionally specific information regarding application timing.

MANDATORY SPRAY DRIFT REDUCTION MANAGEMENT

Do not apply when wind speed favors drift beyond the area intended for treatment. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

Importance of Droplet Size: An important factor influencing drift is droplet size. Select nozzles and pressure that deliver medium spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain crop coverage. For aerial application, spray should be released at the lowest possible height consistent with good pest control. For aerial applications, do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety. Low humidity and high temperature increase the evaporation rate of spray droplets and therefore the likelihood of spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

Wind Speed Restrictions:

For Aerial Applications:

If the windspeed is 10 miles per hour or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full swath displacement upwind at the downwind edge of the field.

Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.

For broadcast applications made at planting or prior to the emergence of crops: applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1)

Restrictions during Temperature Inversions: Do not make aerial or ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog. However, if fog is not present, the movement of smoke from a ground source can also identify inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

FOLIAR APPLICATION

Foliar application rates are listed in Table 1. Foliar applications offer locally systemic activity with residual control of listed pests. Mix the Mainspring GNL with the required amount of water and apply as a full coverage foliar spray to control the target pest. Apply Mainspring GNL when pest populations are low to prevent them from increasing to damaging levels

When making foliar applications to plants with hard-to-wet foliage, such as holly, ivy, or pine, the addition of a spreading adjuvant is recommended. Do not use adjuvants with binding or sticking properties as these may reduce absorption of Mainspring GNL by the plant. Use sufficient water volume to provide thorough and uniform coverage. Avoid making applications where uniform coverage cannot be obtained or where excessive spray drift can occur.

If making a low volume, or mist-type application, use the equivalent amount of product as you would when making an application with higher volumes of water for a given area.

TABLE 1. FOLIAR APPLICATION TO LISTED PLANTS GROWN IN GREENHOUSES, NURSERIES (INCLUDING FIELD- AND CONTAINER-GROWN PLANTS IN SHADE AND LATH HOUSES) AND INTERIOR PLANTSCAPES, AND RESIDENTIAL AND COMMERCIAL LANDSCAPES

Ornamentals		
Breeding crops	Foliage plants	Shrubs
Bulb, corm and tuber crops (such as tulips, calla lilies)	Ground covers	Succulents
Evergreens, including conifers	Ornamental grasses	Trees, including non-bearing fruit and nut trees ¹
Flowering plants	Palms	[Vegetable plants]
Flowers grown for seed production	Perennial plants	Vines (non-bearing) ¹
Pot and bedding plants		
Target Pests	Amount of Mainspring GNL	Use Directions
Aphids	4 – 8 fl oz per 100 gal 1.2 – 2.4 ml per gal	Start treatments at first signs of pest infestation.

Lace bugs Leaf-feeding beetles (such as Japanese beetle adults and viburnum leaf beetle larvae) Leaf-feeding caterpillars (such as fall webworms, gypsy moths, redbud leaf-folders) Leafminers Soft scales (such as oak lecanium scales) Thrips Whiteflies ²	2 – 8 fl oz per 100 gal 0.6 – 2.4 ml per gal	Reapply on a 7- to 14-day interval.
All pests listed above – maximum residual control	16 fl oz per 100 gal 4.7 ml per gal	
USE RESTRICTIONS		
Maximum Rate per Crop:		
<ul style="list-style-type: none"> For crops and plants grown indoors, do not apply more than 32 fl oz of Mainspring GNL per acre per crop per year (equivalent to 0.4 lb of active ingredient per acre per crop per year). For crops and plants grown outdoors, do not apply more than 32 fl oz of Mainspring GNL per acre per year (equivalent to 0.4 lb of active ingredient per acre per year). 		

One fl oz = 29.5 milliliters

¹Non-bearing fruit and nut trees and vines are those trees and vines that will not bear edible fruit or nuts for one year after application.

² May observe less activity on *Trialeurodes* spp.

BROADCAST APPLICATION

Broadcast applications of Mainspring GNL may be applied for white grub, annual bluegrass weevils, billbugs, chinch bugs (suppression), turf caterpillars, European crane flies, and spittlebugs in grassy, weedy, or bare soil areas, including residential and commercial landscapes. Broadcast application rates for these areas are presented in **Table 2**. Apply in sufficient water to uniformly cover the area being treated (a minimum of 2 gallons per 1,000 square feet is recommended). Irrigate immediately after application or allow rainfall to move the product into the soil. Use properly calibrated application equipment that will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Mainspring GNL may be applied either before planting or after plants have been established.

APPLICATION TIMING

White Grubs: Apply Mainspring GNL from [April][May][June] to [early] September for preventative and early curative control of listed white grub species. The need for an application may be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Irrigate turf immediately after application or allow rainfall to move the product into the soil.

Annual Bluegrass Weevil: Apply Mainspring GNL when overwintered adult annual bluegrass weevils are observed in late April or early May to prevent damage from first generation larvae in late-May and June. An application of Mainspring GNL at this time will also provide white grub control.

Billbugs: Apply Mainspring GNL when overwintered adult billbugs are first observed. This will usually occur in late April or early May in regions with cool-season turfgrasses. An application of Mainspring GNL at this time will also provide white grub control.

Chinch Bugs: For suppression of chinch bugs, apply Mainspring GNL before eggs hatch.

European Crane Fly: Apply Mainspring GNL between July and November to control the fall generation of European crane fly larvae in turfgrass. An application of Mainspring GNL in early July will also provide excellent white grub control. The higher rate listed in Table 1 may be required to achieve control when applications are made in November.

Spittlebugs: Mainspring GNL will provide control of two-lined spittlebug when applications are made in spring or summer.

Turf Caterpillars: Mainspring GNL will provide excellent curative and residual caterpillar control in turfgrass. To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. Mowing vegetation to lowest possible height will ensure more consistent control. Apply in sufficient water to uniformly cover the area being treated (a minimum of 2 gallons per 1,000 square feet is recommended for grassy, weedy, or bare soil areas).

TABLE 2: BROADCAST APPLICATIONS OF MAINSPRING GNL IN AND AROUND GREENHOUSES, NURSERIES, INTERIOR PLANTSCAPES, LATH AND SHADE HOUSES, AND RESIDENTIAL AND COMMERCIAL LANDSCAPES.

Use Sites			
Grassy, weedy, mulched or bare soil areas in and around greenhouses, nurseries, interior plantscapes, lathouses, shadehouses and residential and commercial landscapes. Also for areas under trees and shrubs that are being grown in-ground.			
Target Pest	Application Rate (Product per Acre)	Application Rate (Product per 1,000 sq ft)	Use Directions
Turf caterpillars (including armyworms, cutworms, and sod webworms)	2 – 16 fl oz	0.046 – 0.367 fl oz 1.4 – 10.9 ml	Mowing vegetation to lowest possible height prior to application will ensure more consistent control.
White grubs (including <i>Aphodius</i> spp., Asiatic garden beetle, black turfgrass ataenius ¹ , Japanese beetle, May/June beetles (<i>Phyllophaga</i> spp.), northern masked chafer, oriental beetle, southern masked chafer and sugarcane grub)	8 – 16 fl oz	0.184 – 0.367 fl oz 5.4 – 10.9 ml	Apply in sufficient water to uniformly cover the area being treated (a minimum of 2 gal/1,000 sq ft is recommended for grassy, weedy, mulched or bare soil areas).

Annual bluegrass weevil	12 – 20 fl oz	0.275 – 0.459 fl oz 8.1 – 13.6 ml	
Billbugs	8 – 20 fl oz	0.184 – 0.459 fl oz 5.4 – 13.6 ml	
Chinch bugs (suppression only)	8 – 20 fl oz	0.184 – 0.459 fl oz 5.4 – 13.6 ml	
European Crane Fly	8 – 16 fl oz	0.184 – 0.367 fl oz 5.4 – 10.9 ml	
Spittlebugs	12 – 20 fl oz	0.275 – 0.459 fl oz 8.1 – 13.6 ml	
USE RESTRICTION			
Maximum Rate per Crop: For crops and plants grown outdoors, do not apply more than 32 fl oz of Mainspring GNL/A per year (equivalent to 0.4 lb of active ingredient/A per year).			

¹ Applications targeting black turfgrass aetaenius larvae should be made from peak adult flight through peak egg hatch to ensure control of the first-generation larvae. A second application may be required to control second-generation black turfgrass aetaenius.

APPLICATION TO SOIL MEDIA

Mainspring GNL can be applied to the growing media of containerized plants to control listed ornamental pests. Apply Mainspring GNL when pest populations are low to prevent the increase of that population to damaging levels. Apply to moist soil media. **DO NOT** apply to dry or saturated soil media. For optimal performance, **DO NOT** apply drench to soil media until roots have grown after transplanting. **DO NOT** leach treated soil media for at least 7 days after application or performance may be reduced. Heavy rainfall or excessive irrigation after application could reduce insect control performance. In general, higher rates will be needed to control insect pests on woody plants as compared to those on herbaceous plants.

Drench Application

For drench applications, prepare a dilute drench solution by mixing Mainspring GNL in water at the rate listed in **Table 3**. Apply drench solution to containers, flats, trays, benches or beds according to the application rates given in **Table 3**. Drench volume should be sufficient to thoroughly wet soil media without overflowing or leaching from the container. Follow the drench application with moderate irrigation. Irrigate carefully during the next 10 days to avoid loss of active ingredient from the container.

TABLE 3. DRENCH APPLICATION TO SOIL MEDIA OF LISTED CONTAINERIZED PLANTS GROWN IN GREENHOUSES, NURSERIES (INCLUDING FIELD- AND CONTAINER-GROWN PLANTS IN SHADE AND LATH HOUSES), INTERIOR PLANTSCAPES, AND RESIDENTIAL AND COMMERCIAL LANDSCAPES

Ornamentals				
Breeding crops		Foliage plants	Shrubs	
Bulb, corm and tuber crops (such as tulips, calla lilies)		Ground covers	Succulents	
Evergreens, including conifers		Ornamental grasses	Trees, including non-bearing fruit and nut trees ¹	
Flowering plants		Palms	[Vegetable plants]	
Flowers grown for seed production		Perennial plants	Vines (non-bearing) ¹	
		Pot and bedding plants		
Target Pests	Amount of Mainspring GNL	Amount of drench solution to apply per container		Use Directions
Aphids	8 – 12 fl oz per 100 gal	Container Size (inches)	Fl oz solution/ container	Start treatment at the first sign of pest infestation. Reapply as needed according to use directions.
Leaf-feeding caterpillars (such as armyworms and loopers)	2.4 – 3.6 ml per gal	4	2 - 3	
Leafminers		5	3 - 4	Apply the specified volume of product to the growing container based on container size. Follow with moderate irrigation. Irrigate carefully over the next 10 days and avoid leaching of the container.
Thrips (foliar feeding)		6	4	
Whiteflies (such as <i>Bemisia</i> spp. (Biotype B &Q)) ²		7	5 - 7	
Other ornamental pests		8	6 - 10	
		10	16 - 20	
		For larger containers, apply 6 – 8 fl oz of dilute solution per gallon of soil media.		
		For flats, trays, benches, or beds, apply sufficient amount of drench solution to adequately wet soil media without leaching.		
USE RESTRICTIONS				
Maximum Rate per Crop:				
<ul style="list-style-type: none"> For crops and plants grown indoors, do not apply more than 32 fl oz Mainspring GNL per acre per crop per year (equivalent to 0.4 lb of active ingredient per acre per crop per year). For crops and plants grown outdoors, do not apply more than 32 fl oz Mainspring GNL per acre per year (equivalent to 0.4 lb of active ingredient per acre per year). 				

One fl oz = 29.5 milliliters

¹ Non-bearing fruit and nut trees and vines are those trees and vines that will not bear edible fruit or nuts for one year after application.

² May observe less activity on *Trialeurodes* spp.

Application through Irrigation systems (Chemigation)

Mainspring GNL may be applied by injection into an irrigation system, either alone or in combination with other pesticides or chemicals that are registered for application through irrigation systems. Dilution ratios are normally 1:100 to 1:200, depending on the system. Application dosages are presented in Table 4 below.

Apply this product only through micro-irrigation (individual spaghetti tube), drip irrigation, overhead irrigation, ebb and flood irrigation, or motorized calibrated irrigation equipment. **DO NOT** apply through any other type of irrigation system. Non-uniform distribution of Mainspring GNL applied by chemigation can result in reduced product effectiveness.

Apply Mainspring GNL under the instructions specified in the specific use recommendations and not according to the irrigation schedule unless the events coincide. In general, set the equipment to apply the minimum amount of water per acre. Run the system at 86–90% of the manufacturer's maximum rated travel speed.

Users should check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Using Water from Public Water Systems

DO NOT APPLY MAINSPRING GNL THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year. Mainspring GNL may be applied through irrigation systems which may be supplied by a public water system **ONLY** if the water from the public water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements:

Operating Instructions for All Recommended Types of Irrigation Systems

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
2. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing, check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Do not apply when wind speed favors drift beyond the area intended for treatment.

Chemigation using Micro, Drip, Overhead or Motorized Irrigation Equipment

To prepare injector tank solution, add Mainspring GNL to 1 gallon of injector tank water. An injection ratio of 1:100 is recommended (1 part injector tank solution to 100 parts irrigation water).

TABLE 4. CHEMIGATION USING MICRO, DRIP, OVERHEAD, OR MOTORIZED IRRIGATION EQUIPMENT OF SOIL MEDIA OF CONTAINERIZED PLANTS GROWN IN GREENHOUSES, NURSERIES (INCLUDING FIELD- AND CONTAINER-GROWN PLANTS IN SHADE AND LATH HOUSES) , RESIDENTIAL AND COMMERCIAL LANDSCAPES, AND INTERIOR PLANTSCAPES

Ornamentals			
Breeding crops	Foliage plants	Shrubs	
Bulb, corm and tuber crops (such as tulips, calla lilies)	Ground covers	Succulents	
Evergreens, including conifers	Ornamental grasses	Trees, including non-bearing fruit and nut trees ¹	
Flowering plants	Palms	[Vegetable plants]	
Flowers grown for seed production	Perennial plants	Vines (non-bearing) ¹	
Flowers grown for seed production	Pot and bedding plants		
Target Pests	Chemigation Rate		Use Directions
Aphids Leaf-feeding caterpillars (such as armyworms and loopers) Leafminers Thrips (foliar feeding) Whiteflies (such as <i>Bemesia</i> spp. (Biotype B & Q)) ² Other ornamental pests	Injection Ratio	Fl oz product/gallon injector tank water	Start treatments prior to establishment of high pest pressure and reapply as needed. Apply the specified volume of product to the growing container based on container size. Follow with moderate irrigation. Irrigate carefully over the next 10 days and avoid leaching of the container.
	1 to 100	8 - 12	
	Irrigation system should be calibrated to deliver 6-8 fl oz of dilute solution per gallon of soil media.		
USE RESTRICTIONS			
Maximum Rate per Crop:			
<ul style="list-style-type: none"> For crops and plants grown indoors, do not apply more than 32 fl oz Mainspring GNL per acre per crop per year (equivalent to 0.4 lb of active ingredient per acre per crop per year). For crops and plants grown outdoors, do not apply more than 32 fl oz Mainspring GNL per acre per year (equivalent to 0.4 lb of active ingredient per acre per year). 			

One fl oz = 29.5 milliliters

¹ Non-bearing fruit and nut trees and vines are those trees and vines that will not bear edible fruit or nuts for one year after application.

² May observe less activity on *Trialeurodes* spp.

Ebb-and-Flood Chemigation

To calculate the volume of water needed for chemigation using ebb-and-flood irrigation:

1. Bring a minimum of 10 containers to a soil moisture of field capacity.
2. Allow the soil media to dry.
3. Bring the containers back to field capacity.
4. Multiply the amount of water needed to bring the soil in a single container back to field capacity by the total number of containers to be chemigated.
5. Add this volume to the amount of water needed to flood the area to be treated.

TABLE 5. CHEMIGATION (EBB-AND-FLOOD) OF SOIL MEDIA OF CONTAINERIZED PLANTS GROWN IN GREENHOUSES AND INTERIOR PLANTSCAPES

Ornamentals			
Breeding crops	Foliage plants	Shrubs	
Bulb, corm and tuber crops (such as tulips, calla lilies)	Ground covers	Succulents	
Evergreens, including conifers	Ornamental grasses	Trees, including non-bearing fruit and nut trees ¹	
Flowering plants	Palms	[Vegetable plants]	
Flowers grown for seed production	Perennial plants	Vines (non-bearing) ¹	
Flowers grown for seed production	Pot and bedding plants		
Target Pests	Chemigation Rate		Use Directions
Aphids	Container Size (inches)	Fl oz Mainspring GNL/ 1,000 containers	Start treatment at the first sign of pest infestation. Reapply as needed according to use directions.
Leaf-feeding caterpillars (such as armyworms and loopers)			
Leafminers	4	1.9 – 2.8	Apply the specified volume of product to the growing container based on container size. Follow with moderate irrigation. Irrigate carefully over the next 10 days and avoid leaching of the container.
Thrips (foliar feeding)	5	2.5 – 3.8	
Whiteflies (such as <i>Bemesia</i> spp. (Biotype B & Q)) ²	6	2.5 – 3.8	
Other ornamental pests	7	4.4 – 6.6	
	8	6.3 – 9.5	
	10	12.7 – 19.0	
	For larger containers, apply 6 fl oz of Mainspring GNL per 1,000 gallons of soil media.		
USE RESTRICTION			
Maximum Rate per Crop: For crops and plants grown indoors, do not apply more than 32 fl oz of product per acre per crop per year (equivalent to 0.4 lb of active ingredient per acre per crop per year).			

One fl oz = 29.5 milliliters

¹ Non-bearing fruit and nut trees and vines are those trees and vines that will not bear edible fruit or nuts for one year after application.

² May observe less activity on *Trialeurodes* spp.

IN-GROUND SOIL DRENCH & INJECTION APPLICATIONS

Mainspring GNL is a systemic product and will be translocated upward into the plant from root uptake. Soil treatment application rates are listed in **Table 6**. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. For this reason, basal application within one to three feet of the root flare of trees and shrubs is recommended. Application can be made by soil injection, soil drenches and soil broadcast sprays. When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. In some cases, this delay could be 60 days or longer. For this reason, applications should be made prior to anticipated pest infestation to achieve optimum levels of control.

Calculations for soil injection/drench applications of Mainspring GNL:

- 1: Calibrate the application equipment to determine its flow rate in gallons per minute.
- 2: Select an injecting/drenching volume per inch of tree diameter at breast height (DBH) or foot of shrub height.
- 3: Refer to the **Table 7** below to determine the amount of time that is required to deliver the desired volume per injection/drench site. The example highlighted in **Table 7** shows that 10 seconds are required per inch of tree DBH or foot of shrub height when injecting/drenching 1 quart of solution per site using a flow rate of 1.5 gallons per minute.
- 4: Determine how much solution to mix.
- 5: Refer to the **Table 8** below to determine the amount of Mainspring GNL that must be mixed in the desired volume of water based on the injection volume identified above.

TABLE 6. SPECIFIC USE INSTRUCTIONS FOR SYSTEMIC SOIL TREATMENTS WITH MAINSPRING GNL TO IN-GROUND-GROWN PLANTS IN AND AROUND GREENHOUSES, NURSERIES (INCLUDING FIELD- AND CONTAINER-GROWN PLANTS IN SHADE AND LATH HOUSES), INTERIOR PLANTSCAPES, AND COMMERCIAL AND RESIDENTIAL LANDSCAPES

Ornamentals		
Evergreens, including conifers Foliage plants Palms	Shrubs Trees, including non-bearing fruit and nut trees ¹	
Target Pests	Dosage (per foot of height or per inch of trunk diameter at breast height {DBH})	Use Directions
Aphids (such as Spirea aphids) Lace bugs Soft scales (such as Magnolia scale)	0.125 – 0.25 fl oz	<p>Soil Drench: Mix required dose in water and uniformly apply to soil around base of the plant. Refer to Tables 7 and 8 for proper calibration and mixing. Pull back mulch before drenching. Keep soil moist for 7 days after application.</p> <p>Soil Injection: Mix require dose in water and inject into soil around the base of the plant. Refer to Tables 7 and 8 for proper calibration and mixing.</p>
Adelgids (including hemlock woolly adelgid) Borers (including beetle and caterpillar larvae) Leaf- feeding beetles (Including elm flea weevils and Japanese beetle adults) Leaf-feeding caterpillars (including redbud leaf-folders and gypsy moths) Leafminers (including birch leafminers and boxwood leafminers) Plant bugs (including honeylocust plant bugs) Psyllids (including boxwood psyllid) Whiteflies	0.25 fl oz	
USE RESTRICTIONS		
<p>Maximum Rate per Crop:</p> <ul style="list-style-type: none"> For crops and plants grown indoors, do not apply more than 32 fl oz Mainspring GNL per acre per crop per year (equivalent to 0.4 lb of active ingredient per acre per crop per year). For crops and plants grown outdoors, do not apply more than 32 fl oz Mainspring GNL per acre per year (equivalent to 0.4 lb of active ingredient per acre per year). 		

¹ Non-bearing fruit and nut trees and vines are those trees and vines that will not bear fruit or nuts for one year after application.

TABLE 7: ORNAMENTAL SOIL TREATMENT APPLICATION CALIBRATION CHART

Volume per Site*	Flow Rate (Gallons per minute)					
	0.5 gallon	0.75 gallon	1 gallon	1.5 gallons	2 gallons	3 gallons
1 pint	15.0 sec	10.0 sec	7.5 sec	5.0 sec	3.75 sec	2.5 sec.
1 quart	30.0 sec	20.0 sec	15.0 sec	10.0 sec	7.5 sec	5.0 sec
2 quarts	1.0 min	40.0 sec	30.0 sec	20.0 sec	15.0 sec	10.0 sec
1 gallon	2.0 min	1 min 20 sec	1.0 min	40.0 sec	30.0 sec	20.0 sec

*Site = Soil injection site – the selected volume is applied per inch of tree DBH or foot of shrub

TABLE 8: ORNAMENTAL SOIL TREATMENT APPLICATION MIXING CHART

Volume per Site*	Application Rate Per Inch DBH or Foot Ht (fl oz)	Fl oz product per 100 gallons	Fl oz product per 50 gallons	Fl oz product per 25 gallons	Fl oz product per 10 gallons	Fl oz product per 1 gallon
1 pint	0.125	100	50	25	10	1
	0.25	200	100	50	20	2
1 quart	0.125	50	25	12.5	5	0.5
	0.25	100	50	25	10	1
2 quarts	0.125	25	12.5	6.25	2.5	0.25
	0.25	50	25	12.5	5	0.5
1 gallon	0.125	12.5	6.25	3.125	1.25	0.125
	0.25	25	12.5	6.25	2.5	0.25

*Site = Soil injection site – the selected volume is applied per inch of tree DBH or foot of shrub

Broadcast Applications to Flower Beds and Groundcovers

Mainspring GNL may be applied for white grub control in flower beds and ground covers. Flower bed and groundcover application rates are listed in **Table 9**. Apply in sufficient water to uniformly cover the area being treated (a minimum of 2 gallons per 1,000 square feet is recommended for flower beds and groundcover applications). Irrigate immediately after application or allow rainfall to move the product into the soil. Mainspring GNL may be applied before planting or after plants have been established.

**TABLE 9: ORNAMENTAL FLOWERS AND GROWDCOVERS SOIL TREATMENT
SOIL TREATMENT APPLICATION RATES**

Target Pest	Fl oz product per acre	Fl oz product per 1,000 sq ft	Lb ai per acre
White grubs (including <i>Aphodius</i> spp., Asiatic garden beetle, black turfgrass ataeenius ¹ , Japanese beetle, May/June beetles (<i>Phyllophaga</i> spp.), northern masked chafer, oriental beetle, southern masked chafer and sugarcane grub)	8 - 16	0.184 – 0.367	0.104 – 0.208
USE RESTRICTION			
Maximum Rate per Crop: For crops and plants grown outdoors, do not apply more than 32 fl oz Mainspring GNL /A per year (equivalent to 0.4 lb of active ingredient/A per crop per year).			

¹ Applications targeting black turfgrass ataeenius larvae should be made from peak adult flight through peak egg hatch to ensure control of the first-generation larvae. A second application may be required to control second-generation black turfgrass aetaenius.

Bark Applications

Apply Mainspring GNL to the trunks and lower branches of trees and shrubs to control clearwing moth borer larvae. Bark treatment application rates are listed in **Table 10**. Make applications after the emergence of adult moths and before their eggs hatch. Thorough coverage of the bark is required for satisfactory control. Adult emergence varies according to the pest species, host tree, environmental conditions and geographic location. Consult your local Cooperative Extension Service specialist or pest control advisor for regionally specific information regarding application timing.

TABLE 10: ORNAMENTAL BARK TREATMENT APPLICATION RATES

Target Pests	Fl oz product per 100 gallons	Lb ai per 100 gallons	PPM	Percent ai (wt/vol)
Clearwing borers, including peachtree borer	4	0.052	62.5	0.00625
	8	0.104	125	0.0125
	16	0.208	250	0.025
For maximum residual control of the pests listed above	32	0.416	500	0.05
USE RESTRICTION				
Maximum Rate per Crop: For crops and plants grown outdoors, do not apply more than 32 fl oz of Mainspring GNL/A per year (equivalent to 0.4 lb of active ingredient/A per year).				

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

Pesticide Disposal

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank.

Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

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the SYNGENTA Logo and the PURPOSE ICON
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For non-emergency information (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481

Manufactured for:
Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, North Carolina 27419-8300

Mainspring GNL 1543 MAS 1115 AMEND-B JUNE2023-CL-jd-8/3/23
000100-01543.20230615B.MAINSPRING_GNL.AMEND.0623-CL

Attachment 3



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCSA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

PYMETROZINE	GROUP	9B	INSECTICIDE
CYANTRANILIPROLE	GROUP	28	INSECTICIDE

Mainspring Flora™

Insecticide

For control of listed insect pests on all ornamental plants produced in commercial nurseries and greenhouses for distribution and sale, including flowering and foliage plants, bulbs, shrubs, vines and trees

For control of listed insect pests on all ornamental plants grown in residential, commercial and institutional landscapes and interior plantscapes, including flowering and foliage plants, bulbs, shrubs, vines and trees

Active Ingredients:

Pymetrozine*:	30.0%
Cyantraniliprole**:	10.0%
Other Ingredients:	60.0%
Total:	100.0%

*CAS No. 123312-89-0

**CAS No. 736994-63-1

Mainspring Flora™ is formulated as a water-dispersible granule and contains 0.3 pounds pymetrozine and 0.1 pound cyantraniliprole per pound product.

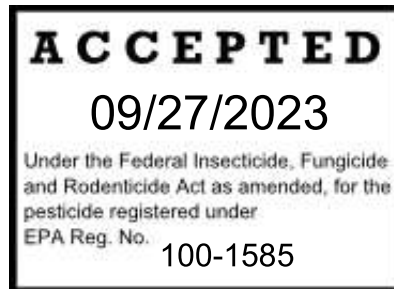
KEEP OUT OF REACH OF CHILDREN. CAUTION

See additional precautionary statements and directions for use [in booklet][on label].

EPA Reg. No. 100-1585

EPA Est.

Net Weight



[Optional marketing statements]

1. [Listed for both chewing and sucking pests control]
2. [Labeled for thrips control]
3. [Labeled for whitefly control]
4. [Excellent for insecticide resistance management programs]
5. [Excellent choice for IPM programs]
6. [Has both contact and systemic activity]
7. [Systemic activity by foliar or soil application]
8. [Flexible application methods; can be foliar- or soil-applied]
9. [Taken up by the roots and systemically moves through the plant]
10. [Systemically protects plants from labeled insect pests]
11. [Root-absorbed, with systemic movement through plant]
12. [Systemically moves through the plant]
13. [Starts killing labeled insect pests upon ingestion [contact]]
14. [Insect feeding stops upon ingestion]

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Socks and shoes
- Chemical-resistant gloves made of: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinylchloride (PVC) ≥ 14 mils, or Viton™ ≥ 14 mils

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

This pesticide is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops/plants or weeds while bees are foraging in or adjacent to the treatment area.

Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application.

- Do not apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
- Do not cultivate within 30 feet of the aquatic area to allow growth of a vegetative filter strip.
- Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

SURFACE WATER PROTECTION STATEMENT

- For foliar applications: Do not apply during rain.

Groundwater Advisory

Cyantraniliprole may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Spray Drift Advisory

For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

Physical or Chemical Hazards

Do not place product near or allow product to come into contact with oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to:

www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR

IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Mainspring Flora must be used only in accordance with the directions of this label.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

Follow these directions for food crops & commercially grown ornamentals that are attractive to pollinators:



FOR OUTDOOR APPLICATIONS TO FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT WHICH ARE ATTRACTIVE TO POLLINATORS

Do not apply Mainspring Flora while bees are foraging. Do not apply Mainspring Flora until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset.
- The application is made to the target site when temperatures are below 55°F.

- The application is made in accordance with a government-initiated public health response.
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.



FOR OUTDOOR APPLICATIONS TO NON-AGRICULTURAL PRODUCTS:

Do not apply Mainspring Flora while bees are foraging. Do not apply Mainspring Flora to plants that are flowering. Only apply after all flower petals have fallen off.

Use Restrictions

- For foliar applications, **DO NOT** apply during rain.
- **DO NOT** apply at rates greater than those listed on this label for any plant grown indoors or outdoors. See Tables 1 and 2 for specific Use Restrictions.
- **DO NOT** apply through any type of irrigation system.
- **DO NOT** apply by aerial application.
- In Nassau and Suffolk Counties, State of New York:
 - Mainspring Flora Insect Control may only be applied for listed greenhouse and interior plantscape uses on listed ornamental plants.
 - **DO NOT** apply Mainspring Flora to any outdoor use site, including shade houses, lath houses or other non-enclosed ornamental production structures.
- FOR PLANTS GROWN IN CONTAINERS:
 - **DO NOT** apply within 900 feet of any well where depth to groundwater is less than 30 feet; OR
 - If depth the groundwater is less than 30 feet, a runoff and leaching management system is required.
- FOR PLANTS GROWN IN GROUND:
 - **DO NOT** apply if:
 - Soil contains greater than 60% sand AND
 - Soil contains less than 3% organic matter AND
 - Depth to groundwater is less than 30 feet

Use Precautions

- Avoid spray overlap as plant injury may occur.

Spray Drift Advisories for Outdoor Applications

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS

Importance of Droplet Size

While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions (see Spray Advisory section).

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Boom Height – Ground Boom

For ground equipment, the boom should remain level with the turf and have minimal bounce.

Shielded Sprayers

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

Temperature and Humidity

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Handheld Technology Applications:

Take precautions to minimize spray drift

USE INFORMATION

Mainspring Flora controls listed insect pests on ornamental plants, ornamental bulb, corm and tuber crops, conifers, Christmas trees and non-bearing fruit and nut trees grown in greenhouses and nurseries (including field- and container-grown plants grown outdoors and in shade houses, lath houses and other ornamental production structures), conifer nurseries, retail nurseries, residential and commercial landscapes, and interior plantscapes.

Mainspring Flora is a systemic product that can be applied as a foliar spray. When applied as a foliar spray, the product exhibits translaminar and locally systemic movement and provides residual control of foliar insect pests. Foliar applications are rainfast shortly after the spray solution has dried.

Apply Mainspring Flora when pests are first observed and populations are low to prevent targeted insects from building to damaging levels. Mainspring Flora has residual activity in the plant and will control insects that move onto the plant after treatment.

Mode of Action

Mainspring Flora controls a broad range of chewing and sucking pests. Insecticidal activity is primarily through ingestion which results in paralysis, rapid inhibition of feeding (within hours), and disruption of other key physiological functions. Depending on the individual target pest, mortality usually occurs in two to seven days. While insect pests may still be visible on the plant, they are no longer feeding, resulting in less plant injury.

Integrated Pest Management (IPM) Programs

Mainspring Flora may be used in an integrated pest management program (IPM) to control ornamental pests. If Mainspring Flora is tank-mixed with a product that negatively impacts beneficial arthropods, the full benefit of Mainspring Flora to an IPM program may not be realized.

Resistance Management

PYMETROZINE	GROUP	9B	INSECTICIDE
CYANTRANILIPROLE	GROUP	28	INSECTICIDE

For resistance management, Mainspring Flora contains a Group 9B/pymetrozine and a Group 28/cyantraniliprole insecticide. Any insect population may contain individuals naturally resistant to Endeavor and other Group 9B and Group 28 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same areas. Appropriate resistance-management strategies should be followed.

Other Insect Resistance Management (IRM) Practices

To delay insecticide resistance, take the following steps:

- Rotate the use of Mainspring Flora or other Group 9B insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of

survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.

Contact your local Syngenta representative, retailer, or extension specialist for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

Plant Safety

Mainspring Flora has been shown to be safe when applied at the recommended rates to the listed plants. However, due to the large number of genera, species and varieties of ornamental and nursery plants, it is impossible to test every one for tolerance to Mainspring Flora. Neither the manufacturer nor the seller has determined whether Mainspring Flora can be used safely on genera, species, or varieties of ornamental and nursery plants not specified on this label. The user should conduct small scale testing at the recommended rates to ensure plant safety prior to broad scale commercial use on plant genera, species and varieties not listed in this label.

SPRAY EQUIPMENT

Proper maintenance and calibration of spray equipment are essential for optimal insect pest control. If you have questions about calibration, contact a State Extension Service specialist, the equipment manufacturer or other experts.

- Use sufficient water to provide thorough, uniform coverage.
- Use sprayer nozzles that provide accurate, uniform application.
- Calibrate sprayer to ensure delivery of adequate spray volume per unit area.

Application Equipment Cleaning

Prior to application, start with clean, well-maintained application equipment. Immediately following application, thoroughly clean all application equipment to reduce the risk of forming hardened deposits that might become difficult to remove. Drain application equipment. Thoroughly rinse application equipment and flush hoses, boom and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean equipment near wells, water sources, or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

MIXING PROCEDURES

Prepare the amount of spray mixture appropriate for the immediate applications. Thoroughly clean spray equipment before using this product. Agitate vigorously for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation. Do not let the spray mixture stand overnight in the spray tank. Flush the

spray equipment thoroughly following each use and apply the rinsate to a previously treated area.

The pH of application mixtures containing Mainspring Flora should be adjusted to a pH of 8 or less using a commercially available acidifier. Adjust the pH of application mixtures after all products being applied have been added to the tank and uniformly mixed.

Mainspring Flora Alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the Mainspring Flora to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the Mainspring Flora has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Mainspring Flora in Tank Mixtures: Mainspring Flora is compatible with most insecticide and fungicide products. However, the physical compatibility of Mainspring Flora with tank mix partners should be tested before use. To determine the physical compatibility of Mainspring Flora with other products, use a jar test, as described below, to test the physical compatibility of Mainspring Flora with tank-mix partners.

Tank-mixing Sequence

Add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after the addition of each product.

1. Water-soluble bags
2. Water-dispersible granules
3. Wettable powders
4. Mainspring and other water-based suspension concentrates
5. Water-soluble concentrates
6. Oil-based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants, oils
9. Soluble fertilizers
10. Drift retardants

Compatibility Test: Since pesticides, adjuvants, and fertilizers can vary in quality, always **check tank-mix compatibility with tank-mix partners before each use**. Be especially careful when using **complete** suspension or fluid fertilizers as carriers, as serious compatibility problems are more likely to occur with these products. Commercial application equipment may improve tank-mix compatibility in some instances. The following test assumes a spray volume of 25 gal/A. For other spray volumes, make appropriate changes in the components. Check tank-mix compatibility using this procedure:

1. Add 1 pt of carrier (either the water or liquid fertilizer to be used in the spray operation) to each of two clear 1-qt jars with tight lids.

2. To **one** of the jars, add $\frac{1}{4}$ tsp or 1.2 mL of a commercially available tank-mix compatibility agent approved for this use ($\frac{1}{4}$ tsp is equivalent to 2 pt/100 gallons spray). Invert the jar, then shake or stir gently to ensure thorough mixing.
3. To **both** jars, add the appropriate amount of each tank-mix partner. If more than one tank-mix partner is to be used, add them separately with dry formulations (wetttable powders or water dispersible granules) first, followed by liquid flowables, capsule suspensions, emulsifiable concentrates and finally adjuvants. After each addition, invert the jar, shake or stir gently to thoroughly mix. The appropriate amount of each tank-mix partner for this test is as follows:

Dry formulations: For each pound to be applied per acre, add 1.5 level tsp to each jar.

Liquid formulations: For each pint to be applied per acre, add 0.5 tsp or 2.5 mL to each jar.

4. After adding all ingredients, put lids on and tighten, then invert each jar 10 times to fully mix. Let the mixtures stand for 15-30 minutes and then assess by looking for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if a compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry dry formulations in water before addition, or (B) add the compatibility agent directly into liquid formulations, before addition to the tank-mixture. If these procedures are followed but incompatibility is still observed, do not use the tank mixture.

If mixture is physically compatible, add $\frac{1}{2}$ of the required amount of water to the mix tank. Start the agitator before adding any tank mix partners. Add products in this order: products packaged in water-soluble packaging, wetttable powders, wetttable granules (dry flowables) such as Mainspring Flora, liquid flowables, liquids, and emulsifiable concentrates.

Always allow each tank-mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all the mixture has been applied.

Note: If using Mainspring Flora in tank mixtures, all products in water-soluble packaging should be added to the tank before any other tank-mix partner, including Mainspring Flora. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using Mainspring Flora in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations which appear on the product label. Follow the most restrictive label precautions and limitations and do not exceed labeled

application rates for any product. This product should not be mixed with any product which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

Do not tank-mix Mainspring Flora insecticide with products such as Daconil® Weatherstik, Dithane™ Rainshield, or any product containing a sticker component in its formulation. This will limit absorption of Mainspring Flora by the plant, reducing control of labeled pests.

APPLICATION DIRECTIONS

SECTION 1: COMMERCIAL ORNAMENTAL NURSERY AND GREENHOUSE PRODUCTION

The following **AGRICULTURAL USE REQUIREMENTS** box containing Worker Protection Standards pertains to the use of this product in any commercial nurseries and greenhouses in which ornamental plants are produced for distribution and sale, including wholesale and retail nurseries, Christmas tree farms, and forestry and conifer nurseries.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Coveralls
- Socks and shoes
- Chemical-resistant gloves made of any waterproof material

1.1 Foliar Application (indoor and outdoor)

Foliar application rates are listed in **Table 1**. Thorough spray coverage of the plant is essential for optimum control. Apply when conditions do not favor drift from the target area and avoid spray overlap.

Apply Mainspring Flora when pest populations are low to prevent the increase of that population to damaging levels.

When making foliar applications to plants with hard-to-wet foliage, such as holly, ivy, or pine, the addition of a nonionic or organosilicone-based surfactant to improve coverage is recommended. Follow use directions and rate recommendations. Do not use adjuvants with binding or sticking properties, as these may reduce absorption of Mainspring Flora by the plant. If concentrate, mist-type or other low volume application equipment is used to apply Mainspring Flora, apply the same amount of product per area as you would use if applying with higher application volumes.

Table 1. Foliar Applications (indoor and outdoor)

Ornamental Plants in Commercial Production		
Breeding crops	Flowering plants grown for seed production	Pot and bedding plants
Bulb, corm and tuber crops (such as tulips, calla lilies)	Foliage plants	Shrubs
Evergreens, including conifers	Ground covers	Trees, including non-bearing fruit and nut trees*
Flowering plants	Palms	Vines (non-bearing)*
	Perennial plants	
Target Pests	Application Rate	Use Directions
Aphids including: Green Peach Aphid (<i>Myzus persicae</i>) Melon Aphid (<i>Aphis gossypii</i>) Leafminer (<i>Liriomyza</i>)	4 – 12 oz per 100 gallons 0.4 – 1.2 tsp per gallon 1.1 – 3.4 g per gallon	Begin applications prior to or when pests first appear. Reapply after 14 days to keep populations from increasing. Use higher listed rates when longer residual control is needed.
Japanese beetle adults, other leaf-feeding beetles (such as viburnum leaf beetle larvae) Lace bugs Leaf-feeding caterpillars (such as armyworms, loopers, fall webworms) Soft scales (such as oak lecanium scales) Thrips (foliar-feeding) Whiteflies including: Silverleaf whitefly (<i>Bermisia</i> spp. – Biotype B & Q) Greenhouse Whitefly (<i>Trialeurodes vaporariorum</i>)	8 – 12 oz per 100 gallons 0.8 – 1.2 tsp per gallon 2.2 – 3.4 g per gallon	
All pests listed above – maximum residual control	16 oz per 100 gallons 1.6 tsp per gallon 4.4 g per gallon	

USE RESTRICTIONS

- **Maximum Single Application Rate - Outdoors and Indoors:** Do not apply more than 16.7 oz Mainspring Flora per acre per application (equal to 0.31 lb pymetrozine and 0.10 lb cyantraniliprole per acre per application).
- **Maximum Total Application Rate – Outdoors and Indoors:**
 - Do not apply more than 66.8 oz Mainspring Flora per acre per calendar year. Do not apply more than 1.25 lb pymetrozine or 0.42 lb cyantraniliprole per acre per calendar year from Mainspring Flora or any pymetrozine- or cyantraniliprole containing products.
- **Minimum Reapplication Interval:** Do not reapply within 7 days.

*Non-bearing fruit and nut trees and vines are plants that will not bear edible fruit or nuts for one year after application.

SECTION 2: LANDSCAPE ORNAMENTALS AND INTERIOR PLANTSCAPES**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter treated areas without protective clothing until sprays have dried.

2.1 Foliar Application (indoor and outdoor)

Foliar application rates are listed in **Table 1**. Thorough spray coverage of the plant is essential for optimum control. Apply when conditions do not favor drift from the target area and avoid spray overlap.

Apply Mainspring Flora when pest populations are low to prevent the increase of that population to damaging levels.

When making foliar applications to plants with hard-to-wet foliage, such as holly, ivy, or pine, the addition of a nonionic or organosilicone-based surfactant to improve coverage is recommended. Follow use directions and rate recommendations. Do not use adjuvants with binding or sticking properties, as these may reduce absorption of Mainspring Flora by the plant. If concentrate, mist-type or other low volume application equipment is used to apply Mainspring Flora, apply the same amount of product per area as you would use if applying with higher application volumes.

Table 2. Foliar Applications (indoor and outdoor)

Ornamental Plants		
Plants in interior landscapes	Plants in outdoor landscapes	Potted plants and trees*
Target Pests	Application Rate	Use Directions
Aphids including: Green Peach Aphid (<i>Myzus persica</i>) Melon Aphid (<i>Aphis gossypii</i>) Leafminer (<i>Liriomyza</i>)	4 – 12 oz per 100 gallons	Begin applications prior to or when pests first appear.
	0.4 – 1.2 tsp per gallon	Reapply after 14 days to keep populations from increasing.
	1.1 – 3.4 g per gallon	Use higher listed rates when longer residual control is needed.
Japanese beetle adults, other leaf-feeding beetles (such as viburnum leaf beetle larvae) Lace bugs Leaf-feeding caterpillars (such as armyworms, loopers, fall webworms) Soft scales (such as oak lecanium scales) Thrips (foliar-feeding) Whiteflies (including) Silverleaf whitefly (<i>Bermisia</i> spp. – Biotype B & Q) Greenhouse Whitefly (<i>Trialeurodes vaporariorum</i>)	8 – 12 oz per 100 gallons	Begin applications prior to or when pests first appear.
	0.8 – 1.2 tsp per gallon	Reapply after 14 days to keep populations from increasing.
	2.2 – 3.4 g per gallon	Use higher listed rates when longer residual control is needed.
All pests listed above – maximum residual control	16 oz per 100 gallons 1.6 tsp per gallon 4.4 g per gallon	

USE RESTRICTIONS

- **Maximum Single Application Rate - Outdoors and Indoors:**
 - Do not apply more than 16.7 oz Mainspring Flora per acre per application (equal to 0.31 lb pymetrozine and 0.10 lb cyantraniliprole per acre per application).
- **Maximum Total Application Rate – Outdoors and Indoors:**
 - Do not apply more than 66.8 oz Mainspring Flora per acre per calendar year. Do not apply more than 1.25 lb pymetrozine or 0.42 lb cyantraniliprole per acre per calendar year from Mainspring Flora or any pymetrozine- or cyantraniliprole containing products.
- **Minimum Reapplication Interval:**
 - Do not reapply within 7 days.

*Non-bearing fruit and nut trees and vines are plants that will not bear edible fruit or nuts for one year after application.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Do not subject to temperatures below 32 degrees F. Store in original container, in a cool, dry place inaccessible to children and pets. Product is hygroscopic. Keep the container tightly closed.

Pesticide Disposal

Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used according to label instruction, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Container Handling [bags]

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Container Handling [less than or equal to 50 pounds]

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Mainspring Flora™, Daconil Weather Stik®, the ALLIANCE FRAME the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company

Dithane™ Rainshield is a trademark of The Dow Chemical Company

Viton™ is a trademark of The Chemours Company FC, LLC.

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419-8300

Mainspring Flora 1585 MAS 0422 AMEND-B JUNE2023-CL-jd-8/3/23
000100-01585.20230615B.MAINSPRING_FLORA.AMEND.0623-CL

Attachment 4



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Jake Vukich
Senior Product Registration Manager
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Benevia Insect Control, Exirel Insect Control and Verimark Insect Control
EPA Registration Numbers: 279-9614, 279-9615 and 279-9616
Application Date: June 15, 2023
Decision Numbers: 593329, 593330 and 593331

Dear Mr. Vukich:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided FMC Corporation (“FMC”) complies with all terms and conditions listed below.

Terms and Conditions

FMC must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the Services. The Services will make the final determination as to the potential for

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jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify FMC in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, FMC must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, FMC may respond by submitting a request for voluntary cancellation of this product. If FMC fails to comply with this term, FMC has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under FMC's control, FMC must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by FMC under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate FMC to provide additional labeling for product that bears the previously approved label but is not under FMC's control as of the date of this letter. However, FMC should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹ and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCSA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and not withstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

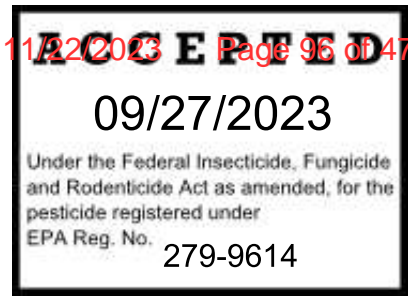
Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.



WITH THE ACTIVE INGREDIENT **CYAZYPYR®**



GROUP 28 INSECTICIDE

For foliar applications to bulb, legume and tuberous and corm vegetables; cotton; oil seed crops; peanuts; soybeans; tobacco and tree nuts for pest management of sucking and chewing insects that can vector certain plant diseases, aiding in optimization of the crop's potential.

Active Ingredient **By Weight**

Cyantraniliprole	
3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-1H-pyrazole-5-carboxamide	10.26%
Other Ingredients	89.74%
TOTAL	100.00%

BENEVIA® is an oil dispersion. SHAKE WELL BEFORE USING.
Contains 0.83 lb. active ingredient per gallon.

EPA Reg. No. 279-9614	EPA Est. No. _____
Nonrefillable Container	Refillable Container
Net: _____	OR Net: _____

Not for sale, sale into, distribution and/or use in Nassau and Suffolk counties of New York State.

KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

For questions regarding emergency medical treatment, you may contact 1-800-331-3148 for information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

After the product has been diluted in accordance with label directions for use, shirt, pants, socks, and shoes are sufficient Personal Protective Equipment. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

Sold By



FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

PHYSICAL OR CHEMICAL HAZARDS

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

Surface Water Advisory-

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of cyantraniliprole from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Ground Water Advisory-

This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen resulting from foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants in and around the application site.
- Minimize drift of this product onto beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: <http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS: Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

1. FOR CROPS UNDER CONTRACTED POLLINATION SERVICES

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following conditions is met.

- If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

2. FOR FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset
- The application is made to the target site when temperatures are below 55°F
- The application is made in accordance with a government-initiated public health response
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48- hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

RESTRICTIONS

- Do not make ground applications within 25' or aerial applications within 50' of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds). Do not cultivate within 30' of these aquatic areas to allow growth of a vegetative filter strip.
- For foliar uses, do not apply during rain.
- When making air blast applications to orchard crops with sparse canopies a 25 foot buffer is required between the application site and all adjacent areas except for roads (and other paved or gravel surfaces), agricultural areas (fields that have been planted into or prepared for planting), and structural areas (buildings or other man-made structures with walls and/or a roof). A sparse canopy occurs during the period of dormancy starting from first leaf drop at the end of the season until vegetation is fully leafed out in the spring, and on young orchard crops that are not yet bearing.
- Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- Do not apply BENEVIA® to the soil or through drip irrigation systems. May be used on crops on this label grown for seed production.
- Do not use in residential areas.
- Do not apply BENEVIA® insect control through any irrigation system unless specified in the crop section of this label.
- Unless otherwise stated for a specific crop, do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantraniliprole containing products per calendar year. This is the total from all application methods (eg. seed, soil, foliar).

AGRICULTURAL USE REQUIREMENTS

BENEVIA® must be used only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves (made of any waterproof material)

BENEVIA® must be used in accordance with the directions for use on this label, or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

BENEVIA® is an oil dispersion that can be applied as a foliar spray on labeled crops or by overhead chemigation in potatoes and bulb vegetables to control listed insects. BENEVIA® is specially formulated for maximum performance by foliar applications in bulb, legume and tuberous and corm vegetables; cotton; oil seed crops; peanuts; soybeans; tobacco and tree nuts. Do not apply directly to the soil or through drip irrigation as doing so may damage the plant root system. BENEVIA® is mixed with water for application.

BENEVIA® is a member of the anthranilic diamide class of insecticides with a novel mode of action acting on insect ryanodine receptors. Although BENEVIA® has contact activity, it is most effective through ingestion of treated plant material. After exposure to BENEVIA®, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days, reducing both direct damage and the transmission of some insect transmitted diseases. Early season applications of BENEVIA® improve crop establishment and growth vigor by controlling a range of pests that attack seedlings. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae or nymphs, before populations reach damaging levels. When pest populations are high, use the highest listed application rate for that pest. For best results when targeting control of sucking pests, begin applications when insect populations first appear. BENEVIA® has preventative activity, but low curative activity for sucking pests.

INTEGRATED PEST MANAGEMENT

FMC supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds. For best results with sucking pests, apply at specified rates when insects first appear. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

SCOUTING

Monitor insect populations to determine whether or not there is a need for application of BENEVIA® based on locally determined pest management guidelines. More than one treatment of BENEVIA® may be required to control a population of pests.

INSECT RESISTANCE MANAGEMENT

For resistance management, BENEVIA® is a Group 28 Insecticide. Repeated and exclusive use of BENEVIA® (cyantraniliprole) or other Group 28 insecticide belonging to the anthranilic diamide class of chemistry may lead to the buildup of resistant strains of insects in some crops.

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, this product may be used as part of a resistance management strategy established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of mode-of-action classes of insecticides on succeeding generations and the most susceptible life stage. Consult your local or state agricultural authorities for details.

Unless directed otherwise in the specific crop/pest sections of this label, the best practices are to follow these instructions to delay the development of insecticide resistance:

- Avoid using the same mode of action (same IRAC group number) on consecutive generations of insect pests.
- Make no more than 2 applications of BENEVIA® (cyantraniliprole) or other Group 28 products per generation to the same insect species on a crop.
- Application to the next generation of target pest(s) must be with an effective product with a different mode of action (non- Group 28 insecticide).
- Make no more than 2 successive applications within a 30-day period to the same insect species on a crop. The following application to the target pest(s) must be with an effective product with a different mode of action.
- Avoid using less than the labeled rates of BENEVIA® when applied alone or in tank mixtures.
- Target the most susceptible insect life stages, whenever possible.
- Monitor insect populations for product effectiveness. If resistance to BENEVIA® develops in your area, BENEVIA® or other products with a similar mode of action, may not provide adequate control.
- If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local FMC company representative or agricultural advisor for the best alternative method of control.

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org>.

APPLICATION

Apply at the specified rates when insect populations reach locally determined action thresholds. For best results with sucking pests, begin applications when insects first appear. Consult the cooperative extension service, professional consultants or other qualified authorities for local pest management guidelines in your area.

Apply follow-up treatments of BENEVIA®, as specified, to keep pest populations under threshold limits. Refer to the Resistance Management section of this label for further guidance on follow-up treatments. See individual crop sections of this label for specific minimum spray intervals. Use sufficient water to obtain thorough, uniform coverage.

BENEVIA® may be applied by: foliar ground (including overhead chemigation in potatoes and bulb vegetables), or aerial application equipment.

BENEVIA® may be applied via overhead sprinkler chemigation systems on potatoes and bulb vegetables. Use of the highest labeled rate for the specified pest may be necessary when making overhead chemigation applications.

For aerial application use the following directions unless otherwise specified in specific crop/pest sections of this label or other supplemental labeling: use a minimum of 5 gallons per acre (gpa) of water for bulb vegetables, cotton, oil seed crops and tuberous and corm vegetables and use 10 gallons per acre (gpa) for tree nuts. Use of the highest labeled rate for a specified pest may be necessary when making aerial applications.

For foliar ground applications use the following directions, unless otherwise specified in specific crop/pest sections of this label or other supplemental labeling: use a minimum of 10 gal per acre (gpa) of water for bulb vegetables, cotton, oilseed crops and tuberous and corm vegetables and use a minimum of 30 gallons per acre (gpa) for tree nuts.

Use of Adjuvants - In some situations where coverage is difficult to achieve such as closed canopy, dense foliage, plants with waxy leaf surfaces, or less than optimum applications equipment, an adjuvant may improve performance. Use a proven and recommended adjuvant that does not affect foliage and/or fruit finish. Tank mixes of BENEVIA® with spreading and penetrating adjuvants can result in adverse crop response. See specific crop instructions in the following crop tables.

SPRAY PREPARATION

Spray equipment must be clean and free of previous pesticide deposits before applying BENEVIA®. Fill spray tank 1/4 to 1/2 full of water. Add BENEVIA® directly to spray tank. Mix thoroughly to fully disperse the insecticide, once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

Acidification of Spray Tank - If the pH of the spray tank after all products have been added and mixed is above pH 8, adjust to pH 8 or less using a registered acidifying agent. If the spray tank pH is 8 or less no adjustment of the spray tank pH is necessary. Spray tanks of pH 8 or less can be held for up to 8 hours before spraying. Do not store the spray mixture overnight in the spray tank.

Compatibility - Since formulations may be changed and new ones introduced, premix a small quantity of a desired tank mix and observe for physical incompatibility (settling out, flocculation, etc.). Spray volumes of less than 3 gallons of water and tank mixtures of more than two products can increase the chances of incompatible spray mixtures. A jar test (as described below) should be conducted when label guidance is not given or prior experience with a specific tank mixture is unknown. The jar test should follow the proper sequence of addition at the spray water volume planned to assure that the tank mix is compatible. Constant agitation may be needed during mixing and spraying of mixtures.

This product can be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. Do not exceed labeled dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.

Steps to conduct a jar test to determine physical tank mix compatibility of BENEVIA® with other products:

- Add clean water to jar proportional to the planned water volume that will be used in the spray tank (a jar size of 8-16 oz is acceptable).
- Using the most restrictive PPE of the products to be tested, mix proper proportions of BENEVIA® and desired tank mix partner(s) as will be present in the spray tank, add one product at a time following the sequence of addition according to formulation type provided in this label.
- Seal and shake mixture after each product is added.
- Allow to stand for 1 hour.
- View jar to determine if settling, flocculation, crystallization or any other undesirable changes have happened.
- If none of the above is observed or the solution can be easily remixed after shaking, the mixture is compatible with BENEVIA®.
- If the tank mix is not compatible, a higher water volume, reduced rate of the tank mix partner(s), reduced number of tank mix partners or a compatibility agent may be needed.

TANK MIXTURES AND CROP SAFETY- BENEVIA® is an oil in water emulsion. The crop safety of BENEVIA® alone or in tank mix with many common insecticides, fungicides, nutritionals and adjuvants has been found to be acceptable. Tank mixes of BENEVIA® with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio and Quadris), copper and sulfur based fungicides, chlorothalonil based fungicide formulations (for example, Bravo Weather Stik), and the fungicides Captan, Tanos, Rally and Manzate may result in adverse crop response. Some materials including oils, surfactants, adjuvants, nutritionals and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury.

The application of strobilurin fungicides in a short time sequence (i.e., seven days apart or less between applications) before or after BENEVIA® may also result in adverse crop response. Applying BENEVIA® with any product that produces adverse crop response in a tank mixture, specifically including, but not limited to, those listed above, may also cause adverse crop response when applied in a short time sequence. Such uses should be tested as described below before broad application is made.

Crop varieties can differ in their responsiveness to tank mixtures, and environmental conditions can have an influence on product performance and crop response. It is not possible to test BENEVIA® alone or with all possible tank mix combinations and sequences on all varieties under all environmental conditions. When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on BENEVIA® product labeling or in other FMC product use instruction, or when applying any of the aforementioned products in close sequence with BENEVIA®, it is important to check crop safety first. To test for crop safety prepare a small volume of the intended tank mixture or sequence, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and

observe the treated crop to ensure that a phytotoxic response does not occur.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations, and directions for use, on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements on each product in the tank mixture. Use of BENEVIA® in any tank mixture or sequence of applications that is not specifically described on BENEVIA® product labeling or in other FMC product use instructions, could potentially result in crop injury. To the extent allowed by law, FMC will not be responsible for any crop injury arising from the use of a tank mixture or sequence of applications that is not specifically described on BENEVIA® product labeling or in other FMC product use instruction.

Tank Mixing Sequence -Add different formulation types in the sequence indicated below*. Allow time for complete mixing and dispersion after addition of each product.

1. Water soluble bag (WSB)
2. Water soluble granules (SG)
3. Water dispersible granules (WG, XP, DF)
4. Wettable powders (WP)
5. Water based suspension concentrates (SC)
6. Water soluble concentrates (SL)
7. Suspoemulsions (SE)
8. BENEVIA® and other oil based suspension concentrates (OD)
9. Emulsifiable concentrates (EC)
10. Surfactants, oils adjuvants
11. Soluble fertilizers
12. Drift retardants

* Unless otherwise specified by manufacturer directions for use or by local experience.

CHEMIGATION - Overhead Sprinkler - Potatoes and Bulb Vegetables

The following types of irrigation equipment may be used for chemigation applications to potatoes and bulb vegetables: overhead sprinkler irrigation systems.

Apply BENEVIA® in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area. Inject BENEVIA® downstream from any water filtration system.

Do not connect any irrigation system used for pesticide applications to a public water system unless the pesticide label- prescribed safety devices are in place. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year.

See "Required System Safety Devices For All Chemigation Systems" at the end of the Chemigation section.

APPLICATION INSTRUCTIONS FOR CHEMIGATION USING OVERHEAD SPRINKLER SYSTEMS - POTATOES AND BULB VEGETABLES

Types of Chemigation Systems: BENEVIA® may be applied to potatoes and bulb vegetables through overhead sprinkler irrigation systems, including the following; center pivot, end tow, hand move, lateral move, side roll, solid set and wheel line. The irrigation system used must provide uniform water distribution.

Directions for Chemigation:

Preparation

A pesticide tank is recommended for the application of BENEVIA® in chemigation systems.

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. With the mix tank 1/4 to 1/2 full with water and the agitator running, measure the required amount of BENEVIA® and add it to the tank. The highest labeled rate for the specified pest may be necessary when making overhead chemigation applications. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. Note: Always add BENEVIA® to water, never put BENEVIA® into a dry tank or other mixing equipment without first adding water. See "Tank Mixing Sequence" section of the container label for tank mixing sequence. Continue to agitate the mixture throughout the application process. Use mechanical or hydraulic agitation, do not use air agitation.

Injection Into Chemigation Systems

Inject the proper amount of BENEVIA® into the irrigation water flow using a positive displacement injection pump or a Venturi injector.

Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water. For continuously moving systems, inject the solution containing BENEVIA® into the irrigation water line continually and uniformly throughout the irrigation cycle. Apply in no more than 0.2 inches of water per acre. For overhead sprinkler systems that are stationary, add the solution containing BENEVIA® to the irrigation water line and apply no more than 0.2 inches of water per acre.

Uniform Water Distribution

The irrigation system used for application of BENEVIA® must provide for uniform distribution of BENEVIA® treated water. Non-uniform distribution can result in crop injury, lack of effectiveness or illegal pesticide residues in or on the crop being treated. Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent or other experts if you have questions about achieving uniform distribution of the application.

Equipment Calibration

Calibrate the irrigation system and injector before applying BENEVIA®. Calibrate the injection pump while the system is running using the expected irrigation rate. If you have questions about calibration, you should contact your state extension service specialists, equipment manufacturer or other experts.

Monitoring of Chemigation Applications

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when BENEVIA® is in the irrigation water.

Operation

Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injection system according to the directions above. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

- End guns must be turned off during the application, if they irrigate nontarget areas or if they do not provide uniform application and coverage.
- The nozzles in the immediate area of wells, control panels, chemical supply tanks and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution. Do not allow irrigation water to collect or run-off during chemigation.

Cleaning the System

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

REQUIRED SYSTEM SAFETY DEVICES FOR ALL CHEMIGATION SYSTEMS

1. The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering device, such as a positive displacement pump or a Venturi injector, that provides uniform injection of the product, is effectively designed and constructed of materials compatible with the product, and is capable of being fitted with a system interlock.
7. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

SPRAY TANK CLEANOUT

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

CONTROLLING DROPLET SIZE - GROUND APPLICATION

- For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Pressure - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

CONTROLLING DROPLET SIZE - AIRCRAFT

For fixed wing and helicopter aerial applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other fixed wing and helicopter aerial applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

- Number of Nozzles - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- Nozzle Orientation - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Pressure - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT

- Boom Length (aircraft) - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift. Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift. For aerial application, if the windspeed is 10 miles per hour or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full swath displacement upwind at the downwind edge of the field.

For aerial application, do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.

TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

SURFACE TEMPERATURE INVERSIONS

For aerial application, do not apply during temperature inversions.

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions for additional information.

SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology.

CROP ROTATION

Crops on this label and the following crops or crop groups may be planted immediately following the last application of BENEVIA®: Brassica Leafy Greens (Crop Subgroup 4-16B) and Brassica Head and Stem Vegetables (Crop Group 5-16); Bulb Vegetables (Crop Group 3- 07); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Greens (Crop Subgroup 4-16A) and Leaf Petiole Vegetables (Crop Subgroup 22B); Celtnuce; Florence Fennel; Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Berry and Fruit Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Soybeans; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.

The following crops or crop groups may be planted 30 days following the last application of BENEVIA®: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.

There is no plant back restriction for conversion of a treated field to, or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Caneberry Subgroup (Crop Subgroup 13-07A); Coffee; Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).

All other crops cannot be planted until 12 months after the last application of BENEVIA®.

Crop	Application Method	Target Pest	BENEVIA® RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	Fluid ounces product per acre		
Bulb Vegetables, (Crop Group 3-07) Chive, fresh leaves; Chive, Chinese, fresh leaves; Daylily, bulb (edible); Elegans hosta (edible); Fritillaria, leaves (edible); Garlic, bulb; Garlic, great headed, bulb; Garlic, serpent, bulb; Kurrat; Lady's leek; Leek; Leek, wild; Lily, bulb; Onion, Beltsville bunching; Onion, bulb; Onion, Chinese, bulb; Onion, fresh; Onion, green; Onion, macrostem; Onion, pearl; Onion, potato, bulb; Onion, tree, tops; Onion, Welsh, tops; Shallot, bulb; Shallot, fresh leaves	Foliar	Leafminer (<i>Liriomyza spp.</i>)* Thrips (foliage feeding only)§*	0.088 - 0.133	13.5 - 20.5	1	12
		Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantranilprole containing products per calendar year whether applications are made to the soil or foliarly. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. For best results, use the highest rate listed. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low (1-3 thrips per plant). If populations are higher, use an effective thrips knockdown product before applying BENEVIA®. See "Chemigation - Overhead Sprinkler - Potatoes and Bulb Vegetables" section for instructions on overhead sprinkler chemigation.				
Cotton	Foliar	Beet armyworm Cotton bollworm† Fall armyworm Saltmarsh caterpillar Southern armyworm Tobacco budworm† Western yellowstriped armyworm	0.045 - 0.11	7 - 17	7	12
		Cabbage looper Soybean looper	0.065 - 0.11	10 - 17		
		Whitefly* Thrips (foliage feeding only)§	0.088 - 0.133	13.5 - 20.5		
		Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantranilprole containing products per calendar year whether applications are made to the soil or foliarly. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. For high populations of whiteflies, use the highest listed rate. § - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying BENEVIA®. † - For Heliothine control (cotton bollworm and/or cotton budworm) make the first application at rates of 0.065 - 0.11 lb ai per acre (10-17 fl oz product/A). Subsequent applications can be at rates of 0.045 - 0.088 lb ai per acre (7 -13.5 fl oz product/A) depending on pressure. Applications of BENEVIA® to seedling cotton may result in crop response. Affected plants outgrow the effects in most cases. If the risk of crop response to BENEVIA® cannot be accepted, do not apply it to seedling cotton.				

Crop	Application Method	Target Pest	BENEVIA® RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	Fluid ounces product per acre		
Legume vegetables, succulent or dried (Crop Group 6) Bean (Lupinus) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (Phaseolus) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (Vigna) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (Pisum) includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; sword bean	Foliar	Corn earworm European corn borer Leafminer	0.065 - 0.133	10 - 20.5	1 (succulent) 7 (dried)	12
		Potato leafhopper§* Thrips (foliage feeding only)§* Whiteflies*	0.088 - 0.133	13.5 - 20.5		
<p>§ - Suppression only.</p> <p>*- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>Applications of BENEVIA® to certain species of legume vegetables in this crop group may result in crop response. Affected plants outgrow the effects in most cases. If the risk of crop response to BENEVIA® cannot be accepted, do not apply it to legume vegetables.</p>						
Oil Seed Crops (Crop Group 20) including Borage; Calendula; Castor oil; Chinese tallowtree; Crambe; Cuphea; Echium; Euphorbia; Evening primrose; Flax seed; Gold of pleasure; Hare's ear mustard; Jojoba; Lesquerella; Lunaria; Meadowfoam; Milkweed; Mustard seed; Niger seed; Oil radish; Poppy seed; Rapeseed (including canola varieties); Rose hip; Safflower; Sesame; Stokes aster; Sunflower; Sweet rocket; Tallowwood; Tea oil plant; Vernonia	Foliar*	Bertha armyworm Diamondback moth Sunflower head moth	0.045 - 0.088	7 - 13.5	7	12
		Crucifer flea beetle	0.045 - 0.11	7 - 17		
		Cabbage looper Sunflower seed weevil§	0.065 - 0.133	10 - 20.5		
<p>Minimum application interval between treatments is 7 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantraniliprole containing products per calendar year. This is the total from all application methods (seed treatment and foliar application).</p> <p>* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action.</p>						

Crop	Application Method	Target Pest	BENEVIA® RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	Fluid ounces product per acre		
Peanuts	Foliar	Corn earworm Fall armyworm Tobacco budworm	0.065 - 0.133	10 - 20.5	14	12
		Cutworms Soybean looper Lesser cornstalk borer Thrips (foliage feeding only)§ * **	0.088 - 0.133	13.5 - 20.5		
<p>§ - Suppression only. *- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. **- Use in conjunction with an effective thrips and tomato spotted wilt virus management program. Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantranilprole containing products per calendar year whether applications are made to the soil or foliarly. Tomato Spotted Wilt Virus Suppression: Use of BENEVIA® to manage thrips which may vector the tomato spotted wilt virus at a rate of 13.5-20.5 fl oz/A applied early season (at cracking) will help suppress and slow the expression of tomato spotted wilt virus in peanuts when used as part of a TSWV management program.</p>						
Soybeans	Foliar	Green cloverworm Soybean looper Velvetbean caterpillar	0.065 - 0.133	10 - 20.5	7	12
		Lesser cornstalk borer Bean leaf beetle§ Japanese beetle Stink bug species§ Soybean aphid* Thrips (foliage feeding only)§*	0.088 - 0.133	13.5 - 20.5		
<p>§ - Suppression only. *- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantranilprole containing products per calendar year whether applications are made as a seed treatment, to the soil, or foliarly.</p>						
Tobacco	Foliar	Tobacco budworm	0.065 - 0.133	10 - 20.5	7	12
		Tomato hornworm Tobacco hornworm Flea beetle	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantranilprole containing products per calendar year whether applications are made to the soil or foliarly.</p>						

Crop	Application Method	Target Pest	BENEVIA® RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	Fluid ounces product per acre		
Tuberous and Corm Vegetables (Crop Subgroup 1C) including Arracacha; Arrowroot; Artichoke, Chinese; Artichoke, Jerusalem; Canna, edible; Cassava, bitter and sweet; Chayote (root); Chufa; Dasheen (taro); Ginger; Leren; Potato; Sweet potato; Tanier; Turmeric; Yam bean; Yam, true	Foliar	Colorado potato beetle†	0.033 - 0.088	5 - 13.5	7	12
		Beet armyworm European corn borer Potato tuberworm*†† Yellowstriped armyworm	0.045 - 0.088	7 - 13.5		
		Cabbage looper	0.065 - 0.11	10 - 17		
		Potato flea beetle* § Green peach aphid* Potato aphid* § Potato psyllid	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantraniliprole containing products per calendar year; this is the total of seed piece treatment (potato), soil treatment, and foliar treatment.</p> <p>*- For best performance use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action.</p> <p>†- Colorado potato beetle resistance management - Do not apply BENEVIA® more than twice to a generation of Colorado potato beetle or within any 30 day period. Application(s) to the next generation of Colorado potato beetle must be with an effective product with a different mode of action. Do not apply BENEVIA® for Colorado potato beetle control if any cyantraniliprole containing product was used at-plant either as a soil applied or seed treatment.</p> <p>†† - Potato Tuberworm: BENEVIA® may be applied at rates of 7 to 13.5 fl oz/A to control potato tuberworm. Begin application when field scouting indicates the presence of tuberworm adults and/or larvae. Potato tuberworm often have overlapping generations so repeat applications of BENEVIA® may be needed based on scouting. Avoid treating successive generations with the same mode of action. It is important to protect the crop just prior to harvest when foliage starts to senesce. Use the higher rate of BENEVIA® when tuberworm pressure is high. Failure to adequately control potato tuberworm larvae prior to crop senescence or vine kill increases the risk of tuber damage. Foliar sprays alone, by air or ground, may not provide adequate control of larvae in the mid to lower crop canopy. For best results, apply via overhead chemigation or integrate chemigation applications into the foliar spray program. For best results with foliar sprays, add Methylated seed oil (MSO) adjuvant at 1 gallon per 100 gallons of spray volume (1% v/v). For chemigation applications, apply in 0.1 to 0.2 acre inches of water and add MSO at 12 to 16 fl oz/acre. See "Chemigation - Overhead Sprinkler - Potatoes and Bulb Vegetables" section for instructions on overhead sprinkler chemigation.</p> <p>Suppression of Zebra Chip Disease: Use of BENEVIA® to control potato psyllid which may vector zebra chip disease at a rate of 13.5 to 20.5 fl. oz./A applied starting when psyllid populations are low will help suppress the expression of the zebra chip disease.</p>						

Crop	Application Method	Target Pest	BENEVIA® RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	Fluid ounces product per acre		
Tree Nuts (Crop Group 14-12) including African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these	Foliar*	Hickory shuckworm Pecan nut casebearer	0.055 - 0.11	8.5 - 17	5	12
		Codling moth† Obliquebanded leafroller Oriental fruit moth Peach twig borer††	0.065 - 0.133	10 - 20.5		
		Navel orangeworm††† Walnut aphid	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 7 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR® or cyantraniliprole containing products per calendar year.</p> <p>Make no more than 3 applications of BENEVIA® or other Group 28 insecticides within a single generation of the target pest on a crop.</p> <p>Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Where higher spray volumes are used, apply a higher rate in the specified rate range. Do not apply less than 30 gallons of water per acre by ground. For best results apply 100-150 gallons of water per acre.</p> <p>* - For best performance use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>† - Codling moth (Walnut): Make initial application at or before peak egg lay for targeted generation.</p> <p>Depending on level of infestation reapply 14 days later as needed. Use higher rates and ground application equipment to achieve thorough coverage.</p> <p>†† - Peach Twig Borer: BENEVIA® may be used throughout the growing season. For dormant applications an EPA registered dormant oil may be added to the application. For specific directions on use of oil, consult manufacturer's specific oil labels for precautions and restrictions regarding the use of oils in tree nut crops. For best performance, apply using ground equipment to achieve thorough uniform coverage of all scaffolds and limbs. For spring application to overwintering generation: Make applications at late dormant (just prior to bud break) to early bloom. For "April - May" applications to the summer generation: Make applications at peak moth flight (timed at or before peak egg lay). Higher rates in the labeled rate range may be needed for higher infestation levels and large, dense foliage trees.</p> <p>††† - Navel orange worm: Applications can be made during the "May spray" or "Hull split" application timing. For applications made at "Hull split" timing - Make an application at 1- 2% hull-split timing; make a second application approximately 10-14 days later. Depending on level of pest infestation, use of higher rates in the labeled rate range and multiple applications may be needed.</p>						

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING: Refer to the Net Contents section of this product's labeling for the applicable "Refillable Container" or "Nonrefillable Container" designation.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Greater Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers: Refillable container. Refilling Container: Refill this container with BENEVIA® containing cyantraniliprole only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container, contact FMC at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact FMC at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact CHEMTREC (Transportation and Spills) at 1-800-424-9300, day or night.

NOTICE TO BUYER — Purchase of this material does not confer any rights under patents of countries outside of the United States.

FMC, BENEVIA® and CYAZYPYR® are trademarks or registered trademarks of FMC Corporation or an affiliate. "Tanos" is a registered trademark of Corteva

"Cabrio" is a registered trademark of BASF SE

"Quadris" and "Bravo Weather Stik" are registered trademarks of a Syngenta Group Company "Rally" is a registered trademark of DowAgroSciences LLC

"Manzate" is a registered trademark of United Phosphorous Limited

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CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Notice: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or FMC, and, to the extent permitted by applicable law, Buyer assumes the risk of any such use.

To the extent consistent with applicable law, FMC or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Condition of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

Attachment 5



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Jake Vukich
Senior Product Registration Manager
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Benevia Insect Control, Exirel Insect Control and Verimark Insect Control
EPA Registration Numbers: 279-9614, 279-9615 and 279-9616
Application Date: June 15, 2023
Decision Numbers: 593329, 593330 and 593331

Dear Mr. Vukich:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided FMC Corporation (“FMC”) complies with all terms and conditions listed below.

Terms and Conditions

FMC must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the Services. The Services will make the final determination as to the potential for

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jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify FMC in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, FMC must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, FMC may respond by submitting a request for voluntary cancellation of this product. If FMC fails to comply with this term, FMC has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under FMC's control, FMC must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by FMC under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate FMC to provide additional labeling for product that bears the previously approved label but is not under FMC's control as of the date of this letter. However, FMC should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹ and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCSA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and not withstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.



CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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WITH CYAZYPYR® active

For foliar applications to brassica (leafy, and head and stem), bulb, cucurbit, fruiting, leafy green, leaf petiole, legume, root and tuberous and corm vegetables; commercially grown greenhouse cucumber, eggplant, pepper and tomato; cotton, oil seed crops; strawberries; bushberries; caneberries; coffee; low growing berries; peanuts; soybeans; citrus, pome, and stone fruits; tree nuts; and tobacco for pest management of sucking and chewing insects that can vector certain plant diseases, aiding in optimization of the crop's potential.

<i>Active Ingredient</i>	<i>By Weight</i>
Cyantraniliprole 3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino) carbonyl]phenyl]-1H-pyrazole-5-carboxamide	10.20%
<i>Other Ingredients</i>	89.80%
TOTAL	100.00%

EXIREL® insect control is a suspoemulsion (oil in water emulsion). SHAKE WELL BEFORE USING.

Contains 0.83 lb. active ingredient per gallon.

EPA Reg. No. 279-9615

EPA Est. No. _____

Nonrefillable Container

Refillable Container

Net: _____

OR

Net: _____

Not for sale, sale into, distribution and/or use in Nassau and Suffolk counties of New York State.

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

IF ON SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

For questions regarding emergency medical treatment, you may contact 1-800-331-3148 for information.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

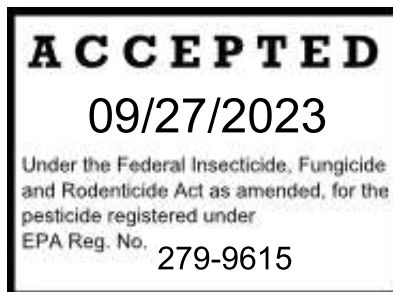
Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils.

Shoes plus socks.

Sold By



FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104



USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

PHYSICAL OR CHEMICAL HAZARDS

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

Surface Water Advisory-

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of cyantraniliprole from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Ground Water Advisory-

This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen resulting from foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants in and around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at: <http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements, specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS: Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

1. FOR CROPS UNDER CONTRACTED POLLINATION SERVICES



Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met.

- If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

2. FOR FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS



Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset
- The application is made to the target site when temperatures are below 55°F
- The application is made in accordance with a government-initiated public health response
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

RESTRICTIONS

- Do not make ground applications within 25' or aerial applications within 50' of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds). Do not cultivate within 30' of these aquatic areas to allow growth of a vegetative filter strip.
- For foliar uses, do not apply during rain.
- When making air blast applications to orchard crops, including citrus, with sparse canopies a 25 foot buffer is required between the application site and all adjacent areas except for roads (and other paved or gravel surfaces), agricultural areas (fields that have been planted into or prepared for planting), and structural areas (buildings or other man-made structures with walls and/or a roof). A sparse canopy occurs during the period of dormancy starting from first leaf drop at the end of the season until vegetation is fully leafed out in the spring, and on young orchard crops, including citrus, that are not yet bearing.
- Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- Do not use on crops grown to harvest in greenhouses unless specified in the crop section of this label.
- Do not apply EXIREL insect control to the soil or through drip irrigation systems.
- May be used on crops on this label grown for seed production.

- Do not use in residential areas.
- Do not apply EXIREL insect control through any irrigation system unless specified in the crop section of this label.
- Unless otherwise stated for a specific crop, do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. This is the total from all application methods (eg. seed, soil, foliar).

AGRICULTURAL USE REQUIREMENTS

EXIREL insect control must be used only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all > 14 mils

EXIREL insect control must be used in accordance with the directions for use on this label, or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

EXIREL insect control is a suspoemulsion (oil in water emulsion) that can be applied as a foliar spray on labeled crops or by overhead chemigation in cranberries, potatoes and bulb vegetables to control listed insects. EXIREL insect control is specially formulated for maximum performance by foliar applications in brassica, bulb, cucurbit, fruiting, leafy, legume, root and tuberous and corm vegetables; commercially grown greenhouse cucumber, eggplant, pepper and tomato; cotton, oil seed crops; strawberries; bushberries; caneberries; coffee; low growing berries; peanuts; soybeans; citrus, pome, and stone fruits; tree nuts; and tobacco. Do not apply directly to the soil or through drip irrigation as doing so may damage the plant root system. EXIREL insect control is mixed with water for application.

EXIREL insect control is a member of the anthranilic diamide class of insecticides with a novel mode of action acting on insect ryanodine receptors. Although EXIREL insect control has contact activity, it is most effective through ingestion of treated plant material. After exposure to EXIREL insect control, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days, reducing both direct damage and the transmission of some insect transmitted diseases. Early season applications of EXIREL insect control improve crop establishment and growth vigor by controlling a range of pests that attack seedlings. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae or nymphs, before populations reach damaging levels. When pest populations are high, use the highest listed application rate for that pest. For best results when targeting control of sucking pests, begin applications when insect populations first appear. EXIREL insect control has preventative activity but low curative activity for sucking pests.

INTEGRATED PEST MANAGEMENT

FMC supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds. For best results on sucking pests, begin applications when populations first appear. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

SCOUTING

Monitor insect populations to determine if there is a need for application of EXIREL insect control based on label recommendations and locally determined pest management guidelines. More than one treatment of EXIREL insect control may be required to control a pest population.

INSECT RESISTANCE MANAGEMENT

EXIREL insect control contains the active ingredient cyantraniliprole and is a Group 28 insecticide based on the mode of action classification system of the International Insecticide Resistance Action Committee (IRAC). Insecticides with the same Group Number affect the same biological site of action on the target pest and when used repeatedly in the same treatment area, naturally-occurring resistant individuals may survive correctly applied insecticide treatments, reproduce, and become dominant. To avoid or delay the development of insecticide resistance, a resistance management strategy should be established for the use area. This strategy may include incorporation of cultural and biological control practices, alternation to different mode of action insecticides on succeeding generations, and targeting the most susceptible life stage. Consult your local or state agricultural authorities and product manufacturer for more information about developing a resistance management strategy.

Unless directed otherwise in the specific crop/pest sections of this label, the best practices are to follow these guidelines to delay the development of insecticide resistance:

- Apply EXIREL insect control and other Group 28 insecticides within a single “treatment window” to minimize exposing multiple successive generations of a pest species to the same mode of action insecticides.
- A “treatment window” is defined as the period of insecticidal activity provided by one or more applications of products with the same mode of action.
- A “treatment window”, including residual control, should not exceed 30 days (the length of a typical pest generation).
- Within the Group 28 “treatment window”, make no more than 2 applications of EXIREL insect control or other Group 28 insecticides.
- Following a Group 28 “treatment window”, rotate to a “treatment window” of effective insecticides with a different mode of action (Group Number).
- The period between Group 28 “treatment windows” should be at least 30 days.
- The total exposure of all Group 28 products applied throughout the crop cycle (from seedling to harvest) should not exceed approximately 50% of the crop cycle or 50% of the total number of insecticide applications targeted at the same pest species.
- For short cycle crops (< 50 days), the duration of the crop cycle may be considered as the Group 28 “treatment window” as long as no Group 28 insecticides are used during the next crop cycle at the same farm location.
- Avoid using less than labeled rates of EXIREL insect control when applied alone or in tank mixtures.
- Target the most susceptible insect life stages whenever possible.
- Monitor insect populations for product effectiveness. If poor performance occurs and it cannot be attributed to improper application or extreme weather conditions, a resistant pest population may be present.

If resistance to EXIREL insect control develops in your area, EXIREL insect control or other products with a similar mode of action (Group 28) may not provide adequate control. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area.

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org>.

APPLICATION

Apply at the specified rates when insect populations reach locally determined action thresholds. For best results on sucking pests, begin applications when pests first appear. Consult the cooperative extension service, professional consultants or other qualified authorities for local pest management guidelines in your area.

Apply follow-up treatments of EXIREL insect control, as specified, to keep pest populations under threshold limits. Refer to the Resistance Management section of this label for further guidance on follow-up treatments. See individual crop sections of this label for specific minimum spray intervals.

Use sufficient water to obtain thorough, uniform coverage.

EXIREL insect control may be applied by foliar ground or aerial application equipment. Not all application methods are allowed on all crops; see specific crop sections of this label or other supplemental labeling for application methods which may be used. For aerial application use the following directions unless otherwise specified in specific crop/pest sections of this label or other supplemental labeling: use a minimum of 5 gallons per acre (gpa) of water for vegetable crops and 10 gallons per acre (gpa) for all fruit and nut crops. The highest labeled rate for a specified pest may be necessary when aerial applications are made. For ground foliar applications use the following directions, unless otherwise specified in specific crop/pest sections of this label or other supplemental labeling: use a minimum of 10 gal per acre (gpa) of water for all vegetable crops and 30 gallons per acre (gpa) for all fruit and nut crops.

Use of Adjuvants - In some situations where coverage is difficult to achieve such as closed canopy, dense foliage, plants with waxy leaf surfaces, or less than optimum application equipment, an adjuvant may improve performance. Use a proven and recommended adjuvant that does not affect foliage and/or fruit finish. Tank mixes of EXIREL insect control with spreading and penetrating adjuvants can result in adverse crop response. See specific crop instructions in the following crop tables.

Spray equipment must be clean and free of previous pesticide deposits before applying EXIREL insect control. Fill spray tank 1/4 to 1/2 full of water. Add EXIREL insect control directly to spray tank. Mix thoroughly to fully disperse the insecticide, once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

Acidification of Spray Tank: If the pH of the spray tank after all products have been added and mixed is above pH 8, adjust to pH 8 or less using a registered acidifying agent. If the spray tank pH is 8 or less no adjustment of the spray tank pH is necessary. Spray tanks of pH 8 or less can be held for up to 8 hours before spraying. Do not store the spray mixture overnight in the spray tank.

Compatibility -Since formulations may be changed and new ones introduced, premix a small quantity of a desired tank mix and observe for physical incompatibility (settling out, flocculation, etc.). Spray volumes of less than 3 gallons of water and tank mixtures of more than two products can increase the chances of incompatible spray mixtures. A jar test (as described below) should be conducted when label guidance is not given or prior experience with a specific tank mixture is unknown. The jar test should follow the proper sequence of addition at the spray water volume planned to assure that the tank mix is compatible. Constant agitation may be needed during mixing and spraying of mixtures.

This product can be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations, and directions for use, on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Steps to conduct a jar test to determine physical tank mix compatibility of EXIREL insect control with other products:

- Add clean water to jar proportional to the planned water volume that will be used in the spray tank (a jar size of 16 oz is acceptable).
- Using the most restrictive PPE of the products to be tested, mix proper proportions of EXIREL insect control and desired tank mix partner(s) as will be present in the spray tank, add one product at a time following the sequence of addition according to formulation type provided in this label.
- Seal and shake mixture after each product is added.
- Allow to stand for 1 hour.
- View jar to determine if settling, flocculation, crystallization or any other undesirable changes have happened.
- If none of the above is observed or the solution can be easily remixed after shaking, the mixture is compatible with EXIREL insect control.

If the tank mix is not compatible, a higher water volume, reduced rate of the tank mix partner(s), reduced number of tank mix partners or a compatibility agent may be needed. **Tank Mixtures and Crop Safety** - EXIREL insect control is an oil in water emulsion. The crop safety of EXIREL insect control alone or in tank mix with many common insecticides, fungicides, nutritionals and adjuvants has been found to be acceptable. See crop tables in this label for specific information on when using EXIREL insect control in tank mixes on those crops. Some materials including oils, surfactants, adjuvants, nutritionals and pesticide formulations when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury.

Applying EXIREL insect control with any product that produces adverse crop response in a tank mixture, specifically including, but not limited to, those listed in the individual crop tables, may also cause adverse crop response when applied in a short time sequence (i.e., seven days apart or less between applications) before or after EXIREL insect control. Such uses should be tested as described below before broad application is made.

Crop varieties can differ in their responsiveness to tank mixtures, and environmental conditions can have an influence on product performance and crop response. It is not possible to test EXIREL insect control alone or with all possible tank mix combinations and sequences on all crops and varieties under all environmental conditions. When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on EXIREL insect control product labeling or in other FMC product use instruction, or when applying any product known to have caused adverse crop response when used in tank mix with EXIREL insect control in close sequence with EXIREL insect control, it is important to check crop safety first. To test for crop safety, prepare a small volume of the intended tank mixture or sequence, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur.

Use of EXIREL insect control in any tank mixture or sequence of applications that is not specifically described on EXIREL insect control product labeling or in other FMC product use instructions, could potentially result in crop injury. Follow the precautions on this label and on the label for any other product to be used in tank mixtures or in sequential applications before making such applications to your crops. Follow the most restrictive label. FMC will not be responsible for any crop injury arising from the use of a tank mixture or sequence of applications that is not specifically described on EXIREL insect control product labeling or in other FMC product use instruction.

Tank Mixing Sequence -Add different formulation types in the sequence indicated below*. Allow time for complete mixing and dispersion after addition of each product.

1. Water soluble bag (WSB)
2. Water soluble granules (SG)
3. Water dispersible granules (WG, XP, DF)
4. Wettable powders (WP)
5. Water based suspension concentrates (SC)
6. Water soluble concentrates (SL)
7. EXIREL insect control and other suspoemulsions (SE)
8. Oil based suspension concentrates (OD)
9. Emulsifiable concentrates (EC)
10. Surfactants, oils adjuvants
11. Soluble fertilizers
12. Drift retardants

* Unless otherwise specified by manufacturer directions for use or by local experience.

CHEMIGATION - Overhead Sprinkler – Cranberries, Potatoes and Bulb Vegetables

The following types of irrigation equipment may be used for chemigation applications to cranberries, potatoes and bulb vegetables: overhead sprinkler irrigation systems.

Apply EXIREL insect control in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area. Inject EXIREL insect control downstream from any water filtration system.

Do not connect any irrigation system used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices are in place. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year.

See "Required System Safety Devices For All Chemigation Systems" at the end of the Chemigation section.

APPLICATION INSTRUCTIONS FOR CHEMIGATION USING OVERHEAD SPRINKLER SYSTEMS – CRANBERRIES, POTATOES AND BULB VEGETABLES

Types of Chemigation Systems: EXIREL insect control may be applied to cranberries, potatoes and bulb vegetables through overhead sprinkler irrigation systems, including the following; center pivot, end tow, hand move, lateral move, side roll, solid set and wheel line. The irrigation system used must provide uniform water distribution.

Directions for Chemigation:

Preparation

A pesticide tank is recommended for the application of EXIREL insect control in chemigation systems.

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. With the mix tank 1/4 to 1/2 full with water and the agitator running, measure the required amount of EXIREL insect control and add it to the tank. The highest labeled rate for the specified pest may be necessary when making overhead chemigation applications. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. Note: Always add EXIREL insect control to water, never put EXIREL insect control into a dry tank or other mixing equipment without first adding water. See "Tank Mixing Sequence" section for tank mixing sequence. Continue to agitate the mixture throughout the application process. Use mechanical or hydraulic agitation, do not use air agitation.

Injection Into Chemigation Systems

Inject the proper amount of EXIREL insect control into the irrigation water flow using a positive displacement injection pump or a Venturi injector. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water. For continuously moving systems, inject the solution containing EXIREL insect control into the irrigation water line continually and uniformly throughout the irrigation cycle. The recommended maximum water volume for the overhead chemigation application is 0.2 acre inches of water. For overhead sprinkler systems that are stationary, add the solution containing EXIREL insect control to the irrigation water line and apply in a maximum water volume of 0.25 acre inches of water.

Uniform Water Distribution

The irrigation system used for application of EXIREL insect control must provide for uniform distribution of EXIREL insect control treated water. Non-uniform distribution can result in crop injury, lack of effectiveness or illegal pesticide residues in or on the crop being treated. Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent or other experts if you have questions about achieving uniform distribution of the application.

Equipment Calibration

Calibrate the irrigation system and injector before applying EXIREL insect control. Calibrate the injection pump while the system is running using the expected irrigation rate. If you have questions about calibration, you should contact your state extension service specialists, equipment manufacturer or other experts.

Monitoring of Chemigation Applications

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when EXIREL insect control is in the irrigation water.

Operation

Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injection system according to the directions above. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

- End guns must be turned off during the application, if they irrigate nontarget areas or if they do not provide uniform application and coverage.
- The nozzles in the immediate area of wells, control panels, chemical supply tanks and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.
- Do not allow irrigation water to collect or run-off during chemigation.

Cleaning the System

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

REQUIRED SYSTEM SAFETY DEVICES FOR ALL CHEMIGATION SYSTEMS

1. The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering device, such as a positive displacement pump or a Venturi injector, that provides uniform injection of the product, is effectively designed and constructed of materials compatible with the product, and is capable of being fitted with a system interlock.
7. Chemigation systems connected to public water systems must contain a functional, reduced- pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

SPRAY TANK CLEANOUT

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water.

Clean all other associated equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation.

Dispose of waste rinse water in accordance with local regulations.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

CONTROLLING DROPLET SIZE - GROUND APPLICATION

- For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Pressure - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

CONTROLLING DROPLET SIZE - AIRCRAFT

- For fixed wing and helicopter aerial applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other fixed wing and helicopter aerial applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Nozzle Type - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- Number of Nozzles - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum
- Nozzle Orientation - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- Pressure - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential

BOOM LENGTH (AIRCRAFT), AND APPLICATION HEIGHT

- Boom Length (aircraft) - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- Application Height (aircraft) - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift. Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

For aerial application, if the windspeed is 10 miles per hour or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full swath displacement upwind at the downwind edge of the field.

For aerial application, do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.

TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

SURFACE TEMPERATURE INVERSIONS

For aerial application, do not apply during temperature inversions.

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions for additional information.

SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology.

CROP ROTATION

Crops on this label and the following crops or crop groups may be planted immediately following the last application of EXIREL insect control: Brassica Leafy Greens (Crop Subgroup 4-16B) and Brassica Head and Stem Vegetables (Crop Group 5-16); Bulb Vegetables (Crop Group 3-07); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Greens (Crop Subgroup 4-16A) and Leaf Petiole Vegetables (Crop Subgroup 22B); Celtnuce; Florence Fennel; Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Berry and Fruit Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Soybeans; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.

The following crops or crop groups may be planted 30 days following the last application of EXIREL insect control: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.

There is no plant back restriction for conversion of a treated field to, or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Caneberry Subgroup (Crop Subgroup 13-07A); Coffee; Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).

All other crops cannot be planted until 12 months after the last application of EXIREL insect control.

Directions for Use for Vegetable and Row Crops

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Brassica Leafy Greens (Crop Subgroup 4-16B) and Brassica Head and Stem Vegetables (Crop Group 5-16) including Arugula; broccoli, Chinese; broccoli raab; cabbage, abyssinian; cabbage, Chinese, bok choy; cabbage, seakale; collards; cress, garden; cress, upland; hanover salad; kale; maca, leaves; mizuna; mustard greens; radish, leaves; rape greens; rocket, wild; shepherd's purse; turnip greens; watercress; Broccoli (Brassica oleracea L. var. italica Plenck); Brussels sprouts (Brassica oleracea L. var. gemmifera (DC.) Zenker); Cabbage (Brassica oleracea L. var. capitata L.); Cabbage, Chinese, napa (Brassica rapa L. subsp. pekinensis (Lour.) Hanelt); Cauliflower (Brassica oleracea L. var. capitata L.); and cultivars, varieties, and hybrids of these commodities. Kohlrabi	Foliar*	Beet armyworm Corn earworm Diamondback moth† Fall armyworm Imported cabbageworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5	1	12
		Cabbage looper	0.065 - 0.11	10 - 17		
		Cabbage aphid False cabbage aphid Flea beetle Green peach aphid Leafminer (<i>Liriomyza</i> spp.) Thrips (foliage feeding only)§ Turnip aphids Whitefly Swede midge Cabbage Seedpod Weevil Grasshoppers	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. *- For best performance use an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control. † - Diamondback moth resistance management: Do not apply EXIREL insect control (or other Group 28 insecticides) more than twice within any 30 day "treatment window". Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (different IRAC Group Number) for at least a 30 day "treatment window" before making any additional applications of EXIREL insect control (or other Group 28 insecticides). Do not apply less than 7 fl oz of EXIREL insect control per application per acre for diamondback moth control. Do not make more than 6 total applications of EXIREL insect control or any Group 28 insecticides per calendar year for control of diamondback moth at the same farm location. For applications made to watercress, production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the application.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Bulb Vegetables, (Crop Group 3-07) Chive, fresh leaves; Chive, Chinese, fresh leaves; Daylily, bulb (edible); Elegans hosta (edible); Fritillaria, leaves (edible); Garlic, bulb; Garlic, great headed, bulb; Garlic, serpent, bulb; Kurrat; Lady's leek; Leek; Leek, wild; Lily, bulb; Onion, Beltsville bunching; Onion, bulb; Onion, Chinese, bulb; Onion, fresh; Onion, green; Onion, macrostem; Onion, pearl; Onion, potato, bulb; Onion, tree, tops; Onion, Welsh, tops; Shallot, bulb; Shallot, fresh leaves	Foliar	Leafminer (<i>Liriomyza</i> spp.)* Thrips (foliage feeding only)* §	0.088 -0.133	13.5 - 20.5	1	12
Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. § - Suppression only. For best results, use the highest rate listed. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low (1-3 thrips per plant). If populations are higher, use an effective thrips knockdown product before applying EXIREL insect control. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. EXIREL insect control may be applied by overhead chemigation to bulb vegetables.						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Carrot, radish; Root Vegetables, except Sugar Beet (Crop Group 1B); Beet, garden; burdock, edible; carrot; celeriac; chervil, turnip-rooted; chicory; ginseng; horseradish; parsley, turnip-rooted; parsnip radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; turnip	Foliar	Armyworms Loopers Cutworms	0.065- 0.133	10 - 20.5	1	12
		Cotton aphid* Green peach aphid* Flea beetle Beet armyworms Whiteflies Thrips (foliage feeding only)§* Carrot weevil Cabbage seedpod weevil	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days. *- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. §-Suppression only. For best results, use the highest rate listed. Use as part of an effective thrips control program. Rotate with products with different modes of action. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop or crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Cucurbit Vegetables (Crop Group 9) including Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), <i>Morordica</i> spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (Includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon and snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon	Foliar	Beet armyworm Melonworm Pickleworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5	1	12
		Cabbage looper	0.065 - 0.11	10 - 17		
		Cotton/melon aphid* Flea beetle§ Green peach aphid* Leafminer (<i>Liriomyza</i> spp.)* Thrips (foliage feeding only)§ Whitefly*	0.088 - 0.133	13.5 - 20.5		
		Striped cucumber beetle	0.133	20.5		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantranilprole containing products per calendar year whether applications are made to the soil or foliarly. *- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. Begin making applications when populations are low. For thrips, if populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control. Cucurbit Yellow Stunting Disorder Virus Suppression: Use of EXIREL insect control to control whiteflies which may vector the cucurbit yellow stunting disorder virus at a rate of 13.5 - 20.5 fl oz/A applied foliarly soon after emergence or transplanting will help suppress and slow the expression of cucurbit yellow stunting disorder virus in cucurbits. Precautions when using EXIREL insect control in tank mixes in cucurbit vegetables: tank mixes of EXIREL insect control with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio® fungicide and Quadris® fungicide), copper based fungicides, Luna® Sensation fungicide (trifloxystrobin + fluopyram) and Venom® insecticide (dinotefuran) may result in adverse crop response. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Commercial greenhouse grown cucumbers	Foliar	Cabbage looper Armyworms	0.065 - 0.133	10.0- 20.5	0	12
		Cotton aphid* Green peach aphid* Thrips (foliage feeding only)§* Whiteflies*	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. For use only on cucumber plants being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting. *- For best performance, use an effective adjuvant. See "Use of Adjuvants" section." "§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. For thrips, begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control. Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of plants and density of foliage. Use the higher rate on large plants or dense foliage. Precautions when using EXIREL insect control in tank mixes in cucumbers: tank mixes of EXIREL insect control with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), copper based fungicides, Luna Sensation fungicide (trifloxystrobin + fluopyram) and Venom insecticide (dinotefuran) may result in adverse crop response. See "Tank Mixtures and Crop Safety" section for more information.</p>						
Fruiting Vegetable (Crop Group 8-10) African eggplant Bush tomato; Bell pepper; Cocona; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Groundcherry; Martynia; Naranjilla; Okra; Pea eggplant; Pepino; Pepper, bell; Pepper, nonbell; Roselle; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Tree tomato	Foliar	Beet Armyworm Colorado potato beetle European corn borer Fall armyworm Southern armyworm Tomato fruitworm Tomato pinworm Tomato hornworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5	1	12
		Loopers	0.065 - 0.11	10 - 17		
		Green peach aphid* Leafminer (<i>Liriomyza</i> spp.)* Pepper weevil§ Potato aphid* Thrips (foliage feeding only)§ Tomato psyllid Whitefly*	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. *- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. For thrips, begin making applications when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control. Tomato Spotted Wilt Virus and Tomato Yellow Leaf Curl Virus Suppression: Use of EXIREL insect control to manage thrips which may vector the tomato spotted wilt virus and whiteflies which may vector the tomato yellow leaf curl virus at a rate of 13.5 to 20.5 fl oz/A applied foliarly soon after emergence or transplanting will help suppress and slow the expression of tomato spotted wilt virus and tomato yellow leaf curl virus in fruiting vegetables. Precautions when using EXIREL insect control in tank mixes in peppers: applications of EXIREL insect control in tank mix with adjuvants can cause leaf spotting or increase the potential for other products used in tank mix with EXIREL insect control to cause an adverse crop response. Tank mixes of EXIREL insect control with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), chlorothalonil based fungicide formulations (for example, Bravo Weather Stik® fungicide), and DuPont™ Tanos® fungicide (cymoxanil + famoxadone) may also result in an adverse crop response. Precautions when using EXIREL insect control in tank mixes in tomatoes: tank mixes of EXIREL insect control with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) may result in adverse crop response. The crop safety of EXIREL insect control in tank mixture has not been evaluated on all other crops in this crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb ai per acre	fluid ounces product per acre		
Commercial Greenhouse Grown (Crops Grown to Harvest in Greenhouses) Eggplant, Pepper (including bell and non-bell pepper) Tomato	Foliar	Thrips (foliage feeding only)§ Whitefly*	0.088 - 0.133	13.5 - 20.5	1	12
<p>Minimum application interval between treatments is 7 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>For use only on eggplant, pepper and tomato plants being grown to harvest in commercial greenhouse crop production facilities. Do not treat plants grown for transplanting. Not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.</p> <p>* - For best performance, use an effective adjuvant. See "Use of Adjuvants" section."</p> <p>§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action. For thrips, begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control.</p> <p>Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of plants and density of foliage. Use the higher rate on large plants or dense foliage.</p> <p>Precautions when using EXIREL insect control in tank mixes in peppers: applications of EXIREL insect control in tank mix with adjuvants can cause leaf spotting or increase the potential for other products used in tank mix with EXIREL insect control to cause an adverse crop response. Tank mixes of EXIREL insect control with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), chlorothalonil based fungicide formulations (for example, Bravo Weather Stik fungicide), and DuPont Tanos fungicide (cymoxanil + famoxadone) may also result in an adverse crop response.</p> <p>Precautions when using EXIREL insect control in tank mixes in tomatoes: tank mixes of EXIREL insect control with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) may result in adverse crop response.</p> <p>The crop safety of EXIREL insect control in tank mixture has not been evaluated on eggplant. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.</p> <p>See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Leafy Greens (Crop Subgroup 4-16A) and Leaf Petiole Vegetables (Crop Subgroup 22B) including Amaranth, Chinese; amaranth, leafy; aster, Indian; blackjack; cat's whiskers; cham-chwi; cham-na-mul; chervil, fresh leaves; chipilin; chrysanthemum, garland; cilantro, fresh leaves; corn salad; cosmos; dandelion, leaves; dang-gwi, leaves; dillweed; dock; dol-nam-mul; ebolo; endive; escarole; farnesflower; feather cockscomb; Good King Henry; huauzontle; jute, leaves; lettuce, bitter; lettuce, head; lettuce, leaf; orach; parsley, fresh leaves; plantain, buckhorn; primrose, English; purslane, garden; purslane, winter; radicchio; spinach; spinach, Malabar; spinach, New Zealand; spinach, tanier; Swiss chard; violet, Chinese, leaves; Cardoon; celery; celery, Chinese; fuki; rhubarb; udo; zuiki; cultivars, varieties, and hybrids of these commodities. Celtuce; and Florence Fennel	Foliar*	Beet armyworm Corn earworm Diamondback moth† Fall armyworm Western yellowstriped armyworm	0.045 - 0.088	7 - 13.5	1	12
		Cabbage looper	0.065 - 0.11	10 - 17		
		Cabbage aphid False cabbage aphid Flea beetle Green peach aphid Leafminer (<i>Liriomyza</i> spp.) Thrips (foliage feeding only)§ Turnip aphids Whitefly Grasshoppers	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>† - Diamondback moth resistance management: Do not apply EXIREL insect control (or other Group 28 insecticides) more than twice within any 30 day "treatment window". Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (different IRAC Group Number) for at least a 30 day "treatment window" before making any additional applications of EXIREL insect control (or other Group 28 insecticides). Do not apply less than 7 fl oz of EXIREL insect control per application per acre for diamondback moth control. Do not make more than 6 total applications of EXIREL insect control or any Group 28 insecticides per calendar year for control of diamondback moth at the same farm location.</p> <p>*- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>§ - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control. Precautions when using EXIREL insect control in tank mixes in spinach: Do not use adjuvants in tank mix with EXIREL insect control in spinach. Tank mixes of EXIREL insect control with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) or chlorothalonil based fungicide formulations (for example, Bravo Weather Stik fungicide) may result in adverse crop response. Precautions when using EXIREL insect control in tank mixes in lettuce: Tank mixes of EXIREL insect control with Aliette® fungicide (fosetyl-al) + oil adjuvant may result in adverse crop response.</p> <p>The crop safety of EXIREL insect control in tank mixture has not been evaluated on all other crops in this crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.</p> <p>See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb ai per acre	fluid ounces product per acre		
Leaves of root and tuber vegetables (Crop Group 2) Beet, garden; beet, sugar; burdock, edible; carrot; cassava, bitter and sweet; celeriac; chervil, turnip-rooted; chicory; dasheen (taro); parsnip; radish; radish, oriental (daikon); rutabaga; salsify, black; sweet potato; tanier; turnip; yam, true	Foliar	Beet armyworm Flea beetles Cotton aphid* Green peach aphid* Whiteflies Thrips (foliage feeding only)§* Carrot weevil Cabbage seedpod weevil	0.088 - 0.133	13.5 - 20.5	1	12
		Amyworms Loopers Cutworms	0.065-0.133	10 - 20.5		
<p>*- For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. § - Suppression only. For thrips, begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control. Thorough coverage is essential to achieve best results. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop or crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Legume vegetables, succulent or dried (Crop Subgroups 6A, 6B, 6C) Bean (<i>Lupinus</i>) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (<i>Phaseolus</i>) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (<i>Vigna</i>) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (<i>Pisum</i>) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; sword bean	Foliar	Corn earworm European corn borer Leafminers	0.065 - 0.133	10 - 20.5	1(succulent) 7 (dried)	12
		Potato leafhopper§* Thrips (foliage feeding only)§* Whiteflies*	0.088 - 0.133	13.5 - 20.5		
<p>§ - Suppression only. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. Applications of EXIREL insect control to certain species of legume vegetables in this crop group may result in adverse crop response. Affected plants outgrow the effects in most cases. If the risk of adverse crop response to EXIREL insect control cannot be accepted, do not apply it to legume vegetables. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop group. When using EXIREL insect control alone or in tank mixtures in legume vegetables, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Tuberous and Corm Vegetables (Crop Subgroup 1C) including Arracacha; Arrowroot; Artichoke, Chinese; Artichoke, Jerusalem; Canna, edible; Cassava, bitter and sweet; Chayote (root); Chufa; Dasheen (taro); Ginger; Leren; Potato; Sweet potato; Tanier; Turmeric; Yam bean; Yam, true	Foliar	Colorado potato beetle†	0.033 - 0.088	5 - 13.5	7	12
		Beet armyworm European corn borer Potato tuberworm*†† Yellowstriped armyworm	0.045 - 0.088	7 - 13.5		
		Cabbage looper	0.065 - 0.11	10 - 17		
		Potato flea beetle* § Green peach aphid* Potato aphid* § Potato psyllid	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year; this is the total of seed piece treatment (potato), soil treatment, and foliar treatment.</p> <p>*- For best performance use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action.</p> <p>† - Colorado potato beetle resistance management - Do not apply EXIREL insect control (or other Group 28 insecticides) more than twice to a generation of Colorado potato beetle or within any 30 day "treatment window". Application(s) to the next generation of Colorado potato beetle must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 day "treatment window" before making any additional applications of EXIREL insect control (or other Group 28 insecticides). If a Group 28 insecticide was used at-plant either as a soil or seed piece application, do not apply EXIREL insect control (or other Group 28 insecticides) for Colorado potato beetle control for at least 60 days after emergence. Application(s) for Colorado potato beetle control during the first 30-60 days must be with an effective product with a different mode of action (i.e. a product with a different IRAC Group Number) for at least a 30 day "treatment window" before making any applications of EXIREL insect control (or other Group 28 insecticides).</p> <p>†† - Potato Tuberworm: EXIREL insect control may be applied at rates of 7 to 13.5 fl oz/A to control potato tuberworm. Begin application when field scouting indicates the presence of tuberworm adults and/or larvae. Potato tuberworm often have overlapping generations so repeat applications of EXIREL insect control may be needed based on scouting. Avoid treating successive generations with the same mode of action. It is important to protect the crop just prior to harvest when foliage starts to senesce. Use the higher rate of EXIREL insect control when tuberworm pressure is high. Failure to adequately control potato tuberworm larvae prior to crop senescence or vine kill increases the risk of tuber damage. Foliar sprays alone, by air or ground, may not provide adequate control of larvae in the mid to lower crop canopy. For best results, apply via overhead chemigation or integrate chemigation applications into the foliar spray program. For best results with foliar sprays, add Methylated seed oil (MSO) adjuvant at 1 gallon per 100 gallons of spray volume (1% v/v). For chemigation applications, apply in 0.1 to 0.2 acre inches of water and add MSO at 12 to 16 fl oz/acre. See "Chemigation - Overhead Sprinkler – Cranberries, Potatoes and Bulb Vegetables" section for instructions on overhead sprinkler chemigation.</p> <p>Suppression of Zebra Chip Disease: Use of EXIREL insect control to control potato psyllid which may vector zebra chip disease at a rate of 13.5 to 20.5 fl. oz./A applied starting when psyllid populations are low will help suppress the expression of the zebra chip disease.</p> <p>Precautions when using EXIREL insect control in tank mixes in potatoes: tank mixes of EXIREL insect control with strobilurin fungicides (for example Quadris fungicide and Cabrio Plus fungicide) may result in adverse crop response. The crop safety of EXIREL insect control in tank mixture has not been evaluated on all other crops in this crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas.</p> <p>See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Cotton	Foliar	Beet armyworm Cotton bollworm† Fall armyworm Saltmarsh caterpillar Southern armyworm Tobacco budworm† Western yellowstriped armyworm	0.045 - 0.11	7 - 17	7	12
		Cabbage looper Soybean looper	0.065 - 0.11	10 - 17		
		Whitefly* Thrips (foliage feeding only)§	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 7 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. For high populations of whiteflies, use the highest listed rate.</p> <p>§ - Suppression only. Use as part of an effective thrips control program. Rotate with products with different modes of action. Begin making applications to thrips when populations are low. If populations are above threshold, use an effective thrips knockdown product before applying EXIREL insect control.</p> <p>† - For Heliothine control (cotton bollworm and/or cotton budworm) make the first application at rates of 0.065 - 0.11 lb ai per acre (10-17 fl oz product/A). Subsequent applications can be at rates of 0.045 - 0.088 lb ai per acre (7 -13.5 fl oz product/A) depending on pressure.</p> <p>Applications of EXIREL insect control to seedling cotton may result in crop response. Affected plants outgrow the effects in most cases. If the risk of crop response to EXIREL insect control cannot be accepted, do not apply it to seedling cotton.</p> <p>The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop. When using EXIREL insect control in tank mixtures in cotton, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Oil Seed Crops (Crop Group 20) including Borage; Calendula; Castor oil; Chinese tallowtree; Crambe; Cuphea; Echium; Euphorbia; Evening primrose; Flax seed; Gold of pleasure; Hare's ear mustard; Jojoba; Lesquerella; Lunaria; Meadowfoam; Milkweed; Mustard seed; Niger seed; Oil radish; Poppy seed; Rapeseed (including canola varieties); Rose hip; Safflower; Sesame; Stokes aster; Sunflower; Sweet rocket; Tallowwood; Tea oil plant; Vernonia	Foliar*	Bertha armyworm Diamondback moth Sunflower head moth	0.045 - 0.088	7 - 13.5	7	12
		Crucifer flea beetle	0.045 - 0.11	7 - 17		
		Cabbage looper Sunflower seed weevil§	0.065 - 0.133	10 - 20.5		
<p>Minimum application interval between treatments is 7 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. This is the total from all application methods (seed treatment and foliar application).</p> <p>* - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>§ - Suppression only. Use as part of an effective control program. Rotate with products with different modes of action.</p> <p>The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Peanuts	Foliar	Corn earworm Fall armyworm Tobacco budworm	0.065 - 0.133	10 - 20.5	14	12
		Cutworms Soybean looper Lesser cornstalk borer Thrips (foliage feeding only)§**	0.088 - 0.133	13.5 - 20.5		
<p>§ - Suppression only. ** - Use in conjunction with an effective thrips and tomato spotted wilt virus management program. Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. Tomato Spotted Wilt Virus Suppression: Use of EXIREL insect control to manage thrips which may vector the tomato spotted wilt virus at a rate of 13.5-20.5 fl oz/A applied early season (at ground cracking) will help suppress and slow the expression of tomato spotted wilt virus in peanuts when used as part of a TSWV management program. The crop safety of EXIREL insect control in tank mixture has not been evaluated on peanuts. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						
Soybeans	Foliar	Green cloverworm Soybean looper Velvetbean caterpillar	0.065 - 0.133	10 - 20.5	7	12
		Lesser cornstalk borer Bean leaf beetle§ Japanese beetle Stink bug species§ Soybean aphid* Thrips (foliage feeding only) §*	0.088 - 0.133	13.5 - 20.5		
<p>§ - Suppression only. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made as a seed treatment, to the soil or foliarly. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop or crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						
Tobacco	Foliar	Tobacco budworm	0.065 - 0.133	10 - 20.5	7	12
		Tomato hornworm Tobacco hornworm Flea beetle	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. The crop safety of EXIREL insect control in tank mixture has not been evaluated on tobacco. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Directions for Use for Fruit Crops

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Bushberries, (Crop Subgroup 13-07B) Aronia berry; Blueberry, highbush; Blueberry, lowbush; Buffalo currant; Chilean guava; Cranberry, highbush; Currant, black; Currant, red; Elderberry; European barberry; Gooseberry; Honeysuckle, edible; Huckleberry; Jostaberry; Juneberry (Saskatoonberry); Lingonberry; Native currant; Salal; Sea buckthorn	Foliar	Cherry fruitworm Cranberry fruitworm	0.065 - 0.088	10 - 13.5	3	12
		Blueberry aphid Blueberry gall midge§ Blueberry maggot Spotted wing drosophila* Plum curculio* Citrus thrips*	0.088 - 0.133	13.5 - 20.5		
Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Do not apply less than 30 gallons of water per acre. For best results apply 100-150 gallons of water per acre. § - Suppression only. Use as part of an effective blueberry maggot control program. Rotate with products with different modes of action. Begin making blueberry gall midge applications when populations are low. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section and other instructions in this crop table. Precautions when using EXIREL insect control in tank mixes in blueberries: tank mixes of EXIREL insect control with Induce® adjuvant may cause an adverse crop response or increase the potential for other products used in tank mix with EXIREL insect control to cause an adverse crop response. Tank mixes of EXIREL insect control with other non-ionic and oil based adjuvants tested have not caused an adverse crop response on fruit or leaves. DO NOT tank mix EXIREL insect control with any type of adjuvants on this crop group unless crop safety has been tested. The crop safety of EXIREL insect control in tank mixture has not been evaluated on all other crops in this crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.						
Caneberry subgroup (Crop Subgroup 13-07A) blackberry; loganberry; red and black raspberry; wild raspberry; cultivars and/or hybrids of these	Foliar	Spotted wing drosophila Adult root weevils	0.088 – 0.133	13.5 – 20.5	1	12
		Minimum application interval between treatments is 5 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of plants and density of fruit and foliage. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop or crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.				
Coffee	Foliar	Coffee berry borer	0.133	20.5	5	12
		Minimum application interval between treatments is 14 days. Do not apply a total of more than 0.27 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Time applications early in the pest infestation when no more than 2% of the coffee berries are infested with coffee berry borer in position A or B (prior to borer reaching the endosperm/seed). Calibrate equipment to achieve thorough spray coverage of the berry without runoff. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop or crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.				

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Crop Group 13-07H*, specifically Bearberry; bilberry; cloudberry; cranberry; muntries; partridge-berry; cultivars, varieties, and/or cultivars of these. (*Excluding strawberry, lowbush blueberry, and lignonberry)	Foliar	Cherry fruitworm Cranberry fruitworm Black headed fireworm Sparganothis fruitworm	0.065 – 0.133	10 – 20.5	14	12
		Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. EXIREL insect control may be applied by overhead chemigation to cranberry. For applications made to cranberries, production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the application. The crop safety of EXIREL insect control in tank mixture has not been evaluated on this crop or crop group. When using EXIREL insect control in tank mixtures, it is recommended that a small area be tested to demonstrate safety before using in large areas. See "Tank Mixtures and Crop Safety" section for more information.				
Citrus Fruit, (Crop Group 10-10) Australian desert lime; Australia finger-lime; Australia round lime; Brown River finger lime; Calamondin; Citron; Citrus hybrids; Grapefruit; Japanese summer grapefruit; Kumquat; Lemon; Lime; Mediterranean mandarin; Mount white lime; New Guinea wild lime; Orange, sour; Orange, sweet; Pummelo; Russel River lime; Satsuma mandarin; Sweet lime; Tachibana orange; Tahiti lime; Tangelo; Tangerine (mandarin); Tangor; Trifoliolate orange; Uniq fruit	Foliar*	Asian citrus psyllid Citrus thrips** Citrus leafminer Cotton aphid Diaprepes root weevil adults Orange dog caterpillar Citrus cutworm	0.088 - 0.133	13.5 - 20.5	1	12
		Forktailed bush katydid nymph	0.104 – 0.133	16.0 – 20.5		
Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Where higher spray volumes are used, apply a higher EXIREL insect control rate in the specified rate range. For best results, apply 100-150 gallons of water per acre when using commercial airblast equipment. Do not apply less than 30 gallons of water per acre when using commercial airblast equipment. Requirements for Low volume ground applications for Asian citrus psyllid control: Do not apply less than 2 gallons of finished spray solution per acre, use equipment that generates a particle size greater than 90 microns, apply when wind is less than 10 miles per hour. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. ** - For fruit protection, apply EXIREL insect control at petal fall, best results are obtained with 20.5 oz/A. Initial application should be made at petal fall when insect populations first appear. Under moderate to high pest pressure, an additional application of EXIREL insect control or another effective thrips insecticide may be needed to maintain thrips populations below action threshold levels. Monitor or scout treated fields 5-7 days after application for thrips feeding on fruit or an increase in thrips population. If early signs of feeding (such as silvering) are observed on fruit, make another application. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae, before populations reach damaging levels. Applications outside the described window may not achieve the desired result of protecting fruit from thrips damage.						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Strawberry	Foliar	Beet armyworm Corn earworm Soybean looper Whiteflies Spotted wing drosophila Thrips (foliage feeding only)§ * **	0.088 - 0.133	13.5 - 20.5	1	12
		Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. § - Suppression only. * For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. ** - Use in conjunction with an effective thrips management program. Not all varieties of strawberries have been tested for crop safety with EXIREL insect control alone or in tank mixture, see "Tank Mixtures and Crop Safety" section for more information.				
Pome Fruit, (Crop Group 11-10) Apple; Azarole; Crabapple; Loquat; Mayhaw; Medlar; Pear; Pear, Asian; Quince; Quince, Chinese Quince, Japanese; Tejocote	Foliar	Codling moth† European apple sawfly Green fruitworm Obliquebanded leafroller†† Redbanded leafroller Spotted teniform leafminer Western tentiform leafminer Tufted apple budmoth Variegated leafroller White apple leafhopper	East of the Rockies: 0.055 - 0.11	East of the Rockies: 8.5 - 17	3	12
			West of the Rockies: 0.065 - 0.11	West of the Rockies: 10 - 17		
		Oriental fruit moth	0.065 - 0.11	10 - 17		
		Apple maggot* § Pear psylla* § Plum curculio* Rosy apple aphid*††† Thrips* §	0.088 - 0.133	13.5 - 20.5		
Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Make no more than 3 applications of EXIREL insect control or other Group 28 insecticides within a single generation of the target pest on a crop. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Do not apply less than 30 gallons of water per acre. For best results apply 100-150 gallons of water per acre. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section. § - Suppression only. For best results, use the highest rate listed. Use as part of an effective control program. Rotate with products with a different mode of action. Begin applications when pest populations are at or below threshold. If populations are above threshold, use an effective knockdown product before applying EXIREL insect control. † - Codling moth larvae Application timing: For each generation, make the first application prior to egg hatch. Each application provides 10-14 days of protection depending on intensity of codling moth pressure and rate of fruit growth. Use pheromone trap catches and local degree day based spray timing advisories to determine the development of each generation. Use the 8.5-10 fluid ounce rate for low pressure infestations and make repeat applications on a 14 day schedule. For high pressure orchards, use a comprehensive management program involving ovicide treatments followed by properly timed larvacide applications at high labeled rates and shortened retreatment intervals. When using EXIREL insect control in an integrated program with other codling moth insecticides, make sure the retreatment schedule is consistent with the period of effectiveness for each product used. Codling Moth Resistance Management: Do not apply EXIREL insect control (or other Group 28 insecticides) more than three times to a generation of codling moth (codling moth typically has a single generation "treatment window" of 30 to 45 days). Application(s) to the next generation of codling moth must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30 - 45 day "treatment window" before making any additional applications of EXIREL insect control (or other Group 28 insecticides). †† - Obliquebanded leafroller: For overwintering larvae, apply in the spring (pink to petal fall stage) at the first sign of active feeding. For summer generation, apply just prior to or at the beginning of egg hatch. Leafroller feeding stops after ingestion of treated foliage, however, during periods of cold weather when leafrollers are inactive, it may take several days to achieve complete control. Obliquebanded Leafroller Resistance Management: Only apply EXIREL insect control (or other Group 28 insecticides) to one generation of obliquebanded leafroller per year. Application(s) to other generations of obliquebanded leafroller must be with an effective product with a different mode of action (i.e. a product with a different IRAC group number). ††† Rosy apple aphid: For best results start applications at green tip to early pink timing. Precautions when using EXIREL insect control in tank mixes in pome fruit: tank mixes of EXIREL insect control with adjuvants commonly recommended and known not to cause an adverse crop response in pome fruits, such as horticultural oils, have been found to be acceptable. DO NOT tank mix EXIREL insect control with any other type of adjuvant unless crop safety has been demonstrated. See "Tank Mixtures and Crop Safety" section for more information.						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Stone Fruit (Crop Group 12) including, Apricot; Cherry, sweet; Cherry, sour; Nectarine; Peach; Plum; Plum, Chickasaw; Plum, Damson; Plum, Japanese; Plumcot; Prune (fresh)	Foliar	Cherry fruit fly* Codling moth Omnivorous leafroller Tufted apple budmoth	0.065 - 0.11	10 - 17	3	12
		Obliquebanded leafroller Oriental fruit moth Peach twig borer†	0.065 - 0.133	10 - 20.5		
		Spotted wing drosophila* Black cherry aphid Japanese beetle Plum curculio Thrips§	0.088 - 0.133	13.5 - 20.5		
<p>Minimum application interval between treatments is 7 days. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year. Make no more than 3 applications of EXIREL insect control or other Group 28 insecticides within a single generation of the target pest on a crop. * - For best performance, use with an effective adjuvant. See "Use of Adjuvants" section and other instructions on this table for more information. Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage. Do not apply less than 30 gallons of water per acre by ground. For best results apply 100-150 gallons of water per acre. § - Suppression only. For best results, use the highest rate listed. Use as part of an effective control program. Rotate with products with a different mode of action. Begin applications when pest populations are at or below threshold. If populations are above threshold, use an effective knockdown product before applying EXIREL insect control. † - Peach Twig Borer: For early dormant through mid-dormant applications, use higher rates of EXIREL insect control; for late dormant applications, use lower rates. Applications may be made with an EPA registered dormant oil; for specific recommendations on use of oil, consult manufacturers specific oil labels for precautions and restrictions regarding the use of oils. For best performance, apply using ground equipment to achieve thorough uniform coverage of all scaffolds and limbs. For "April - May spray" applications to the summer generation, make applications at peak moth flight (timed at or before peak egg lay). Higher rates in the labeled rate range may be needed for high infestations levels and/or large, dense foliage trees. Precautions when using EXIREL insect control in tank mixes in stone fruit: tank mixes of EXIREL insect control with some non-ionic or oil based adjuvants may cause adverse crop response. Tank mixes of EXIREL insect control with organosilicone adjuvants at rates of 0.03 % v/v or lower do not result in crop response on cherry leaves or fruit. DO NOT tank mix EXIREL insect control with any other type of adjuvant unless crop safety has been tested. See "Tank Mixtures and Crop Safety" section for more information.</p>						

Crop	Application Method	Target Pest	EXIREL insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Tree Nuts (Crop Group 14-12) including African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English yellowhorn; cultivars, varieties, and/or hybrids of these	Foliar*	Hickory shuckworm Pecan nut casebearer	0.055 - 0.11	8.5 - 17	5	12
		Codling moth† Obliquebanded leafroller Oriental fruit moth Peach twig borer††	0.065 - 0.133	10 - 20.5		
		Navel orangeworm††† Walnut aphid	0.088 - 0.133	13.5 - 20.5		
		<p>Minimum application interval between treatments is 7 days.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantranilprole containing products per calendar year.</p> <p>Make no more than 3 applications of EXIREL insect control or other Group 28 insecticides within a single generation of the target pest on a crop.</p> <p>Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.</p> <p>Where higher spray volumes are used, apply a higher rate in the specified rate range. Do not apply less than 30 gallons of water per acre by ground. For best results apply 100-150 gallons of water per acre.</p> <p>* - For best performance use with an effective adjuvant. See "Use of Adjuvants" section.</p> <p>† - Codling moth (Walnut): Make initial application at or before peak egg lay for targeted generation. Depending on level of infestation reapply 14 days later as needed. Use higher rates and ground application equipment to achieve thorough coverage.</p> <p>†† - Peach Twig Borer: EXIREL insect control may be used throughout the growing season. For dormant applications, an EPA registered dormant oil may be added to the spray tank.</p> <p>For specific directions on use of oil, consult manufacturer's specific oil labels for precautions and restrictions regarding the use of oils in tree nut crops. For best performance, apply using ground equipment to achieve thorough uniform coverage of all scaffolds and limbs. For spring application to overwintering generation: Make applications at late dormant (just prior to bud break) to early bloom. For "April - May" applications to the summer generation: Make applications at peak moth flight (timed at or before peak egg lay). Higher rates in the labeled rate range may be needed for higher infestation levels and large, dense foliage trees.</p> <p>††† - Navel orangeworm: Applications can be made during the "May spray" or "Hull split" application timing. For applications made at "Hull split" timing - Make an application at 1- 2% hull-split timing; make a second application approximately 10-14 days later. Depending on level of pest infestation, use of higher rates in the labeled rate range and multiple applications may be needed.</p> <p>Precautions when using EXIREL insect control in tank mixes in tree nuts: tank mixes of EXIREL insect control with oil adjuvants may cause an adverse crop response or increase the potential for other products used in tank mix with EXIREL insect control to cause an adverse crop response. Tank mixes of EXIREL insect control with non-ionic adjuvants have not been observed to cause an adverse crop response. DO NOT tank mix EXIREL insect control with any other type of adjuvant unless crop safety has been tested. See "Tank Mixtures and Crop Safety" section for more information.</p>				

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING: Refer to the Net Contents section of this product's labeling for the applicable "Refillable Container" or "Nonrefillable Container" designation.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Greater Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers: Refillable container. Refilling Container: Refill this container with EXIREL insect control containing cyantraniliprole only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container, contact FMC at the number below for instructions.

Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact FMC at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact CHEMTREC (Transportation and Spills) at 1-800-424-9300, day or night.

NOTICE TO BUYER— Purchase of this material does not confer any rights under patents of countries outside of the United States.

FMC, EXIREL and CYAZYPYR are trademarks or registered trademarks of FMC Corporation or an affiliate.

Tanos is a registered trademark of DuPont or an affiliate.

Cabrio is a registered trademark of BASF.

Quadris is a registered trademark of a Syngenta Group Company.

Venom is a registered trademark of Valent U.S.A. LLC.

Luna Sensation and Aliette are registered trademarks of Bayer.

Bravo Weather Stik is a registered trademark of Makhteshim Agan of North America, Inc.

Induce is a registered trademark of Helena Holding Company.

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CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Notice: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or FMC, and, to the extent permitted by applicable law, Buyer assumes the risk of any such use.

To the extent consistent with applicable law, FMC or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Condition of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

Attachment 6



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

Minecto™ Duo

Insecticide

GROUP 4A 28 INSECTICIDES

For control of listed insect pests infesting specified crops

Active Ingredients:

Thiamethoxam¹ 20.0%

Cyantraniliprole² 20.0%

Other Ingredients: 60.0%

Total: 100.0%

¹CAS No. 153719-23-4

²CAS No. 736994-63-1

Minecto Duo is a water-dispersible granule that contains 3.2 ounces of active ingredient of thiamethoxam and 3.2 ounces of cyantraniliprole per pound of formulated product.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

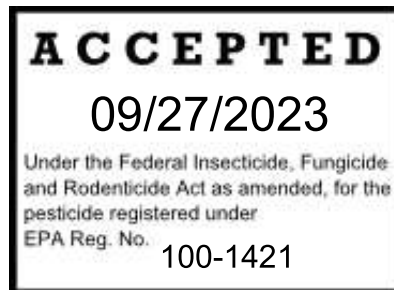
See additional precautionary statements and directions for use in booklet[on bag].

EPA Reg. No. 100-1421

EPA Est. XXXX

SCP 1421 MAS 0814

Net Weight
[Non-Refillable Container]



FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-888-8372 for emergency medical treatment information.</p>	
<p>HOT LINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372</p>	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes, or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material – Category A (e.g., natural rubber ≥14 mils)

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates, oysters and shrimp. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging in or adjacent to the treatment area.

- **Surface Water Advisory**

This product may impact surface water quality due to spray drift and runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of thiamethoxam water from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours.

(See manual at the following internet address:

<http://www.wsi.nrcs.usda.gov/products/W2Q/pest/core4.html>).

- **Surface Water Protection Statement**

For foliar uses, do not apply during rain.

- **Ground Water Advisory**

This product has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into the ground water if used in areas where soils are permeable, particularly where the water table is shallow.

- **Spray Drift Advisory**

Do not allow this product to drift.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen resulting from seed treatment, soil application, and foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants in and around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at:

beekill@epa.gov

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.



1.FOR CROPS UNDER CONTRACTED POLLINATION SERVICES

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met.

If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.



2.FOR FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- **The application is made to the target site after sunset**
- **The application is made to the target site when temperatures are below 55°F**
- **The application is made in accordance with a government-initiated public health response**
- **The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying**
- **The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.**

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

This labeling must be in the possession of the user at the time of application.

RESTRICTIONS

- Minecto Duo is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops. Do not apply Minecto Duo or allow it to drift to blooming crops or weeds while bees are foraging in/or adjacent to the treated area.
- Use this product only in commercial and farm plantings.
- Not for use in home plantings.
- Not for use on ornamental plants or plants being grown for ornamental purposes.
- Do not use in greenhouses.
- Do not treat plants grown for transplanting.
- Do not apply to crops grown from thiamethoxam treated seed.
- For foliar uses, do not apply during rain.
- Do not make ground applications within 25 ft or aerial applications within 50 ft of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds). Do not cultivate within 30 ft of the aquatic area to allow growth of a vegetative filter strip.
- Unless otherwise stated for a specific crop, do not apply a total of more than 0.4 lb ai/A of cyantraniliprole-containing products per year. This is the total from all application methods (e.g., seed, soil, foliar).

Endangered and Threatened Species Protection Requirements:

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ("Bulletins") within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at

<https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also

contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material – Category A (e.g., natural rubber ≥ 14 mils)
- Shoes plus socks

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

INFORMATION

Minecto Duo is a soil- or foliar-applied insecticide with dual modes of action that controls listed lepidopteran, sucking and chewing insect pests.

When Minecto Duo is applied to the soil, it is readily taken up by the roots of germinating seedlings or transplants and is rapidly translocated throughout the plant. Because of its systemic activity, Minecto Duo provides excellent residual control of key insect pests in vegetables and potatoes.

Foliar application of Minecto Duo exhibits excellent translaminar and locally systemic movement into plant tissue as well as accumulation on the leaf surface. Penetration into the leaf tissue forms a reservoir of active ingredient which results in extended residual control. Effective crop protection results from rapid feeding inhibition.

- Minecto Duo aids in the suppression of listed pests. Suppression can mean either inconsistent control (good to poor), or consistent control at a level below that generally considered acceptable for commercial control.
- Minecto Duo is a selective insecticide and is compatible with integrated pest management programs.
- Minecto Duo is safe when used in accordance with this label.

For best performance of soil applications, follow these directions:

- Minecto Duo can be applied during planting or transplanting as an in-furrow spray, transplant hole drench or narrow surface band above the seedline, or on dry fertilizer (potatoes only). Minecto Duo can be applied after planting as a post-seeding, post-transplanting, hill drench, drip chemigation, or root zone shank application.
- Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil. For vegetables, apply Minecto Duo within 21 days after either plant emergence or transplanting.
- Although Minecto Duo is rapidly taken up by plant roots and rapidly moves throughout the plant, the use of sufficient water volume and root zone placement will ensure that the chemical contacts the roots, resulting in optimal uptake and performance.

For best performance of foliar applications, follow these directions:

- Apply Minecto Duo when insect pest populations begin to build, but before populations reach economically damaging levels. Check with your local agricultural authority for economic thresholds for pests controlled by Minecto Duo.
- Thorough spray coverage is essential for optimal performance. Apply Minecto Duo in sufficient water to ensure good coverage. See specific application information in the **Crop Use Directions** section of this label. The use of higher water volumes will result in better coverage, especially under adverse conditions (e.g., hot, dry) or where a dense plant canopy exists.
- Minecto Duo is rainfast once the spray solution has dried on treated plants.

RESISTANCE MANAGEMENT

Some insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

Minecto Duo contains a Group 4A insecticide (thiamethoxam, belonging to the neonicotinoid class of chemistry) and a Group 28 insecticide (cyantraniliprole, belonging to the diamide class of chemistry). Insect biotypes with acquired or inherent resistance to Group 4A or Group 28 insecticides may eventually dominate the insect population if Group 4A or Group 28 insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by Minecto Duo or other Group 4A or Group 28 insecticides.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect

may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

In order to maintain susceptibility to these classes of chemistry:

- Avoid using Group 4A and/or Group 28 insecticides exclusively for season-long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, apply Minecto Duo or other Group 4A and/or Group 28 insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated in the Directions for Use) of the Group 4A and/or Group 28 insecticides. Do not exceed the maximum Minecto Duo allowed per year.
- Following a treatment window of Group 4A and/or Group 28 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 4A and/or Group 28 insecticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to these classes of chemistry.
- If resistance is suspected, do not reapply Minecto Duo or other Group 4A or Group 28 insecticides.

Other Insect Resistance Management (IRM) practices include:

- Incorporating IPM techniques into your insect control program
- Monitoring treated insect populations for loss of field efficacy
- Using tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied
- **For additional information on Insect Resistance Management:**
- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org/>.

APPLICATION PROCEDURES AND SPRAY EQUIPMENT

Soil Application

Select spray nozzles or metering orifices which will provide accurate and uniform deposition. For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). Minecto Duo can be applied during planting or transplanting as an in-furrow spray, transplant hole drench or narrow surface band above the seedline; after planting as a post-seeding, post-

transplanting, hill drench, drip chemigation, or root zone shank application. These application methods allow the insecticide to be absorbed by plant roots. Although Minecto Duo is rapidly taken up by plant roots and rapidly moves throughout the plant, the use of sufficient water volume and root zone placement will ensure that the chemical contacts the roots, resulting in optimal uptake and performance.

When making post-emergence applications, direct the application at the base of the plant for optimum root uptake. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult sprayer manufacturers and/or State Extension Service specialists.

Dry Bulk Granular Fertilizer – Potatoes only: Many dry bulk fertilizers may be impregnated or coated with Minecto Duo and used to control insects in potatoes. When applying Minecto Duo with dry bulk granular fertilizer, follow all directions for use and precautions on the Minecto Duo label contained in the potato direction for use section regarding rates per acre, pests controlled, and rotational crop restrictions.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application, are the responsibility of the individual and/or company selling the insecticide/fertilizer mixture.

Prepare the insecticide/fertilizer mixture by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray Minecto Duo onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray onto the fertilizer only, avoiding the walls of the blender. Do not pour or dribble Minecto Duo directly from the product container onto the fertilizer.

Blender Mixing Directions

Fill the blender with the required amount of dry bulk granular fertilizer to be used. Start the blender. Spray the Minecto Duo directly onto the moving fertilizer. Allow the mixture to blend for at least 5 minutes or until uniform. Spread the insecticide/fertilizer mixture as soon as possible.

Calculate the amount of Minecto Duo by the following formula:

$$\frac{\text{oz/acre Minecto Duo}}{\text{lb/acre Fertilizer}} \times 2,000 \text{ lb/ton} = \text{oz/ton Minecto Duo}$$

Important: When more than 1,000 lb/A of dry bulk granular fertilizer is to be applied, mix Minecto Duo with water to improve coverage on the dry fertilizer. Mix one part Minecto Duo with up to 2 parts water [1:2] in a mix tank before application to fertilizer. Use a maximum of 2 qt liquid per ton of fertilizer.

Precautions: Do not impregnate Minecto Duo on straight unadulterated agricultural limestone, since adsorption will not be achieved. Limestone prills, which contain a binding agent, and fertilizer blends containing limestone can be impregnated.

Application: Apply the mixture uniformly to the soil with properly calibrated equipment **immediately** after blending. Non-uniform application of the insecticide/fertilizer mixture may result in unsatisfactory insect control.

Chemigation

Applications of Minecto Duo alone or in combination with other pesticides registered for application through irrigation systems may be applied in irrigation water at rates specified on this label. Apply this product only through low-pressure micro-sprinkler, drip type irrigation systems or through sprinkler irrigation equipment (center pivot, solid set, hand move or moving wheel irrigation systems - **potatoes only**).

Directions for All Specified Types of Irrigation Systems

Uniform Water Distribution and System Calibration

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Dilute Minecto Duo in the solution tank at a ratio of at least 5 parts of water to one part of Minecto Duo. Injecting a larger volume of a more dilute solution will usually allow a more accurate calibration of the metering equipment. Meter the insecticide into the irrigation water during the irrigation cycle.

Using Water from Public Water Systems: DO NOT APPLY Minecto Duo THROUGH ANY IRRIGATION SYSTEM **PHYSICALLY CONNECTED** TO A PUBLIC WATER SYSTEM. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Minecto Duo may be applied through irrigation systems, which may be **supplied** by a public water system **only if** the water from the public water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Any irrigation system using water supplied from a public water system must also meet the following requirements.

Operating Instructions for All specified Types of Irrigation Systems

1. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.
2. The system must contain a functional check-valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
7. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or Venturi injector), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
8. Do not apply when wind speed favors drift beyond the area intended.
9. The pesticide injection pipeline must be on the downstream (field) side of the system filters to avoid potential pesticide off-site contamination or misapplication as a result of the filter back-flushing process.
10. Have a dedicated pesticide injection tank for chemigation purposes rather than tank-mixing pesticides with fertilizers or other non-pesticide chemigation products. This reduces the potential for incompatibility issues which could result in misapplication.
11. Make Minecto Duo injections into the center of the water pipe for a thorough and quick mix. This can be accomplished with an "injection tube" which should contain a check valve.

Application Instructions – Low Pressure Micro-Sprinkler or Drip Type Irrigation Equipment

Minecto Duo must be applied on the schedule specified in the Crop Use Directions, not according to the irrigation schedule. The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through low-pressure micro-sprinkler or drip type irrigation equipment. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemicals through irrigation equipment.

1. Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
2. Use only pressure injection or Venturi equipment.
3. Determine the area to be treated in each irrigation run.
4. Measure the output of each of the emitters or drip tubes closest to and farthest from the injection point.
5. For calibration, substitute a concentrated detergent (such as Wisk) for the Minecto Duo mixture in the injector (solution) tank. It is important to use the same volume of soap solution as the planned volume of Minecto Duo solution when calibrating the system. The detergent will bubble as it leaves the emitters. Check the time period over which the bubbles occur for both the closest and farthest emitters. If these times are not within 2 minutes of each other, adjust the dilution ratio and/or the injection rate.

Step-by-Step Calibration and Application Instructions

1. Before starting to calibrate, operate the system until all of the emitters are putting out at equal flow rates or until the system is operating at full pressure.
2. Make up an indicator solution of detergent or fertilizer, using the same rate of indicator as the planned volume of Minecto Duo to be used in the mix.
3. Set the injector to apply the indicator solution at the injection rate to be used in the actual Minecto Duo application.
4. Attach a 12-inch length of flexible tubing over the emitter closest to the injection point, another 12-inch length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solutions are observed.
5. Begin injecting the indicator solution. Direct the flow from the flexible tubes into a small container. Begin timing when the indicator solution is first detected. Stop timing when the indicator solutions are no longer detected in the container.
6. If the period of detection of the indicator solution between the near and far emitter is within 2 minutes, comparable coverage will be obtained. If they are not, make

adjustments by increasing the dilution ratio, using more water per part of Minecto Duo, or adjust the injector to a slower flow rate.

7. Once the system is calibrated, dilute the needed amount of Minecto Duo with water and any other tank mix partners in the injection tank at a minimum dilution of 5 parts water to 1 part Minecto Duo. Follow the directions for mixing and equipment set up in the **Mixing Procedures** section of this label for complete details.
8. Do not begin to inject Minecto Duo into the system until all emitters are producing equal flow rates, or until the system is at full pressure.
9. Inject the Minecto Duo solution into the system at the beginning of the irrigation set in 1/2 -1 inch of irrigation water.

Application Instructions – Sprinkler irrigation equipment (center pivot, solid set, hand move or moving wheel irrigation systems – Potatoes only)

Minecto Duo alone or in combination with other products which are registered for application through sprinkler irrigation may be applied through irrigation systems. Apply this product through center pivot, solid set, hand move, or moving wheel irrigation systems. Lack of effectiveness or illegal pesticide residues can result from non-uniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Calibration and Application Instructions

Minecto Duo must be applied under the schedule specified in the specific Crop Use Directions, not according to the irrigation schedule unless the events coincide.

Set the equipment to apply the minimum amount of water per acre. Run the system at 85 - 90% of the manufacturer's maximum rated travel speed.

The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

Center Pivot Irrigation Equipment

Notes: (1) Use only drive systems that provide uniform water distribution. (2) Do not use end guns when chemigating Minecto Duo through center pivot systems because of non-uniform application. (3) Plug the first nozzle closest to the well-head to protect the water source.

1. Determine the size of the area to be treated.

2. Determine the time required to apply 0.1 – 0.25 inches of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer. Run the system at 80 - 95% of the manufacturer's rated maximum travel speed.
3. Using water, determine the injection pump output when operated at normal line pressure.
4. Determine the amount of Minecto Duo, and any tank mix partners, required to treat the area covered by the irrigation system.
5. Add the required amount of Minecto Duo, any tank mix partners, and sufficient water to meet the injection time requirements to the solution tank. (See **Mixing Procedures** section of this label.)
6. Make sure the system is fully charged with water before starting injection of the Minecto Duo solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
7. Maintain constant agitation in the solution tank during the injection period.
8. Inject the specified amount of Minecto Duo per acre continuously for one complete revolution of the system.
9. Stop the injection equipment after treatment is completed. Continue to operate the system until the Minecto Duo solution has cleared all of the sprinkler heads.
10. Allow time for all lines to flush the pesticide through all nozzles before turning off irrigation water.

Solid Set, Hand Move, and Moving Wheel Irrigation Equipment

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20-40 minute time interval.
3. Determine the amount of Minecto Duo required to treat the area covered by the irrigation system.
4. Add the required amount of Minecto Duo, and any other tank mix partners, into the same quantity of water used to calibrate the injection period. (See **Mixing Procedures** section of this label.)
5. Operate the system at the same pressure and time interval established during the calibration.

6. Inject specified amount of Minecto Duo per acre for either a 20-40 minute period at the end of a regular irrigation set, or as a 20-40 minute injection as a separate application not associated with a regular irrigation to maximize retention of the insecticide by the foliage.
7. Stop injection equipment after treatment is completed. Continue to operate the system until the Minecto Duo solution has cleared the last sprinkler head. To ensure lines are flushed and free from remaining pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

GROUND APPLICATION

Select spray nozzles which will provide accurate and uniform spray deposition. For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1). Use spray nozzles, which provide medium-sized droplets and reduce drift. To help insure accuracy, calibrate sprayer before each use. For information on spray equipment and calibration, consult nozzle manufacturers and/or State Extension Service specialists.

Apply Minecto Duo using sufficient water volume to provide thorough and uniform coverage. In situations where a dense canopy exists and/or pest pressure is high, use greater water volumes. The use of a spray adjuvant may improve spray coverage but is not required. Do not make applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

AERIAL APPLICATION

Apply Minecto Duo in water, using the minimum spray volume indicated in the **Crop Use Directions** section of this label. Increase spray volume where practical to improve coverage. Do not make application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Spray Drift Precautions

As with all crop protection products, it is important to avoid off-target movement. Do not allow spray to drift onto adjacent land, crops, or aquatic areas. To avoid spray drift:

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy unless a greater application height is necessary for pilot safety.
- For fixed wing and helicopter aerial applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other fixed wing and helicopter aerial applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed wing aircraft and 90% or less of the rotor diameter for helicopters.
- When the windspeed is 10 mph or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 mph, applicators must use a full swath displacement upwind at the downwind edge of the field.
- Make applications when wind velocity favors on-target product deposition (approximately 3-10 mph).
- Do not make applications when wind direction is toward the aquatic area to reduce the risk of exposure to sensitive aquatic areas.
- Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

MIXING PROCEDURES

Prepare no more spray mixture than is needed for the immediate operation. Thoroughly clean spray equipment before using this product. Vigorous agitation is necessary for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation. Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area. Keep product container tightly closed when not in use.

Minecto Duo Alone

Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the desired amount of Minecto Duo to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after Minecto Duo has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Minecto Duo + Tank Mixtures

Add 1/2 of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. Add tank mix partners in this order: products packaged in water-soluble packaging, wettable powders, wettable granules (dry flowables) such as Minecto Duo, liquid flowables, liquids, emulsifiable concentrates, and surfactants / adjuvants. Always allow each tank mix partner to become fully dispersed before adding the

next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all of the mixture has been applied.

Note: When using Minecto Duo in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including Minecto Duo. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using Minecto Duo in a tank mixture, observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations, which appear on the tank mix product label. Do not exceed any label dosage rate, and follow the most restrictive label precautions and limitations. Do not mix this product with any product which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

When an adjuvant is to be used with this product, use an adjuvant that meets the standard of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program.

Compatibility

Minecto Duo is compatible with most commonly used pesticides, crop oils, adjuvants, and nutritional sprays. However, since it is not possible to test all possible mixtures, the user should pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with Minecto Duo. To determine the physical compatibility of Minecto Duo with other products, use a jar test, as described below.

Using a quart jar, add the proportionate amounts of the products to 1 qt of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

The crop safety of all potential tank mixes on all crops has not been tested. Confirm the safety to the target crop before applying any tank mixture not specified on this label.

CROP USE DIRECTIONS

Pollinator Precautions



- Minecto Duo is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops.
- Do not apply Minecto Duo or allow it to drift to blooming crops while bees are foraging in/or adjacent to the treatment area. This is especially critical if there are adjacent orchards that are blooming (Refer to **Spray Drift Precautions** for additional information).

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Consult with your local cooperative extension service or state agency responsible for regulating pesticide use for additional pollinator protection practices

BRASSICA (COLE) LEAFY VEGETABLES – CROP GROUP 5 INCLUDING:**Head & Stem Brassica**

Broccoli, Broccoli, Chinese (gai lon), Brussels sprouts, Cabbage, Chinese (napa)
Cabbage, Chinese mustard (gai choy) Cabbage, Cauliflower, Cavalo broccolo, Kohlrabi

Leafy Brassica Greens

Broccoli raab (rapini), Cabbage, Chinese (bok choy), Collards, Kale, Mizuna, Mustard greens, Mustard spinach, Rape greens

Application Method	Pests	Product Rate Per Acre Per Application
Soil	Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafminers (larvae) Southern Cabbageworm Whiteflies Yellowstriped Armyworm	11 – 14 oz/A

Soil Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per crop season.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
 1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
 3. In drip (trickle) chemigation.

4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.

- **Pre-Harvest Interval (PHI):** 30 Days



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.
Refer to Resistance Management section.

Application Method	Pests	Product Rate Per Acre Per Application
Foliar	Alfalfa Looper Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafminers (larvae) Sugarbeet Armyworm Thrips (Foliage Feeding) ¹ Whiteflies Yellowstriped Armyworm	4 – 7 oz/A

Foliar Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 7 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):**
 - 1 Day** for Head & Stem *Brassicas*
 - 7 Days** for Leafy *Brassica* Greens
- **Pest Control:** ¹Suppression.



Refer to Pollinator Precautions section, Environmental Hazards and Directions for Use.

Refer to Resistance Management section.

CUCURBIT VEGETABLES – CROP GROUP 9 INCLUDING:

Chayote, Chinese waxgourd, Citron melon, Cucumber, Gherkin, Gourd, edible (hyotan, cucuzza, hechima, Chinese okra), *Momordica* species (balsam apple, balsam pear, bittermelon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo*, includes true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin, Squash: summer (crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini) and winter (butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

Application Method	Pests	Product Rate Per Acre Per Application
Soil	Aphids Cucumber Beetle ¹ Flea Beetles Leafhoppers Leafminers (larvae) Melonworm Pickleworm Whiteflies	11 – 14 oz/A

Soil Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:

1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
 3. In drip (trickle) chemigation.
 4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days
 - **Pest Control:** ¹ Early Season Suppression



Refer to Pollinator Precautions section, Environmental Hazards and Directions for Use.
Refer to Resistance Management section.

Application Method	Pests	Product Rate Per Acre Per Application
Foliar	Aphids Cabbage Looper Corn Earworm Cucumber Beetle ¹ Flea Beetles Leafminers (larvae) Melonworm Pickleworm Rindworm species complex Thrips (Foliage Feeding) ¹ Tobacco Budworm Whiteflies	4 – 7 oz/A

Foliar Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/Acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 5 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):** 1 day
- **Pest Control:** ¹Suppression.



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.

Refer to Resistance Management section.

FRUITING VEGETABLES – CROP GROUP 8 INCLUDING:

Eggplant, Groundcherry, Pepino, Peppers (bell, cooking, pimento, and sweet), Tomatillo, Tomato

Application Method	Pests	Product Rate Per Acre Per Application
Soil	Aphids Beet Armyworm Colorado Potato Beetle Fall Armyworm Flea Beetles Hornworms Leafhoppers Leafminers (larvae) Loopers Potato Psyllid Southern Armyworm Spotted Cucumber Beetle ¹ Tomato Fruitworm Tomato Pinworm Whiteflies Yellowstriped Armyworm	11 – 14 oz/A

Soil Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:

1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
 3. In drip (trickle) chemigation.
 4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days
 - **Pest Control:** ¹ Early Season Suppression



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.
Refer to Resistance Management section.

Application Method	Pests	Product Rate Per Acre Per Application
Foliar	Aphids Beet Armyworm Colorado Potato Beetle European Corn Borer Fall Armyworm Flea Beetles Hornworms Leafhoppers Leafminers (larvae) Loopers Pepper Weevil Southern Armyworm Stinkbugs Thrips (Foliage Feeding) ¹ Tobacco Budworm Tomato Fruitworm Tomato Pinworm Whiteflies Yellowstriped Armyworm	4 – 7 oz/A

Foliar Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.

- **Minimum Interval Between Foliar Applications:** 5 days.
- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):** 1 day
- **Pest Control:** ¹Suppression



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.
Refer to Resistance Management section.

LEAFY VEGETABLES – CROP GROUP 4 INCLUDING:

Amaranth, Arugula, Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Chrysanthemum: edible-leaved & garland, Corn Salad, Cress: garden and upland, (yellow rocket, winter cress), Dandelion, Dock (sorel), Endive (escarole), Fennel, Florence (finocchio), Lettuce: head & leaf, Orach, Parsley, Purslane: garden & winter Radicchio (red chicory), Rhubarb, Spinach including New Zealand & Vine (Malabar, Indian), Swiss chard

Application Method	Pest	Product Rate Per Acre Per Application
Soil	Aphids Beet Armyworm Cabbage Looper Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafhoppers Leafminers (larvae) Whiteflies	11 – 14 oz/A

Soil Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/Acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Timing & Method:** Apply Minecto Duo within 28 days of planting or transplanting using one of the following application methods and ensuring that adequate time is allowed for a 30-day pre-harvest interval. Apply specified dosage in sufficient

water volume to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:

1. In-furrow spray at the seeding or transplant depth, or a narrow surface band above the seedline during planting. For surface-banded applications, incorporate to the seeding depth with sufficient sprinkle or drip irrigation within 24 hours.
 2. Post seeding, transplant, or hill drench using sufficient water volume to ensure incorporation into the root zone.
 3. In drip (trickle) chemigation.
 4. Shanked into the root zone after establishment or transplanting using fertilizer knives or other similar equipment. After application, incorporate with enough irrigation to move the chemical to the root zone.
- **Pre-Harvest Interval (PHI):** 30 Days



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.
Refer to Resistance Management section.

Application Method	Pest	Product Rate Per Acre Per Application
Foliar	Aphids Beet Armyworm Cabbage Looper Corn Earworm Diamondback Moth European Corn Borer Fall Armyworm Flea Beetles Imported Cabbageworm Leafhoppers Leafminers (larvae) Southern Armyworm Sugarbeet Armyworm Tobacco Budworm Whiteflies	4 – 7 oz/A

Foliar Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 14 oz/acre of Minecto Duo or 0.175 lb ai of thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Timing:** Apply before pests reach damaging levels. Scout fields and treat again if populations rebuild to potentially damaging levels. Apply higher rates within the listed rate range for heavy infestations.
- **Minimum Interval Between Foliar Applications:** 7 days.

- **Water Volume:** Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA for ground applications or 5 GPA for aerial applications.
- **Pre-Harvest Interval (PHI):** 7 days



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.
Refer to Resistance Management section.

TUBEROUS AND CORM VEGETABLES – CROP GROUP 1C INCLUDING:

Potato, Sweet potato, Yams, Yam bean, Arracacha, Arrowroot, Chinese artichoke, Jerusalem artichoke, Canna, Cassava, Bitter and Sweet, Chayote (root), Chufa, Dasheen, Ginger, Leren, Tanier, Turmeric

Application Method	Pest	Product Rate Per Acre Per Application
Soil	Aphids Colorado Potato Beetle European Corn Borer ¹ Flea Beetles Potato Leafhopper Potato Psyllid Wireworm (seed piece only)	6.5 – 10 oz/A

Soil Application Use Restrictions:

- **Maximum Minecto Duo Allowed per Year:** Do not exceed a total of 10 oz of Minecto Duo or 0.125 lb ai of soil-applied thiamethoxam-containing products or 0.4 lb ai of cyantraniliprole-containing products per acre per year. These are the limits from all application methods combined (seed, soil, and foliar).
- **Application Rate:** Use lower rates for short residual control and higher rates within the listed rate range for long residual control. See rate conversion chart for rate per 1000 linear feet.
- **Application Number:** Make only one soil application per year.
- **Application Method:** Apply specified dosage to ensure uniform application and incorporation at least 2 inches into the soil using one of the following methods:
 1. An in-furrow spray during planting. Spray directly on the seed pieces in the furrow. Apply in sufficient water to ensure good coverage of seed pieces.
 2. Apply specified amount of Minecto Duo impregnated on dry granular fertilizer before or during planting.
 3. Apply at plant emergence. Direct spray at the soil near the base of the plant during the last hilling operation. Incorporate into the root zone with sufficient overhead irrigation within 24 hours.
 4. Apply as a broadcast spray to the soil during the last hilling operation. Incorporate into the root zone with sufficient overhead irrigation within 24 hours.

5. Apply at plant emergence through overhead chemigation after hilling. Use from 0.10-0.50 inches of water. (For more details: see application through irrigation systems for potatoes in **APPLICATION PROCEDURES AND SPRAY EQUIPMENT** section.)

- **Pest Control:** ¹ Early Season Suppression



Refer to Pollinator Precautions section, Environmental Hazards section and Directions for Use.
Refer to Resistance Management section.

Minecto Duo Conversion Chart for Drip Linear Application

	20"	30"	34"	36"	38"	40"	46"	60"	72"	78"	80"	84"	Row Spacing
	26,136	17,424	15,374	14,520	13,756	13,068	11,363	8,712	7,260	6,702	6,534	6,223	Linear F/A
Rate (oz/acre)	Rate in oz of product per 1,000 linear feet for specified row spacing and rate per acre												Lb ai/A
6.5	0.25	0.37	0.42	0.45	0.47	0.50	0.57	0.75	0.90	0.97	0.99	1.04	0.163
10.0	0.38	0.57	0.65	0.69	0.73	0.77	0.88	1.15	1.38	1.49	1.53	1.61	0.25
11.0	0.42	0.63	0.72	0.76	0.80	0.84	0.97	1.26	1.52	1.64	1.68	1.77	0.28
12.0	0.46	0.69	0.78	0.83	0.87	0.92	1.06	1.38	1.65	1.79	1.84	1.93	0.30
13.0	0.50	0.75	0.85	0.90	0.95	0.99	1.14	1.49	1.79	1.94	1.99	2.09	0.33
14.0	0.54	0.80	0.91	0.96	1.02	1.07	1.23	1.61	1.93	2.09	2.14	2.25	0.35

ROTATIONAL RESTRICTIONS

Any cover crop planted for erosion control or soil improvement may be planted as soon as practical following the last application. However, the cover crop may not be grazed or harvested for food or feed. For all other rotational crops intended for food or feed, the plant-back intervals listed below must be observed.

Immediate Plant-Back Interval:

Treated areas may be replanted immediately following harvest or as soon as practical following the last application with **Brassica** (cole) leafy vegetables (crop group 5), cucurbit vegetables (crop group 9), fruiting vegetables (crop group 8), leafy vegetables (crop group 4), dry bulb onion, cotton, sunflower, oilseed crops (rapeseed, Indian rapeseed, Indian mustard seed, filed mustard seed, black mustard seed, flax seed, safflower seed, crambe seed and borage seed), blueberries, and strawberries.

30 - Day Plant-Back Interval:

Alfalfa, legume vegetables (crop groups 6), cereal grains (crop groups 15) (note: can use forage, fodder, or straw only from corn, barley, buckwheat, millet, rye, sorghum, or wheat planted with less than a 12-month plantback), peanut, tuberous and corm vegetables (crop group 1D), potato, root vegetables (crop group 1A).

120-Day Plant-Back Interval: Grass forage, fodder, and hay (crop group 17).

For all other crops, a 12-month plant-back interval must be observed.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry place.

Pesticide Disposal

Pesticide wastes may be toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Container Handling (*plastic container*)

Non-refillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Container Handling (*bag*)

Non-refillable container. Do not reuse or refill this container.

Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by other procedures allowed by state and local authorities.

Minecto The ALLIANCE FRAME, the SYNGENTA logo, and the PURPOSE ICON are trademarks of a Syngenta Group Company

©20XX

For non-emergency (e.g., current product information) call Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Minecto Duo 1421 MAS 0814 AMEND-B 0623-CL – JVB – 08/04/23
000100-01421.20230616B.MINECTO_DUO.AMEND-0623-CL.pdf

Attachment 7



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

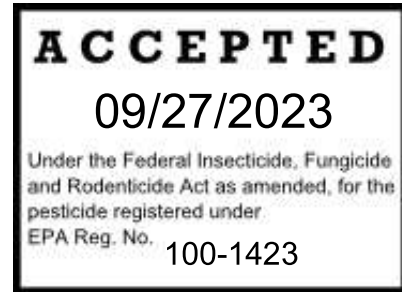
[MASTER]

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

A16901B Residential

Insecticide

For Outdoor Applications to Residential Landscape Plants



Active Ingredient:

Thiamethoxam ¹	20.0%
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Cyantraniliprole ²	20.0%
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Other Ingredients:	60.0%
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Total:	100.0%
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¹CAS No. 153719-23-4

²CAS No. 736994-63-1

A16901B Residential is a water-dispersible granule.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use on label.

EPA Reg. No. 100-1423

EPA Est.

Net Weight

Non-refillable container

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372 <i>[alternate phone number]</i>	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling, and before drinking, eating, chewing gum, using tobacco, or using the toilet. Wear long-sleeved shirt, long pants, socks, shoes, and chemical-resistant gloves (such as natural rubber, Selection Category A).

Environmental Hazards

This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates, oysters and shrimp. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging in/or adjacent to the treatment area.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to:

www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at:

beekill@epa.gov

- **Surface Water Advisory**

This product may impact surface water quality due to spray drift and runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months after application. Avoid accidental or intentional application of this product to ditches, swales, drainage ways or impervious surfaces such as driveways. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours. (See manual at the following internet address:
<http://www.wsi.nrcs.usda.gov/products/W2Q/pest/core4.html>.)
- **Groundwater Advisory**

This product has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into the groundwater if used in areas where soils are permeable, particularly where the water table is shallow.
- **Spray Drift Advisory**

Do not allow this product to drift.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.

SURFACE WATER PROTECTION STATEMENT

For foliar applications: Do not apply during rain.

- Do not apply A16901B Residential while bees are foraging. Do not apply A16901B Residential to plants that are flowering. Only apply after all flower petals have fallen off.
- Do not allow people and pets to re-enter until the treated area has been allowed to dry.
- Do not use kitchen utensils such as measuring cups and spoons for food purposes after use with pesticides.
- Do not make applications during rain.
- Do not apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
- Do not cultivate within 30 feet of the aquatic area to allow growth of a vegetative filter strip.
- Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

HOW TO APPLY

- **Determine size of spraying job.** For application to landscape ornamental plants, determine the area to be sprayed.
- **Carefully measure and mix** the amount of product and water as indicated in the use directions. Always wear water-resistant gloves when handling pesticides.
- **Spray as directed.** Thorough coverage is important. Do not over wet.
- **Flush sprayer** with clean water after each use.

ORNAMENTAL TREES, SHRUBS AND FLOWERS

Plant Safety

A16901B Residential is safe on most ornamental plants. However, applications of A16901B Residential to yellow varieties of Honey Locust (*Gleditsia triacanthos*) may result in leaf chlorosis and abscission (yellowing and dropping). The effects are temporary.

Pests controlled

- Aphids
- Whiteflies
- Leafminers

**How to apply** *[logo optional]*

- Measure 1 teaspoon of A16001B Residential and add to a 1-gallon size (or larger) pump-style sprayer.
- Add 1 gallon of water to the sprayer.
- Close the sprayer and shake well.
- Pressurize the sprayer.
- Adjust nozzle to achieve a medium to coarse spray pattern and apply as a thorough cover spray.
- Re-pressurize the sprayer as needed to maintain a good spray pattern.
- 1 gallon treats plants in a 400 square feet area.

Use Tips for Ornamentals

- Apply before insect populations are high.
- Apply to both sides of plant leaves and all plant surfaces where insects are present.
- A second application may be made 7 days after the initial application if insects are still present.
- Do not make more than 2 applications per growing season.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry place.

Pesticide Disposal and Container Handling (*consumer products*)

Nonrefillable container. Do not reuse or refill this container.

If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency or [1-800-888-8372] [Alternate phone number] for disposal instructions. Never place unused product down any indoor or outdoor drain.

[Product name], the ALLIANCE FRAME, the SYNGENTA logo, and the PURPOSE ICON are trademarks of a Syngenta Group Company
©20XX

For non-emergency (e.g., current product information) call
Syngenta Crop Protection at 1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

A16901B Residential 1423 MAS 0214 AMEND 0523-CL – jeb – 06/15/2023
000100-01423.202300501.A16901B_RESIDENTIAL_AMEND_MAY2023-CL.pdf

Attachment 8



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master label]

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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Fortenza®

Insecticide

A seed treatment product for protection against early-season damage caused by [Colorado potato beetle and European corn borer on potato;] cutworms and flea beetles on rapeseed crop subgroup 20A; cutworms and wireworms on sunflower crop subgroup 20B and cottonseed crop subgroup 20C; cutworms, grubs, wireworms, fall armyworm, and seedcorn maggot on corn; bean leaf beetle, thrips, grubs, and wireworms on soybeans; and rice water weevil and suppression of grape colaspis on rice

Active Ingredient:

Cyantraniliprole ¹	48.8%
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Other Ingredients:	51.2%
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Total:	100.0%
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¹CAS No. 736994-63-1

Fortenza is formulated as a flowable suspension that contains 5.0 lb/gal [600 g/L] of cyantraniliprole (FS). One fluid ounce of Fortenza contains 17.72 grams of cyantraniliprole.

KEEP OUT OF REACH OF CHILDREN.

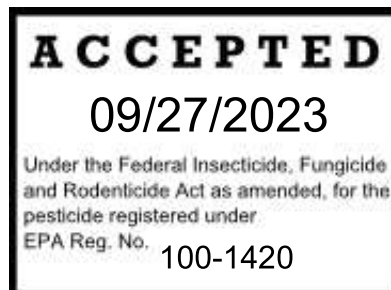
CAUTION

See additional precautionary statements and directions for use [in booklet] [on label].

EPA Reg. No. 100-1420

EPA Est. xxxxx

Net Contents



FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

Applicators and Other Handlers Must Wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) or Viton™ ≥ 14 mils
- Shoes plus socks

User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash thoroughly with soap and water after handling.
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is toxic to aquatic invertebrates. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not contaminate water when disposing of equipment washwater.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the seed is treated with the product and the treated seed is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, natural rubber \geq 14 mils, polyethylene, polyvinyl chloride (PVC) or Viton \geq 14 mils
- Shoes plus socks

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

Treatment of highly mechanically scarred or damaged seed, or seed known to be of low vigor and poor quality, may result in reduced germination and/or reduction of seed and seedling vigor. Treat a small quantity of seed using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of seed before committing the total seed lot to a selected seed treatment. Due to seed quality, crop or variety sensitivity, and seed storage conditions beyond the control of Syngenta,

no claims are made to guarantee the germination of carry-over seed [or propagating material] for all crop seed.

PRODUCT INFORMATION

Cyantraniliprole is a broad-spectrum insecticide belonging to the chemical class of diamides. Cyantraniliprole products are effective on the larval stages of lepidopteran insects and some other insect pests, including some coleopterans and dipterans. The length of control of the major insect pests will vary depending on the product use rate, insect pressure, crop growth and maturity, and soil and environmental conditions. When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.

Resistance Management

Fortenza contains cyantraniliprole, a Group 28 insecticide. Cyantraniliprole is a systemic insecticide belonging to the diamide class of chemistry. Diamides cause muscle contraction and paralysis in insects by activating muscle ryanodine receptors.

Insect populations may contain individuals naturally resistant to Group 28 insecticides, and, if used repeatedly in the same fields, then resistant members may eventually dominate the population. Because resistance development cannot be predicted, use sound resistance management strategies established for the crop and use area.

Base seed treatment on an integrated pest management program that includes field sanitation, historical information related to pesticide use, careful selection of pest-tolerant crop varieties, scouting, and management practices which optimize populations of natural enemies of insect pests such as within-field refugia (untreated areas). Sound management programs also consider cultural and biological control practices.

In order to maintain susceptibility to this class of chemistry:

- Use products at their full, specified doses.
- Use appropriate, well-maintained equipment. Use specified water volumes and apply at optimal temperatures in order to obtain optimal treatment.
- When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.
- Avoid using a single active ingredient or mode of action (same insecticide group) exclusively for season long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, use a treatment window approach. A treatment window is a period of time defined by the stage of crop development and the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, single or consecutive applications may be made using seed, in-furrow, or foliar treatments unless

otherwise excluded by product labels. Do not exceed the maximum amount of this insecticide's mode of action allowed per growing season.

- Following a treatment window of this insecticide's mode of action, rotate to a treatment window of effective products with a different mode of action before making additional applications of this insecticide.

If resistance to this product develops in your area, this product or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for the crop and use area.

Syngenta encourages responsible product stewardship to ensure effective long term control of the insect pests on this label.

For additional information on Insect Resistance Management:

- Contact Syngenta representatives at 1-866-796-4368.
- Contact your local Cooperative Extension Service specialist, pest control advisor, or certified crop advisor.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org>.

MIXING PROCEDURES

Apply Fortenza only with Syngenta-approved seed-treating equipment. Potatoes may be treated either on farm by the grower with Syngenta-approved equipment or at a commercial seed-treatment facility. All other crops must **only** be treated at Syngenta-approved commercial seed-treatment facilities. Not for use in hopper box, planter box, slurry box, or other farmer-applied applications.

Important: Thoroughly recirculate or agitate the container of Fortenza prior to use.

Apply Fortenza as a water-based slurry utilizing standard slurry seed treatment equipment which provides uniform seed coverage. Uneven or incomplete seed coverage may not give the desired level of insect or disease control. Thoroughly mix the specified amount of Fortenza into the required amount of water for the slurry treater and dilution rate to be used. (See **Fortenza in Tank Mixtures**.) Consult the manufacturer of the application equipment you plan to use for suitability for this application and for instructions on operation and calibration of the equipment.

- Use an EPA-approved dye or colorant that imparts an unnatural color to the seed as stated in 40 CFR 153.155 (c).
- Allow seed to dry before bagging.
- Store away from feed and foodstuffs.

Fortenza has been found to be compatible with some liquid inoculant products. Fortenza may be mixed or applied sequentially with approved liquid inoculants. Consult the maker of the liquid inoculants and a Syngenta Crop Protection representative for directions before applying Fortenza with inoculants.

Fortenza in Tank Mixtures:

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

SEED BAG LABEL REQUIREMENTS

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- This seed has been treated with cyantraniliprole insecticide.
- Do not use treated seed for food, feed or oil purposes.

In addition, the U.S. Environmental Protection Agency requires the following statements on bags containing seeds treated with Fortenza (cyantraniliprole):

- Store treated seed away from feed and foodstuffs.
- Do not allow children, pets, or livestock to have access to treated seed.
- Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seed.
- Use of Fortenza as a seed treatment must be communicated to all personnel involved in seasonal insect control recommendations.
- This product is highly toxic to bees exposed to direct treatment or residues on blooming crop or weeds. Ensure that the planting equipment is functioning properly in accordance with manufacturer specifications to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops and weeds.
- Corn seeds must be planted at a minimum soil depth of 1½ inches.
- Potato seed tubers must be planted at a minimum soil depth of 2 inches.
- Rapeseed crop subgroup 20A seeds must be planted at a minimum soil depth of ¼ inch.
- Rice (dry-seeded) must be planted at a minimum soil depth of ½ inch.
- Soybean must be planted at a minimum soil depth of 1 inch.
- Sunflower crop subgroup 20B seeds must be planted at a minimum soil depth of 1 inch.

- Cottonseed crop subgroup 20C seeds must be planted at a minimum soil depth of $\frac{1}{2}$ inch.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Immediately cover or collect seeds spilled during loading and planting. Do not allow treated seed to remain uncovered on the soil surface.
- Dispose of all excess treated seed by burying seed away from bodies of water. Leftover treated seed may be double sown around the headland or buried away from water sources in accordance with local requirements. Do not contaminate bodies of water when disposing of excess treated seed or washwaters of planting equipment.
- Excess treated seed may be used for ethanol production only if (1) ethanol production by-products are not used for livestock feed and (2) no measurable residues of pesticides remain in the ethanol by-products that are used for agronomic practice.
- Dispose of seed packaging in accordance with local requirements.
- For all crops: Do not apply a total of more than 0.4 lb ai per acre of cyantraniliprole-containing products per calendar year; this is the total cyantraniliprole applied by seed treatment, soil application and foliar application.
- For corn: This seed has been treated with a maximum of 0.5 mg cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For potato: This seed has been treated with a maximum of 0.0135 lb cyantraniliprole per 100 lb seed tuber. Do not plant more than 3000 tubers per acre when treated at 0.0135 lb ai/100 lb of seed.
- For rapeseed crop subgroup 20A [based on flax seed]: This seed has been treated with a maximum of 0.05 mg active cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For rice: This seed has been treated with a maximum of 0.03 mg cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For soybean: This seed has been treated with a maximum of 0.076 mg cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For sunflower crop subgroup 20B: This seed has been treated with a maximum of 0.2 mg active cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For cottonseed crop subgroup 20C: This seed has been treated with a maximum of 0.9 mg active cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre. Do not apply more than 0.17 lb active cyantraniliprole per acre as a seed treatment application.
- Including the Fortenza seed treatment, make no more than two applications of cyantraniliprole or other Group 28 products per generation to the same insect species on a crop or within a 30-day period (count planting date as day 1 if using

treated seed). Application(s) to the next generation of target pest(s) must be with an effective product with a different mode of action (non-Group 28 insecticide).

Crop Rotation

- There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).
- Crops on this label and the following crops or crop groups may be planted immediately following the last application of Fortenza: Brassica Leafy Vegetables (Crop Group 5); Bulb Vegetables (Crop Group 3-07); Corn (Field, Pop, Seed and Sweet); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Vegetables (except Brassica) (Crop Group 4); Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.
- The following crops or crop groups may be planted 30 days following the last application of Fortenza: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.
- All other crops cannot be planted until 12 months after the last application of cyantraniliprole.

CROP USE DIRECTIONS

CORN (FIELD, POP, SEED AND SWEET) – NOT FOR USE IN CALIFORNIA

Crop	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on 1800 seeds/lb)
Corn Field Pop Seed Sweet Not for Use in California	Cutworms Grubs Wireworms Fall armyworm Seedcorn maggot	0.125 – 0.5	1.24 – 5.0
Additional Information			
<ul style="list-style-type: none"> Fortenza at labeled rates provides protection against damage caused by cutworms, grubs, wireworms, fall armyworm, and seedcorn maggot during early-season growth and development of corn. Full-season protection or complete reduction of damage is not expected against the listed insects. Based on numerous popcorn seed-safety studies, popcorn use rates > 0.125 mg ai/seed (2.75 fl oz/100 lb seed, based on 4,000 seeds/lb) on individual hybrids should be tested for seed safety to evaluate specific genetic tolerance to higher rates of Fortenza. It is recommended to apply Fortenza with compatible and registered seed treatment fungicides such as Apron XL[®], Dynasty[®], Maxim[®] 4FS, Maxim Quattro, and Vibrance[®], which are proven to provide protection from seed and seedling diseases; Cruiser[®] 5FS for additional early season insect pest protection; and Avicta[®] Complete Corn for early-season disease, insect and nematode protection. Follow planter manufacturer instructions for use of talc or other hopper box additives at planting. 			
USE RESTRICTION			
<ul style="list-style-type: none"> DO NOT apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year, including all types of applications (seed treatment, soil, foliar). 			

POTATO SEED PIECE TREATMENT

Fortenza is to be used as an integral part of potato pest management strategy. This strategy includes the use of high quality certified potato seed, crop rotation, monitoring proper insect population thresholds, appropriate comprehensive insect control measures, optimal harvest time of potato tubers and proper handling of the potatoes. Consult your local agricultural extension agent for more detailed information on insect management practices.

Crop	Protection Against Damage Caused by:	Use Rate (See Tables 1 and 2 for additional rate information.)		
		[grams ai/100 kg seed tubers]	lb ai/100 lb seed tubers	fl oz product/100 lb seed tubers
Potato	Colorado potato beetle European corn borer	[6 – 13.5]	0.006 – 0.0135	0.15 – 0.35
Additional Information				
<ul style="list-style-type: none"> • Potatoes may be treated either on farm by the grower with Syngenta-approved equipment or at a commercial seed-treatment facility. • Fortenza used at labeled rates provides protection against damage caused by Colorado potato beetle and European corn borer during early- to mid-season growth and development of potatoes. • Full-season protection or complete reduction of damage caused by labeled pests is not expected with the use of Fortenza. • If a crop failure occurs, treated potato seed pieces may be replanted if the total cyantraniliprole rate applied does not exceed 0.4 lb ai per acre. • For protection against certain seed- and soil-borne diseases of potatoes, Fortenza may be applied with Maxim 4FS, Dynasty, CruiserMaxx® Vibrance Potato, CruiserMaxx Potato, or CruiserMaxx Potato Extreme family of products. • Application of Fortenza with CruiserMaxx Potato or CruiserMaxx Potato Extreme also provides protection against potato aphid, green peach aphid, beet leaf hopper and psyllids. • If an inert dust (fir bark or talc etc.) or a dust-based fungicide is applied, apply Fortenza prior to applying the dust treatments. 				
USE RESTRICTIONS				
<ul style="list-style-type: none"> • DO NOT apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year, including all types of applications (seed treatment, soil, foliar). • DO NOT BAG POTATO SEED THAT IS TREATED WITH ANY LIQUID SEED TREATMENTS. 				

Application of Fortenza

Apply Fortenza utilizing Syngenta-approved seed treating systems designed to apply liquid seed treatments of potatoes. Uneven or incomplete seed coverage may not give the desired level of insect control. For slurry treatment, thoroughly mix the specified amount of Fortenza into the required amount of water for the slurry treater and dilution rate to be used. Maintain constant agitation of the slurry during the seed treatment process. Follow the manufacturer's application instructions for the seed treatment equipment being used with appropriate set-up and calibration. Calibrate the equipment so that every potato seed tuber is uniformly coated with a fine layer of the slurry mix without any excess dripping off of the treated seed.

Storing Treated Potato Seed Pieces

If the treated potato seed piece needs to be stored or held for a few days (2 to 3 weeks maximum), make sure the potato seed piece is stored in well ventilated areas that allow air to move through and out the treated potato seed piece. An ideal air temperature is

60 degrees Fahrenheit at a relative humidity of 85 to 90 percent. Do not allow free moisture to form within or around the treated potato seed piece during storage. If possible, allow treated potato seed pieces to dry during transit and planted the same day of treatment.

Syngenta, LLC makes no claims as to the effect of this product or delivery systems on germination of the potato seed. The user, buyer or applicator of the seed treatment assumes all risks from such application.

Note: Treatment of highly damaged or bruised potato seed, or seed known to be of low vigor and poor quality, or potato seed that is deemed “physiologically old”, may result in reduced germination and/or reduction of seed and seedling vigor and multiple stems from germination of the seed. When in doubt or if the status/condition of the potato seed tubers is unknown, treat a small sample batch of the same potato seed load with Fortenza using specified rates, equipment, and application procedures; before treating the total seed lot. Conduct this test on a small batch of the potato seed and observe the germination, emergence, stem count from the germinating seed. Consult with local experts in the region or conduct the test with university or area experts. Only if the data confirm that the seed treated with Fortenza are acceptable should the rest of the seed load from which the sample was taken be treated. **Due to seed quality, seed condition and seed storage conditions beyond the control of Syngenta LLC, no claims are made to guarantee the germination and/or performance of the potato seed tuber from treatment with Fortenza.**

Table 1. Empirical Calculations based on popular potato seeding rates:

Seeding rate	Expected lb ai per acre at popular seeding rates and expected use rate of Fortenza		
Pounds/acre	0.006 lb ai/100 lb	0.01 lb ai/100 lb	0.0135 lb ai/100 lb
1500	0.090	0.150	0.203
2000	0.120	0.200	0.270
2500	0.150	0.250	0.338
3000	0.180	0.300	0.405
3500	0.210	0.350	Do not apply. ¹

¹ The lb ai applied per acre at this seeding density and application rate exceeds the maximum allowable 0.4 lb ai per acre.

Table 2. Empirical Calculations based on popular potato seeding rates:

Seeding rate	Expected fl oz per acre at popular seeding rates and expected use rate of Fortenza		
Pounds/acre	0.15 fl oz./100 lb	0.26 fl. oz/100 lb	0.35 fl oz/100 lb
1500	2.3	3.8	5.2
2000	3.1	5.1	6.9
2500	3.8	6.4	8.6
3000	4.6	7.7	10.4
3500	5.4	9.0	Do not apply. ¹

¹The fl oz applied per acre at this seeding density and application rate exceeds the maximum allowable 11 fl oz per acre.

OILSEED CROP GROUP 20

Crops	Early-season Protection Against Damage Caused by:	Use Rate	
		lb ai/100 lb seed	fl oz product/100 lb seed
Rapeseed Crop Subgroup 20A: Borage Crambe Cuphea Echium Flax seed Gold of Pleasure Hare's Ear Mustard Lesquerella Lunaria Meadowfoam Milkweed Mustard seed Oil radish Poppy seed Rapeseed (including Canola) Sesame Sweet Rocket Cultivars, varieties, and/or hybrids of these	Cutworms	0.30	7.7
	[Flea beetles]	[0.80]	[20.4]
Additional Information <ul style="list-style-type: none"> Fortenza at labeled rates provides protection against the damage caused by cutworms during early-season growth and development of rapeseed crop subgroup 20A. Full-season protection or complete reduction of damage from the use of Fortenza is not expected against the listed insects. For protection against damage caused by flea beetles when applied at 7.7 fl oz product per 100 lb seed, Fortenza must be tank mixed with Helix® Vibrance or other thiamethoxam-containing seed treatment product. In all cases, it is recommended to apply Fortenza with Helix Vibrance for control of seedling diseases and other insect pests of seedling crops. Follow planter manufacturer instructions for use of talc or other hopper-box additives at planting. 			
USE RESTRICTION			
DO NOT apply more than 0.40 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar).			

Crops	Early-season Protection Against Damage Caused by:	Use Rate (based on an average of 4,500 seeds/lb)		
		[mg ai/seed]	lb ai/100,000 seed	fl oz product/100,000 seed
Sunflower Crop Subgroup 20B: Calendula Castor Oil plant Chinese Tallowtree Euphorbia Evening Primrose Jojoba Niger seed Rose hip Safflower Stokes Aster Sunflower Tallowwood Tea Oil plant Vernonia Cultivars, varieties, and/or hybrids of these	Cutworms	[0.1 – 0.2]	0.022 – 0.044	0.56 – 1.1
Additional Information <ul style="list-style-type: none"> Fortenza at labeled rates provides protection against the damage caused by cutworms during early-season growth and development of sunflower crop subgroup 20B. Full-season protection or complete reduction of damage from the use of Fortenza is not expected against the listed insects. [When applied at these rates in combination with Cruiser 5FS, Fortenza may provide additional protection against wireworms.] It is recommended to apply Fortenza with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, Bion®, Maxim 4FS or Plenaris® 200FS, which are proven to control seed and seedling diseases, and with Cruiser 5FS for additional early-season insect pest protection. Follow planter manufacturer instructions for hopper box additives at planting. 				
USE RESTRICTION				
DO NOT apply more than 0.40 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar).				

Crops	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on an average of 4,500 seeds/lb)
Cottonseed Crop Subgroup 20C Cottonseed Cultivars, varieties, and/or hybrids of these	Cutworms	0.1 – 0.9	2.55 – 23.0
Additional Information <ul style="list-style-type: none"> Fortenza at labeled rates provides protection against the damage caused by cutworms during early-season growth and development of cotton. Full-season protection or complete reduction of damage from the use of Fortenza is not expected against the listed insects. [When applied at these rates in combination with Cruiser 5FS, Fortenza may provide additional protection against wireworms.] It is recommended to apply Fortenza with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, Dynasty CST, Bion, Maxim 4FS, Vibrance, or Vibrance CST, which are proven to provide early-season protection from seed and seedling diseases, and with Cruiser 5FS for additional early-season insect pest protection. Follow planter manufacturer instructions for hopper box additives at planting. 			
USE RESTRICTIONS			
<ul style="list-style-type: none"> DO NOT apply more than 0.17 lb active cyantraniliprole per acre as a seed treatment application. DO NOT apply more than 0.40 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar). 			

RICE – NOT FOR USE IN CALIFORNIA

Crop	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on an average of 21,000 seeds/lb)
Rice	Rice water weevil Suppression of: Grape colaspis	0.03	3.47

Additional Information

- Fortenza at labeled rates provides protection against the damage caused by rice water weevil during early-season growth and development of rice.
- Fortenza-treated rice seed may be planted by drill or broadcast (ground or aerial) on soil, or broadcast (aerial) into flooded fields.
- Full-season protection or complete reduction of damage from the use of Fortenza is **not** expected against the listed insects.
- It is recommended to apply Fortenza with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, or Maxim 4FS, which are proven to provide early-season protection from seed and seedling diseases, and Cruiser 5FS for additional early-season insect pest protection.

USE RESTRICTIONS

- When broadcasting Fortenza-treated seeds on soil, the rice seeds must be incorporated into the soil.
- Fortenza-treated dry rice seed cannot be soaked or pre-germinated before seeding.
- **DO NOT** apply more than 0.17 lb active cyantraniliprole per acre as a seed treatment application.
- **DO NOT** apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar).
- **DO NOT** use Fortenza-treated rice fields for the aquaculture of edible fish or crustacea (including crawfish) during the rice growing season from planting through harvest.

SOYBEAN (INCLUDING SOYBEAN VEGETABLE) – NOT FOR USE IN CALIFORNIA

Crop	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on an average of 3,000 seeds/lb)
Soybean (including soybean vegetable) Not for Use in California	Bean leaf beetle Thrips Grubs Wireworms	0.038 – 0.076	0.627 – 1.25
Additional Information			
<ul style="list-style-type: none"> Fortenza at labeled rates provides protection against the damage caused by bean leaf beetle, thrips, grubs and wireworms during early-season growth and development of soybeans. Full-season protection or complete reduction of damage from the use of Fortenza is not expected against the listed insects. It is recommended to apply Fortenza with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, Maxim 4FS, Mertect® 340-F, and Vibrance, which are proven to provide protection from seed and seedling diseases; with Cruiser 5FS for additional early-season insect pest protection; or with a combination fungicide/insecticide product such as CruiserMaxx Vibrance for early-season disease and insect protection. Follow planter manufacturer instruction for use of talc or other hopper box additives at planting. 			
USE RESTRICTIONS			
<ul style="list-style-type: none"> DO NOT apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar). 			

ROTATIONAL CROP RESTRICTIONS

- There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).
- Crops on this label and the following crops or crop groups may be planted immediately following the last application of Fortenza: Brassica Leafy Vegetables (Crop Group 5); Bulb Vegetables (Crop Group 3-07); Corn (Field, Pop, Seed and Sweet); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Vegetables (except Brassica) (Crop Group 4); Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.
- The following crops or crop groups may be planted 30 days following the last application of Fortenza: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop

Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.

- All other crops cannot be planted until 12 months after the last application of cyantraniliprole.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry place. Do not store above 90°F for extended periods. For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Container Handling (less than or equal to 5 gallons)

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling (greater than 5 gallons)

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other side and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling (greater than 5 gallons)

Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

Fortenza®, Apron XL®, Avicta®, Bion®, Cruiser®, CruiserMaxx®, Dynasty®, Helix®, Maxim®, Mertect®, Plenaris®, Vibrance®, the ALLIANCE FRAME, the SYNGENTA Logo, and the PURPOSE ICON are Trademarks of a Syngenta Group Company

Viton™ is a trademark of The Chemours Company FC, LLC
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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Fortenza 1420 MAS 1020 AMEND 0523 – CL – jeb – 04/04/2023
000100-01420.20230501.FORTENZA.AMEND.MAY2023-CL.PDF

Attachment 9



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master Label]

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

THIAMETHOXAM	GROUP	4A	INSECTICIDE
CYANTRANILIPROLE	GROUP	28	INSECTICIDE

SPINNER™**Insecticide**

[For foliar and systemic control of listed insect pests in turfgrass (including golf courses; institutional, commercial and residential lawns and landscapes; sod farms; sports fields; parks; municipal grounds; and cemeteries)] *[Option 1]*

[For foliar and systemic control of listed insect pests in ornamental plants, fruit and nut trees (non-bearing), Christmas tree seedlings (liner production and field application), and listed vegetables transplants grown for sale to consumers] *[Option 2]*

[For foliar and systemic control of listed insect pests in turfgrass (including golf courses; institutional, commercial and residential lawns and landscapes; sod farms; sports fields; parks; municipal grounds; and cemeteries) and in ornamental plants, residential and commercial landscapes, fruit and nut trees (non-bearing), Christmas tree seedlings (liner production and field application) and listed vegetable transplants grown for sale to consumers.] *[Option 3]*

Active Ingredients:

Thiamethoxam¹ 20.0%Cyantraniliprole² 20.0%

Other Ingredients: 60.0%

Total: 100.0%

¹ CAS No. 153719-23-4² CAS No. 736994-63-1

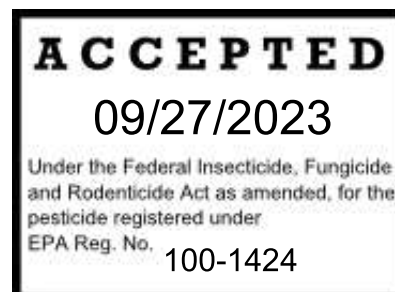
Spinner is a water-dispersible granule that contains 3.2 ounces of thiamethoxam and 3.2 ounces of cyantraniliprole per pound of formulated product.

KEEP OUT OF REACH OF CHILDREN.**CAUTION**

See additional precautionary statements and directions for use in booklet [on bag].

EPA Reg. No. 100-1424

EPA Est.



Net Weight

Nonrefillable container

[Batch Code: _____] (*For nonrefillables only.*)

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses if present after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
<p>HOTLINE NUMBER</p> <p>For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call 1-800-888-8372</p>	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton™ ≥ 14 mils
- Shoes plus socks
- Protective eyewear

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is toxic to wildlife and highly toxic to aquatic invertebrates, oysters and shrimp.

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Drift or runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment-wash water.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated

residues in blooming crops. Do not apply this product or allow it to drift to blooming crops while bees are foraging in/or adjacent to the treatment area.

Surface Water Advisory

This product may impact surface water quality due to spray drift and runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of thiamethoxam water from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours.

(See manual at the following internet address:

<http://www.wsi.nrcs.usda.gov/products/W2Q/pest/core4.html>).

SURFACE WATER PROTECTION STATEMENT

For foliar applications: Do not apply during rain.

Groundwater Advisory

This product has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into the groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Spray Drift Advisory

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce the effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. Do not apply when wind speeds exceed 10 mph at the application site. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to:

www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and of Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

See individual use sites for specific pollinator protection application restrictions. If none exist, follow these directions for foliar applications to commercially-grown plants and ornamentals that are attractive to pollinators and non-agricultural use sites:

FOR FOOD/FEED CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS



Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset
- The application is made to the target site when temperatures are below 55°F
- The application is made in accordance with a government-initiated public health response
- The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

FOR NON-AGRICULTURAL USES



- Do not apply Spinner while bees are foraging. Do not apply Spinner to plants that are flowering. Only apply after all flower petals have fallen off.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

When using this product, you must follow the measures, including any timing restrictions, contained in the Endangered Species Protection Bulletin for the area where you are applying the product. Before using this product, you must obtain a Bulletin at any time within six months of the day of application. To obtain Bulletins, consult <http://www.epa.gov/espp>. For general questions or technical help, call 1-844447-3813, or email ESPP@epa.gov.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

[Option 1]

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

[Options 2 and 3]

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours except for automatic fogger use in greenhouses (See “Automatic Cold Fogger Use in Greenhouses” below). PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

Automatic Cold Fogger Use in Greenhouses: Early entry is based on ventilation criteria.

- If there is no ventilation, the REI is 24 hours.
- Early entry is permitted (with the PPE listed above) and respiratory protection consisting of a protection factor (PF) 10 respirator fitted with an organic-vapor removing filter) after four (4) hours to perform short duration activities such as opening windows or turning on fans or ventilation systems.
- Early entry is permitted (with the PPE listed above) after two (2) hours of ventilation using fans or other mechanical ventilation systems.
- Early entry is permitted (with the PPE listed above) after four (4) hours of ventilation using vents, windows or other passive ventilation.
- Early entry is permitted (with the PPE listed above) after ten (10) complete air exchanges have been completed.

After 12 hours, if the greenhouse has been ventilated according to the above criteria, no PPE is required to enter the treated area.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter treated areas without protective clothing until sprays have dried.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

USE INFORMATION

RESISTANCE MANAGEMENT

THIAMETHOXAM	GROUP	4A	INSECTICIDE
CYANTRANILIPROLE	GROUP	28	INSECTICIDE

Some insect pests are known to develop resistance to products after repeated use. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective long-term control of the insects on this label.

Spinner contains a Group 4A insecticide (thiamethoxam, belonging to the neonicotinoid class of chemistry) and a Group 28 insecticide (cyantraniliprole, belonging to the diamide class of chemistry). Insect biotypes with acquired or inherent resistance to Group 4A or Group 28 insecticides may eventually dominate the insect population if Group 4A or Group 28 insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by Spinner or other Group 4A or Group 28 insecticides.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

In order to maintain susceptibility to these classes of chemistry:

- Avoid using Group 4A and/or Group 28 insecticides exclusively for season-long control of insect species with more than one generation per crop season.

- For insect species with successive or overlapping generations, apply Spinner or other Group 4A and/or Group 28 insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated in the Directions for Use) of the Group 4A and/or Group 28 insecticides. Do not exceed the maximum Spinner allowed per growing season.
- Following a treatment window of Group 4A and/or Group 28 insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 4A and/or Group 28 insecticides.
- A treatment-window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to these classes of chemistry.
- If resistance is suspected, do not reapply Spinner or other Group 4A or Group 28 insecticides.

Other Insect Resistance Management (IRM) practices include:

- Incorporating IPM techniques into your insect control program.
 - Monitoring treated insect populations for loss of field efficacy.
 - Using tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop outlet and effective rates are applied.
- **For additional information on Insect Resistance Management:**
- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.
 - Visit the Insecticide Resistance Action Committee (IRAC) on the web at
 - <http://www.irac-online.org/>.

• **POLLINATOR PRECAUTIONS**

- Spinner is highly toxic to bees exposed to direct treatment on blooming crops or weeds and may cause possible effects to pollinators from exposure to translocated residues in blooming crops.
- Do not apply Spinner or allow it to drift to blooming crops while bees are foraging in/or adjacent to the treatment area. This is especially critical if there are adjacent orchards that are blooming (Refer to **Spray Drift Precautions** for additional information).
- If bees are foraging in the ground cover and it contains any blooming plants or weeds, always remove flowers before making an application. This may be accomplished by mowing, disking, mulching, flailing, or applying a labeled herbicide.
- Consult with your local cooperative extension service or state agency responsible for regulating pesticide use for additional pollinator safety practices.

MIXING PROCEDURES

Prepare only the amount of spray mixture that is needed for the immediate application. Thoroughly clean spray equipment before using this product. Vigorous agitation is necessary for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation.

Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area.

Spinner Applied Alone

Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the Spinner to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the Spinner has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

Spinner + Tank Mixtures

If using Spinner in a tank mixture, it is the user's responsibility to observe all directions for use, crop/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank mix product label. Do not exceed any label dosage rate, and follow the most restrictive directions for use and precautionary language of each product in the mixture (for example, first aid from one product, spray drift management from another). Do not mix this product with any product, which prohibits such mixing. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced products are labeled.

Add 1/2 of the required amount of water to the mix tank. Start the agitator running before adding any tank mix partners. Add the tank mix partners in this order: products packaged in water-soluble packaging, wettable powders, wettable granules (dry flowables) such as Spinner, liquid flowables, liquids and emulsifiable concentrates. Always allow each tank mix partner to become fully dispersed before adding the next product. Provide sufficient agitation while adding the remainder of the water. Maintain agitation until all the mixture has been applied.

Important: When using Spinner in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including Spinner. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

When an adjuvant is to be used with this product, use an adjuvant that meets the standard of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program. Spinner is compatible with most commonly used pesticides, crop

oils, adjuvants, and nutritional sprays. However, since it is not possible to test all possible mixtures, the user should pre-test to assure the physical compatibility and lack of phytotoxic effect of any proposed mixtures with Spinner.

Tank Mix Compatibility

Spinner is compatible with most insecticide, fungicide, and foliar nutrients products. However, test the physical compatibility of Spinner with tank-mix partners before use. To determine the physical compatibility of Spinner with other products, use a jar test, as described below.

Using a quart jar, add the proportionate amounts of the products to 1 qt. of water. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

[Options 1 and 3]

USE INFORMATION - TURF

Spinner is a combination of two broad-spectrum insecticides, thiamethoxam and cyantraniliprole that are effective when applied at label rates for control of specified turfgrass insects. When applied at label rates, it is active against annual white grubs including Asiatic garden beetle (*Maladera castanea*), European chafer (*Amphimallon majale*), green June beetle (*Cotinis nitida*), Japanese beetle (*Popillia japonica*), May or June beetle (*Phyllophaga* spp.), Northern masked chafer (*Cyclocephala borealis*), oriental beetle (*Anomala orientalis*), Southern masked chafer (*Cyclocephala lurida*), Aphodius beetle (*Aphodius omissus omissus*) and black turfgrass Ataenius (*Ataenius spretulus*). Spinner also controls many key surface-feeding pests including annual bluegrass weevils, billbugs and caterpillars.

Spinner is active against many sucking and chewing insect pests by contact and ingestion. Spinner is readily absorbed into plant tissue and is rainfast once it has dried. The rapid translaminar absorption and distribution within leaves provides excellent residual control of turfgrass insects.

In the soil, the active ingredients in Spinner will control listed soil pests upon contact or ingestion and is also readily taken up by plant roots. Both thiamethoxam and cyantraniliprole move upwards in the plant to the site of pest infestation.

Through feeding on the plant, pests are exposed to the active ingredient in Spinner. Feeding will stop within minutes to hours of exposure and be followed by death of the pest. The moderate persistence of Spinner in the soil and foliage also provides residual

control of labeled pests. Spinner is not active as an ovicide or as an insect growth regulator. Because residues on leaf surfaces are quickly degraded, Spinner is compatible with beneficial arthropods.

APPLICATION TO TURFGRASS

Sites of Application

Spinner can be applied to turfgrass on golf course and sod farms and institutional, commercial and residential lawns and landscapes; sports fields; parks; municipal grounds; and cemeteries.

Restrictions:

- For foliar applications, **DO NOT** apply during rain.
- **DO NOT** cultivate within 30 ft of the aquatic area to allow growth of a vegetative filter strip.
- **DO NOT** apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
- **DO NOT** apply this product, by any application method, to linden, basswood, or *Tilia* species.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply with aerial equipment.
- **DO NOT** apply more than 21.2 ounces of Spinner (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per acre per year.
- For turfgrass on institutional, commercial and residential lawns and landscapes; sports fields; parks; municipal grounds; and cemeteries, **DO NOT** apply more than 10.5 ounces of Spinner (0.13 lb of thiamethoxam/A and 0.13 lb of cyantraniliprole/A) per acre per application. These sites may contain flowering weeds that are attractive to bees.

Broadcast Applications to Turfgrass

Apply Spinner as a broadcast application to turfgrass for control of targeted pests. Use sufficient water volume (1.5 - 5 gallons/ 1,000 square feet) to uniformly distribute Spinner over the area being treated and to adequately move the active ingredient into the canopy and thatch layers.

To help prevent grubs, irrigate within seven (7) days of application to move Spinner into the root zone where grubs feed. To control grubs, irrigate within one (1) day of application to move Spinner into the root zone where grubs feed. Maintain adequate soil moisture before and after application for optimum control and healthy turfgrass growth. Excessively wet or dry conditions may impact the performance of Spinner against white grubs and mole crickets. Do not mow turf until the treated area has been irrigated or rainfall has occurred to allow for maximum and uniform uptake into turfgrass.

Broadcast application to Turfgrass to control listed pests

Pests	Application Timing	Dosage of Spinner
Larvae (white grubs) of: Asiatic Garden Beetle (<i>Maladera castanea</i>) European Chafer (<i>Amphimallon majalis</i>) Green June Beetle (<i>Cotinis nitida</i>) Japanese Beetle (<i>Popillia japonica</i>) May or June Beetle (<i>Phyllophaga</i> spp.) Northern Masked Chafer (<i>Cyclocephala borealis</i>) Oriental Beetle (<i>Anomala orientalis</i>) Southern Masked Chafer (<i>Cyclocephala lurida</i>) Dung beetle (<i>Aphodius omissus omissus</i>) Black Turfgrass Ataenius (<i>Ataenius spretulus</i>)	Begin applications up to 45 days before the historical peak of adult flight to 2nd instar grub of the species being targeted. For optimum control, treat from peak flight to peak egg hatch. Optimum control will be obtained from egg hatch to second instar (grubs less than half their full size).	For golf courses and sod farms only: Apply one application of 16 to 21 ounces/A or
Turf caterpillars including: Armyworms Cutworms Sod webworms	For optimum control, begin applications when populations are first observed and delay watering (irrigation) and mowing for 24 hours after application.	Apply two applications of 8 to 10.5 ounces/A on a 30- to 45-day interval.
Annual Bluegrass Weevil (<i>Listronotus maculicollis</i>)	Apply when overwintering adult weevils are observed in late April and early May. Spinner provides control of larvae, pupae and adults.	-----
Billbugs Bluegrass billbug (<i>Sphenophorus parvulus</i>) Denver billbug (<i>Sphenophorus cicastristriatus</i>)	Apply when overwintering adult billbugs are observed in late April and early May.	For application to institutional, commercial and residential lawns and landscapes;
Craneflies (<i>Tipula</i> spp.)	For optimum control, apply at oviposition (egg lay).	sports fields;
Mole crickets (<i>Scapteriscus</i> spp.) (suppression)	To suppress damage, treat from first egg hatch to peak egg hatch.	parks;
Chinch bugs (<i>Blissus</i> spp.)	Apply when young nymphs are first observed.	municipal grounds; and cemeteries:
Flea beetles Greenbugs Leafhoppers Spittlebugs	For optimum control, make application(s) when populations are first observed.	Apply two applications of 8 to 10.5 ounces/A on a 30- to 45-day interval.
Ants (excluding Carpenter, Harvester, and Pharaoh ants)	Treat when ant mounds are first observed. For optimum control on green and tee surfaces, treat the affected area plus a surrounding 30-foot buffer. For fairways and roughs, treat at least 1.5 times the infested area. Water in to adequately move active ingredient to target area. For	DO NOT apply more than 10.5

	additional knockdown activity, utilize with Scimitar GC Insecticide in an insect control spray program. Consult the Scimitar GC Insecticide label for use.	ounces/A per application.
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DO NOT apply more than 21 ounces/A of product (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per year.

DO NOT apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.

For specific information about developmental stages of the target pest and optimal timing of applications, consult with your State Cooperative Extension Service.

- For turf with heavy thatch (more than 0.75 inches), use the higher rates within the specified range.
- Spinner is not phytotoxic to any major turfgrass species.
- Spinner provides suppression of mole crickets on turfgrass. Suppression can mean either erratic control, ranging from good to poor, or a consistent level of control below that generally acceptable for commercial purposes.

[Options 2 and 3]

USE INFORMATION – ORNAMENTAL LANDSCAPE PLANTS

Spinner is a broad-spectrum insecticide that is effective when applied at label rates to the foliage. Spinner is active against listed sucking and chewing insect pests by contact and ingestion.

Application to Ornamental Plants

Spinner may be used on most ornamental plants in residential landscaped areas and landscaped areas around institutional, public, commercial and industrial buildings; parks; recreational areas; and athletic fields (including trees, shrubs, flowers, evergreens, foliage plants, and groundcovers). Test Spinner alone or the mixture to be applied (including adjuvants) on a small number of plants to determine any adverse plant safety effects before making large-scale applications.

Applications of Spinner to yellow varieties of Honey Locust (*Gleditsia triacanthos*) may result in leaf chlorosis and leaf abscission. The effects are temporary. Test Spinner alone or the mixture to be applied on a small number of the Honey Locust varieties you intend to treat and determine any adverse plant safety effects before making large-scale applications.

- **DO NOT** apply this product, by any application method, to linden, basswood, or *Tilia* species.

APPLICATION PROCEDURES

Foliar Applications

Make foliar applications in an adequate water volume to achieve thorough and uniform coverage without excessive runoff (to drip). Use of an adjuvant applied with Spinner may increase efficacy. Select an adjuvant that does not bind Spinner to the leaf surface, limiting absorption into the foliage. Spinner can be applied in a range of spray volumes (concentrate to dilute spray volumes), provided thorough and uniform coverage is obtained.

Handheld Application Equipment

Applications can be made through most types of low-pressure handheld application equipment.

DO NOT apply through any type of handheld fogger equipment.

Application Timing

Begin foliar applications when labeled pests first appear or when economic thresholds have been reached.

Apply Spinner preventatively to plants that have low economic thresholds or are prone to infestation by listed insect pests.

Spray Drift Precautions

As with all crop protection products, it is important to avoid off-target movement. Do not allow spray to drift onto adjacent land, crops, or aquatic areas. To avoid spray drift:

- Make applications when wind velocity favors on-target product deposition (approximately 3-10 mph). Do not apply when wind velocity exceeds 10 mph. Do not make applications when wind gusts approach 10 mph.
- Do not make applications when wind direction is toward the aquatic area to reduce the risk of exposure to sensitive aquatic areas.
- Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift, and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage.

SPECIFIC USE DIRECTIONS – ORNAMENTAL LANDSCAPE PLANTS

Foliar Applications

Pests	Rate	Use Restrictions
Ants (excluding harvester, carpenter and Pharaoh ants) Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Southern Armyworm Sugarbeet Armyworm Yellowstriped Armyworm	5-10.0 oz/A or 0.6-1.1 oz/5,000 sq ft	Make the first application when economic action levels for the target pest are reached. For crops without action levels, make the first application before pest populations cause significant damage to the host plant. A second application, if needed, may be made but no sooner than 14 days Apply higher use rates in rate range for longer control or high insect populations. For leaf-gall-forming insects, apply during egg laying of the generation being targeted.
Adelgids (including Hemlock Woolly Adelgid) Lace Bugs Leaf Beetles Leafhoppers Leafminers Leaf gall forming insects Mealybugs Midges Plant Bug Psyllids (including Asian Citrus Psyllid) Sawflies Soft Scales Thrips – foliar feeding Whiteflies	10.5 oz/A or 1.2 oz/5,000 sq ft	For concentrated spray volumes, apply the same amount of product per unit area as would be applied with dilute spray volumes.

- **DO NOT** exceed 21 oz/A of product (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per year.
- **DO NOT** apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.
- For specific information about developmental stages of the target pest, associated damage and action thresholds to properly time applications, consult with your State Cooperative Extension Service.

[Options 2 and 3]

USE INFORMATION – ORNAMENTAL PLANTS, NON-BEARING FRUIT AND NUT TREES (DEFINED AS CROPS THAT WILL NOT BEAR FRUIT WITHIN ONE YEAR OF APPLICATION), CHRISTMAS TREE SEEDLINGS (LINER PRODUCTION AND FIELD APPLICATION), AND LISTED VEGETABLE TRANSPLANTS GROWN FOR SALE TO CONSUMERS

Spinner is a broad-spectrum insecticide that is effective when applied at label rates to the foliage, soil and growing media. Spinner is active against listed sucking and chewing insect pests by contact and ingestion.

Application to Ornamental Plants

Spinner can be used on most ornamental plants. Test Spinner alone or the mixture (including adjuvants) to be applied on a small number of plants to determine any adverse plant safety effects before making large scale applications.

Among container-grown ornamentals and ornamentals grown in planting or liner beds, some plant species may be sensitive to fertilizers. Determine the plant safety of Spinner applied with fertilizers. Test the mixture on a small number of plants to determine any adverse plant safety effects before making large-scale applications.

Applications of Spinner to yellow varieties of Honey Locust (*Gleditsia triacanthos*) may result in leaf chlorosis and leaf abscission. The effects are temporary. Test Spinner alone or the mixture to be applied on a small number of the Honey Locust varieties you intend to treat and determine any adverse plant safety effects before making large-scale applications.

APPLICATION PROCEDURES

Foliar Applications

Make foliar applications in an adequate water volume to achieve thorough and uniform coverage without excessive runoff (to drip). Use of an adjuvant applied with Spinner may increase efficacy. Select an adjuvant that does not bind Spinner to the leaf surface, limiting absorption into the foliage. Spinner can be applied in a range of spray volumes (concentrate to dilute spray volumes), provided thorough and uniform coverage is obtained.

Handheld Application Equipment

Applications can be made through most types of low-pressure handheld application equipment.

DO NOT apply through any type of handheld fogger equipment.

DO NOT apply with aerial equipment.

Automatic Cold Fogger Applications – Greenhouses

Applications can be made in greenhouses with automatic cold fogger equipment. Apply the same amount of Spinner per unit area as would be applied in a dilute spray volume over the same area.

Do not apply through fogger equipment requiring workers to be present in the greenhouse during the fogger application.

Important: Read and follow the REI and PPE requirements for **Automatic Cold Fogger Use in Greenhouses** in the Worker Protection Standard **AGRICULTURAL USE REQUIREMENTS** box.

Soil or Soil-less Media Applications

Spinner is effective as a soil and systemic insecticide when applied to the soil using band, broadcast, or drench applications. When applying Spinner as a drench to plants in pots and containers, apply enough solution to sufficiently wet $\frac{1}{2}$ - $\frac{3}{4}$ of the root zone without allowing runoff out of the container. With irrigation or rainfall, move Spinner into the root zone of plants or the location of soil-dwelling pests, preferably within 3 days of treatment and, optimally, within 24 hours. Excessive watering or heavy rainfall may reduce the effectiveness of Spinner. Allow a minimum of 7 days after watering in for maximum uptake of Spinner by the plant's root system.

Do not apply to soils or growing media above field or pot capacity. Do not apply to waterlogged soil or growing media.

Application Timing

Begin foliar applications when labeled pests first appear or when economic thresholds have been reached.

For applications made to growing media (soil or soil-less media), Spinner must move to the feeding site of the target pest, whether this is in the root zone or the above-ground portion of the host plant. Therefore, control of pests from the systemic activity of

Spinner may be delayed for 1 or more weeks depending on plant size, rate of uptake from the soil, or rate of translocation within the plant, etc.

Systemic activity in large plants such as those in field nurseries may require several weeks for control of stem and foliar pests. Apply Spinner preventatively to plants that have low economic thresholds or are prone to infestation by listed insect pests.

Application through Irrigation Systems

Apply Spinner only through micro-irrigation systems (for example, drip, trickle, spaghetti tubes, and micro-sprinklers), overhead irrigation, ebb-and-flow and flood-floor irrigation, or hand-held or motorized calibrated irrigation equipment. Do not apply this product through any other type of irrigation equipment. Do not overwater for a minimum of 7 days after watering in for maximum uptake of Spinner by the plant's root system. See additional precautions regarding irrigation system application below.

Chemigation

Uniform Water Distribution and System Calibration: The irrigation system must provide uniform distribution of treated water. Plant injury, lack of effectiveness, or illegal pesticide residues in the plant may result from non-uniform distribution of treated water.

The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Chemigation Monitoring: A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Required System Safety Devices: The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or Venturi injector) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Instructions for Public Water Systems

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or Venturi injector) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Ebb-and-Flow and Flood-Floor Application

To determine the water volume uptake of Spinner in ebb-and-flow and flood-floor applications, bring a minimum of 10 plants up to a known field capacity and allow them to dry out for one to two days. Re-wet these plants to determine how much water on average each plant will absorb to bring it back to field capacity. Use the water volume absorbed per plant, multiply by the number of pots of the same size being treated and add the minimum water volume to irrigate the area. This should minimize the return back to the storage tank. Re-use the returned volume with subsequent irrigation or nutrients on the same plants. Dilute Spinner in a minimum of 100 gallons for ebb-and-flow and flood-floor application.

Spray Drift Precautions

As with all crop protection products, it is important to avoid off-target movement. Do not allow spray to drift onto adjacent land, crops, or aquatic areas. To avoid spray drift:

- Make applications when wind velocity favors on-target product deposition (approximately 3-10 mph). Do not apply when wind velocity exceeds 10 mph. Do not make applications when wind gusts approach 10 mph.
- Do not make applications when wind direction is toward the aquatic area to reduce the risk of exposure to sensitive aquatic areas.
- Do not cultivate or plant crops within 25 ft of the aquatic area as to allow growth of a vegetative filter strip.
- Do not make applications during temperature inversions. Inversions are characterized by stable air and increasing temperatures with increased height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- Use the largest droplet size consistent with good pest control. Small droplets are more prone to spray drift, and can be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.
- For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

- Apply as close to target plants as practical to obtain a good spray pattern for adequate coverage. Do not make applications more than 10 ft. above the crop canopy.

SPECIFIC USE DIRECTIONS

Foliar Applications

Ornamental plants, non-bearing fruit and nut trees (defined as crops that will not bear fruit within one year of application), and Christmas tree seedlings grown in greenhouses, lath and shade houses, containers, field nurseries and interiorscapes

Pests	Rate	Use Restrictions
Ants (excluding harvester, carpenter and Pharaoh ants) Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Southern Armyworm Sugarbeet Armyworm Yellowstriped Armyworm	2.5-5.0 oz/100 gal or 5-10.0 oz/A or 0.6-1.1 oz 5,000 sq ft	Make the first application when economic action levels for the target pest are reached. For crops without action levels, make the first application before pest populations cause significant damage to the host plant. Re-apply as needed but no sooner than every 14 days. Apply higher use rates in rate range for longer control or high insect populations. For leaf- gall-forming insects, apply during egg laying of the generation being targeted.
Adelgids (including Hemlock Woolly Adelgid) Lace Bugs Leaf Beetles Leafhoppers Leafminers Leaf gall forming insects Mealybugs Midges Plant Bug Psyllids (including Asian Citrus Psyllid) Sawflies Soft Scales Thrips – foliar feeding Whiteflies	10.5 oz/100 gal or 10.5 oz/A or 1.2 oz/5,000 sq ft	For concentrated spray volumes, apply the same amount of product per unit area as would be applied with dilute spray volumes.

- For ornamental crops grown outdoors, do not exceed 21 oz/A of product (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per year.
- For ornamental crops grown indoors, do not exceed 21 oz/A of product (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per crop.
- Do not apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.
- For specific information about developmental stages of the target pest, associated damage and action thresholds to properly time applications, consult your State Cooperative Extension Service.

Applications to Soil or Other Growing Media

Ornamental plants, non-bearing fruit and nut trees (defined as crops that will not bear fruit within one year of application) and Christmas tree seedlings grown in greenhouses, lath and shade houses, containers, field nurseries and interiorscapes

Pests	Rate	Use Restrictions
Aphids Fungus gnats Leaf Beetles Leafminers Mealybugs Root Aphid Root Weevil larvae (including <i>Diaprepes abbreviatus</i>) Soft Scales Thrips – foliar feeding (suppression) Whiteflies	5-10.5 oz/100 gal or 10.5 oz/A or 1.2 oz/5,000 sq ft	Apply to the soil or growing media to help prevent pests in situations where tolerance of insects or damage is low. Allow a minimum of 1 week for smaller plants and at least 2 weeks for large plants (typically found in nurseries, plantations) to translocate Spinner to feeding sites of the target pest. Re-apply as needed, but no sooner than every 14 days. Apply as a broadcast, band, or drench.
Larvae (Grubs) of: <i>Aphodius</i> spp. Asiatic garden beetle Billbugs European chafer Green June beetle Japanese beetle May or June beetle Northern masked chafer Oriental beetle Scarab beetle Southern masked chafer	7.5-10.5 oz/100 gal	Apply from adult flight through peak egg hatch of the targeted species. Apply as a drench treatment to containers and over the active root zone. For drench and chemigation applications made to containerized plant material, apply sufficient volume to moisten the media around the root zone without loss from the bottom of the container.
Fire Ants	1.3-3.8 oz/10 gal	Individual Mound Treatment: For small mounds (<6 inch in diameter), apply 1 gal of water per mound and for larger mounds apply 2-3 gal of dilute solution per mound for optimum control. Direct the application to the center of the mound, including a 6-inch diameter circle.

- For broadcast applications, typical water volume is 1.5 - 5 gal/1,000 sq ft
- For ornamental crops grown outdoors, do not exceed 21 oz/A of product (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per year.
- For ornamental crops grown indoors, do not exceed 21 oz/A of product (0.2625 lb of thiamethoxam/A and 0.2625 lb of cyantraniliprole/A) per crop.
- Do not apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.
- Do not over-water for a minimum of 7 days after watering in for maximum uptake of Spinner by the plant root system.
- For specific information about developmental stages of the target pest, associated damage, and action thresholds to properly time applications, consult with your State Cooperative Extension Service.

Banded Application

For banded applications, apply uniformly over the row or active root zone in a minimum water volume of 5 gallons per 1,000 linear feet. Irrigate within 24 hours of application if sufficient rainfall (1/4-1 inch of water) doesn't occur.

Spinner rate (ounces of product) per 1,000 linear feet of row for specific row spacing

Rate/A	Lb ai/A	Row Spacing										
		3 ft	4 ft	4.5 ft	5 ft	6 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft
10.5 oz/A	0.26	0.7	1.0	1.1	1.2	1.4	1.7	1.9	2.2	2.41	2.66	2.9

Drench Application

When applying Spinner as a drench, apply enough solution to sufficiently wet $\frac{1}{2}$ - $\frac{3}{4}$ of the root zone without allowing runoff out of the container. Use the following chart as a guideline for the number of pots that this volume will treat based on the size of the pot and drench volume. Use higher drench volumes for woody ornamentals, containers having multiple plants, and those crops with longer production times or needing longer protection.

Note: Drench volumes will vary based on the porosity of the growing media. Conduct your own tests to determine correct drench volumes for your growing media.

Pot Size	Suggested Drench Volume fl oz/pot	Pots Treated per 100 gal
4-inch standard	2-3	6,400-4,267
6-inch standard	3-4	4,267-3,200
8-inch standard	5-10	2,560-1,280
10-inch standard	12.5-25	1,024-512

Foliar Application to Vegetable Plants Grown for Sale to Consumers

For tomatoes, peppers, eggplant, and cucurbit plants grown for sale to consumers

Crop	Pests	Rate	Use Restrictions
Fruiting Vegetables Eggplant Ground-cherry Pepino Peppers (bell, chili, cooking, pimento, and sweet) Tomatillo Tomato	Aphids Beet Armyworm Colorado Potato Beetle Fall Armyworm Flea Beetles Hornworm species Leafhoppers Leafminers Loopers Potato Psyllid Southern Armyworm Thrips (Foliar Feeding) Tomato Fruitworm Tomato Pinworm Whiteflies Yellowstriped Armyworm	5.0–7.0 oz/A or 0.6–0.8 oz/ 5,000 sq ft	Apply before pests reach damaging levels. Apply higher rates within the listed rate range for heavy infestations.

- For transplants grown outdoors, do not exceed 14.0 oz/A (1.6 oz/5,000 sq ft) of Spinner (0.175 lb of thiamethoxam/A and 0.175 lb of cyantraniliprole/A) per year.
- For transplants grown indoors, do not exceed 14.0 oz/A (1.6 oz/5000 sq ft) of Spinner (0.175 lb of thiamethoxam/A and 0.175 lb of cyantraniliprole/A) per crop.
- Do not apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.
- Allow at least 5 days between applications.
- Pre-Harvest Interval: 1 Day
- Water Volume: Use sufficient water volume to insure thorough coverage of foliage. Do not use less than 10 GPA.

Cucurbit Vegetables Chayote Chinese waxgourd Citron melon Cucumber Edible gourd Gherkin <i>Momordica</i> species Muskmelon Pumpkin Squash: summer and winter Watermelon	Aphids Cabbage Looper Corn Earworm Cucumber Beetles ¹ Flea Beetles Leafminers Melonworm Pickleworm Rindworm species complex Tobacco Budworm Whiteflies	5.0–7.0 oz/A or 0.6–0.8 oz/ 5,000 sq ft	Apply before pests reach damaging levels. Apply higher rates within the listed rate range for heavy infestations.
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- For transplants grown outdoors, do not exceed 14 oz/A (1.6 oz/5,000 sq ft) of Spinner (0.175 lb of thiamethoxam/A and 0.175 lb of cyantraniliprole/A) per year.
- For transplants grown indoors, do not exceed 14 oz/A (1.6 oz/5,000 sq ft) of Spinner (0.175 lb of thiamethoxam/A and 0.175 lb of cyantraniliprole/A) per crop.

- Do not apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.
- Allow at least 5 days between applications.
- Pre-Harvest Interval: 1 day
- Water Volume: Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA.
- Pest Control: ¹Suppression

Crop	Pests	Rate	Use Restrictions
<p>Brassica (Cole) Leafy Vegetables</p> <p>Head & Stem Brassica Broccoli, Broccoli Chinese (gai lon) Brussels sprouts Cabbage Cabbage, Chinese (napa) Cabbage, Chinese mustard (gai choy) Cauliflower Cavalo broccolo Kohlrabi</p> <p>Leafy Brassica Greens Broccoli raab (rapini) Cabbage, Chinese (bok choy) Collards Kale Mizuna Mustard greens Mustard spinach Rape greens</p>	Alfalfa Looper Aphids Beet Armyworm Cabbage Looper Cabbage Webworm Corn Earworm Diamondback Moth Fall Armyworm Flea Beetles Imported Cabbageworm Leafminers (larvae) Sugarbeet Armyworm Thrips (Foliar Feeding) Whiteflies Yellowstriped Armyworm	5.0–7.0 oz/A or 0.6–0.8 oz/ 5,000 sq ft	Apply before pests reach damaging levels. Apply higher rates within the listed rate range for heavy infestations.

- For transplants grown outdoors, do not exceed 14 oz/A (1.6 oz/5,000 sq ft) of Spinner (0.175 lb of thiamethoxam/A and 0.175 lb of cyantraniliprole/A).
- For transplants grown indoors, do not exceed 14 oz/A (1.6 oz/5,000 sq ft) of Spinner (0.175 lb of thiamethoxam/A and 0.175 lb of cyantraniliprole/A) per crop.
- Do not apply more than 0.2625 lb ai/A thiamethoxam or 0.4 lb ai/A cyantraniliprole per calendar year regardless of formulation or method of application.
- Allow at least 5 days between applications.
- Pre-Harvest Interval (PHI):
- 1 day for Head & Stem *Brassica*
- 7 days for Leafy *Brassica* Greens
- Water Volume: Use sufficient water volume to ensure thorough coverage of foliage. Do not use less than 10 GPA.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage

Store in a cool, dry place.

Pesticide Disposal

Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used according to label instruction, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup, procedures and disposal of wastes.

Container Handling [(*bag*)]

Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or by other procedures allowed by state and local authorities.

Container Handling [(*plastic container*)]

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Spinner™, the ALLIANCE FRAME, the Syngenta logo, and the PURPOSE ICON are trademarks of a Syngenta Group Company

Viton™ is a trademark of The Chemours Company FC, LLC

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Spinner 1424 MAS 0622 AMEND JUNE2023-CL-jd-6/15/23
000100-01424.20230615.SPINNER.AMEND.0623-CL

Attachment 10



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Jake Vukich
Senior Product Registration Manager
FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Benevia Insect Control, Exirel Insect Control and Verimark Insect Control
EPA Registration Numbers: 279-9614, 279-9615 and 279-9616
Application Date: June 15, 2023
Decision Numbers: 593329, 593330 and 593331

Dear Mr. Vukich:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided FMC Corporation (“FMC”) complies with all terms and conditions listed below.

Terms and Conditions

FMC must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the Services. The Services will make the final determination as to the potential for

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jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify FMC in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, FMC must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, FMC may respond by submitting a request for voluntary cancellation of this product. If FMC fails to comply with this term, FMC has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under FMC's control, FMC must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by FMC under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate FMC to provide additional labeling for product that bears the previously approved label but is not under FMC's control as of the date of this letter. However, FMC should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹ and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCSA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,

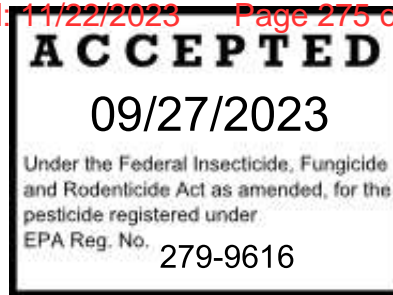


Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.



WITH CYAZYPYR® active

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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For soil applications to brassica, bulb, cucurbit, fruiting, leafy, legume (except soybeans), root and tuberous and corm vegetables; citrus trees, peanuts and tobacco for pest management of sucking and chewing insects that can vector certain plant diseases, aiding in optimization of the crop's potential.

<u>Active Ingredient</u>	<u>By Weight</u>
Cyantraniliprole	
3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-1H-pyrazole-5-carboxamide	18.66%
<u>Other Ingredients</u>	81.34%
TOTAL	100.0%

VERIMARK® insect control is a suspension concentrate. SHAKE WELL BEFORE USING. Contains 1.67 lb. active ingredient per gallon.

EPA Reg. No. 279-9616

EPA Est. No. _____

Nonrefillable Container

Refillable Container

Net: _____

OR

Net: _____

Not for sale, sale into, distribution and/or use in Nassau and Suffolk counties of New York State.

KEEP OUT OF REACH OF CHILDREN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

For questions regarding emergency medical treatment, you may contact 1-800-331-3148 for information.

PRECAUTIONARY STATEMENTS

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

After the product has been diluted in accordance with label directions for use, shirt, pants, socks, and shoes are sufficient Personal Protective Equipment. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Sold By



FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104

PHYSICAL OR CHEMICAL HAZARDS

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

Surface Water Advisory-

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several weeks after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of cyantraniliprole from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Ground Water Advisory-

This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS: Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

RESTRICTIONS

- Do not make ground applications within 25' of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds). Do not cultivate within 30' of these aquatic areas to allow growth of a vegetative filter strip.
- Do not treat plants being grown for transplanting in nurseries, plant propagation houses or greenhouses by commercial transplant producers except as specified in the application section of this label.
- Do not use on crops grown to harvest in greenhouses.
- Do not make any aerial or airblast applications with VERIMARK insect control. VERIMARK insect control is only to be applied to the soil by ground or drip chemigation application equipment.
- May be used on crops on this label grown for seed production.
- Do not use in residential areas.
- Do not apply VERIMARK insect control through any irrigation system unless specified in the crop section of this label or in supplemental labeling.
- Unless otherwise stated for a specific crop, do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per year. This is the total from all application methods (e.g. seed, soil, foliar).

AGRICULTURAL USE REQUIREMENTS

VERIMARK insect control must be used only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours. Exception: if the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Coveralls
- Shoes plus socks
- Chemical resistant gloves (made of any waterproof material)

VERIMARK insect control must be used in accordance with the directions for use on this label, in separately issued labeling or exemptions under FIFRA (Supplemental Labels, Special Local Need Registrations, FIFRA Section 18 exemptions, FIFRA 2(ee) Bulletins), or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

VERIMARK insect control is a suspension concentrate that can be applied as: an in-furrow spray at planting, transplant tray drench or float house (tobacco only) by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, transplant water treatment, hill drench at planting, surface band at planting, soil shank injection at planting or other soil injection systems after planting, drip chemigation, including microsprinkler in citrus, or a potato seed piece treatment to control listed insects. VERIMARK insect control is specially formulated to optimize effectiveness following application to soil.

VERIMARK insect control is mixed with water for application.

VERIMARK insect control is a member of the anthranilic diamide class of insecticides acting on insect ryanodine receptors.

VERIMARK insect control is most effective through ingestion of treated plant material. After exposure to VERIMARK insect control, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days. Time drip applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae or nymphs, before populations reach damaging levels.

When pest populations are high, use the highest listed application rate for that pest. For best results when targeting control of sucking pests, begin drip applications when insect populations first appear. VERIMARK insect control has preventative activity, but low curative activity for sucking pests.

INTEGRATED PEST MANAGEMENT

FMC supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds. For best results on sucking pests, apply at specified rates when insects first appear. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

SCOUTING

For drip applications, monitor insect populations to determine whether or not there is a need for application of VERIMARK insect control based on locally determined pest management guidelines. More than one drip chemigation treatment of VERIMARK insect control may be required to control a population of pests.

INSECT RESISTANCE MANAGEMENT

VERIMARK insect control contains the active ingredient cyantraniliprole and is a Group 28 insecticide based on the mode of action classification system of the International Insecticide Resistance Action Committee (IRAC). Insecticides with the same Group Number affect the same biological site of action on the target pest and when used repeatedly in the same treatment area, naturally-occurring resistant individuals may survive correctly applied insecticide treatments, reproduce, and become dominant. To avoid or delay the development of insecticide resistance, a resistance management strategy should be established for the use area. This strategy may include incorporation of cultural and biological control practices, alternation to different mode of action insecticides on succeeding generations, and targeting the most susceptible life stage.

Consult your local or state agricultural authorities and product manufacturer for more information about developing a resistance management strategy.

Unless directed otherwise in the specific crop/pest sections of this label, the best practices are to follow these guidelines to delay the development of insecticide resistance:

- Apply VERIMARK insect control and other Group 28 insecticides within a single “treatment window” to

minimize exposing multiple successive generations of a pest species to the same mode of action insecticides.

- A “treatment window” is defined as the period of insecticidal activity provided by one or more applications of products with the same mode of action.
- A “treatment window”, including residual control, should not exceed 30 days (the length of a typical pest generation).
- Within the Group 28 “treatment window”, make no more than 2 applications of VERIMARK insect control or other Group 28 insecticides.
- Following a Group 28 “treatment window”, rotate to a “treatment window” of effective insecticides with a different mode of action (Group Number).
- The period between Group 28 “treatment windows” should be at least 30 days.
- The total exposure of all Group 28 products applied throughout the crop cycle (from seedling to harvest) should not exceed approximately 50% of the crop cycle or 50% of the total number of insecticide applications targeted at the same pest species.
- For short cycle crops (< 50 days), the duration of the crop cycle may be considered as the Group 28 “treatment window” as long as no Group 28 insecticides are used during the next crop cycle at the same farm location.
- Avoid using less than labeled rates of VERIMARK insect control when applied alone or in tank mixtures.
- Target the most susceptible insect life stages whenever possible.
- Monitor insect populations for product effectiveness. If poor performance occurs and it cannot be attributed to improper application or extreme weather conditions, a resistant pest population may be present.

If resistance to VERIMARK Insect Control develops in your area, VERIMARK insect control or other products with a similar mode of action (Group 28) may not provide adequate control. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area.

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irc-online.org>.

APPLICATION

For drip applications and soil injection after planting, apply at the specified rates before insect populations reach locally determined action thresholds. For best results with sucking pests, begin applications when insects first appear. Consult the cooperative extension service, professional consultants or other qualified authorities for local pest management guidelines in your area.

Apply follow-up treatments of VERIMARK insect control, or EXIREL® insect control as specified, to keep pest populations within threshold limits. Refer to the Resistance Management section of this label for further guidance on follow-up treatments. See individual crop sections of this label for specific minimum spray intervals.

Use sufficient water to obtain thorough distribution of VERIMARK insect control in the root zone.

VERIMARK insect control may be applied by: ground (including an in-furrow spray at planting, transplant tray drench or float house (tobacco only) by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, transplant water treatment, hill drench at planting, surface band at planting, soil shank injection at planting or other soil injection systems after planting, drip or microsprinkler chemigation or as a seed piece treatment). Not all application methods are allowed on all crops; see specific crop sections of this label or other supplemental labeling for application methods which may be used.

SOIL APPLICATIONS

VERIMARK insect control is designed to optimize root uptake and care for tender roots and shoots. When applied to the root zone before, during, or soon after sowing or transplanting, VERIMARK insect control prevents feeding of early season pests, reducing both direct damage and the transmission of some insect-transmitted diseases. This reduction in plant stress early in the crop cycle results in more vigorous plant growth and gets the crop off to a strong start.

VERIMARK insect control must be applied in a manner that ensures the product is in the root growth zone to provide effective control of target pests. VERIMARK insect control is most effective when it is applied so that the roots are at or near the site of application. Manage irrigation so that significant quantities of VERIMARK insect control remain in the root zone where it is most effective. Maintaining soil moisture to field capacity or to meet crop needs and environmental conditions aids in product availability to the roots and can improve efficacy. Applications of VERIMARK insect control to the root zone allow the active ingredient to be transported from the roots through the stems to the foliage. VERIMARK insect control starts translocation to the canopy at application and reaches a protective concentration in 1 to 3 days for seedlings and within 7 days for larger plants. As the plant grows, the roots continue to absorb the available VERIMARK insect control from the soil application site providing extended protection of the plant canopy including new growth.

The length of control provided following soil applications will depend on the rate used, the pest being controlled and the environmental conditions, such as soil type, soil moisture, soil pH, etc. Use the higher rates when pests are expected to

Unless directed otherwise in the specific crop sections of this label, only one at plant soil application of VERIMARK insect control may be made per crop season. Unless directed otherwise in the specific crop sections of this label, A total of two drip chemigation or soil injection applications can be made per season at an application rate not to exceed 10 fl oz of product (0.130 lb ai/A) per application; except in citrus where the maximum rate is 0.391 lb ai/A and at the rates of 0.261 - 0.391 only one application can be made per year. If VERIMARK insect control or another product containing a Group 28 insecticide is applied as an at plant soil application, only one subsequent drip chemigation application of VERIMARK insect control or another Group 28 insecticide can be made.

In-Furrow Spray at Planting

Apply as a narrow band spray into the furrow at the seeding depth.

Transplant tray drench or float house (tobacco only) by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field

This application method is allowed for use by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field. Use only on transplants grown in soil/potting media.

Follow these steps to calculate the amount of VERIMARK insect control and water to use:

1. Determine the number of plants per acre to be planted.
2. Divide the desired VERIMARK insect control rate (fl oz/acre) by the number of plants per acre to be planted (this provides the fluid ounces of VERIMARK insect control per transplant).
3. Multiply the fluid ounces of VERIMARK insect control per transplant times the number of plants in each tray to determine the fluid ounces of VERIMARK insect control per tray.
4. Multiply the fluid ounces of VERIMARK insect control per tray times the number of trays to be treated.
5. Determine the amount of water needed to thoroughly drench transplant plugs in a transplant tray without runoff through the bottom of the tray (see directions for application below). The amount of water needed may vary by size of the transplant and plug. Multiply the amount of water needed per tray times number of trays to be treated.
6. Mix the amount of VERIMARK insect control in the volume of water needed to drench the desired number of trays and follow application instructions below. Make application with properly calibrated spray equipment with continuous agitation.

Application:

If possible discontinue watering 24 hours before treatment so spray solution is absorbed quickly. Apply as a broadcast low pressure coarse high volume spray so that solution runs off from the foliage to the soil/potting media in the tray, but it does not runoff from the bottom of the tray. If necessary, wash solution from foliage to soil by making a second pass with water only before the spray solution dries. It is critical to drive as much of the spray solution as possible into the soil/potting media to maximize product performance. Make application no longer than 3 days before transplanting in the field. Allow tray to dry before transporting to the field for planting, and do not handle treated trays prior to 4 hours after the application without appropriate personal protection equipment as described in the agricultural use requirements section of this label. Do not mix any other product when applying VERIMARK insect control using this application method unless crop safety has been previously shown with the tank mix.

Transplant water treatment or Hill Drench

Transplants should be adequately watered before transplanting. Apply at transplanting in a minimum of 2 fluid ounces of treatment solution per transplant. Ensure water volume is sufficient to thoroughly wet the root zone.

Surface Band at Planting

Apply as a narrow (2 inches or less) surface band spray above the seed line at planting. Incorporate surface band application within 24 hours of application using sufficient irrigation (usually 0.5 – 1.0 inches of water) to reach the seeding depth.

Soil Shank Injection

Use soil shank injection at planting. Applications must be incorporated using sufficient irrigation (usually 0.5 – 1.0 inches of water) to reach the root zone. Shank injection should be placed just below the seed row about 1-2 inches deep.

For insecticide resistance management, it is important to avoid consecutive applications of insecticides with the same mode of action on successive generations of the same pest. See crops on label for treatment rates and additional use information.

APPLICATION SOLUTION PREPARATION

Application equipment must be clean and free of previous pesticide deposits before applying VERIMARK insect control. Fill application tank 1/4 to 1/2 full of water. Add VERIMARK insect control directly to application tank. Mix thoroughly to fully disperse the insecticide, once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Follow the most restrictive of the labeling limitations and precautions of all products used in mixtures.

Acidification of Application Solution - All applications of VERIMARK insect control should be adjusted to approximately pH 4 - 6. For at-plant soil applications, adjust the pH of the application spray tank using a commercially available acidifier. For drip chemigation applications, adjust the pH of the system's pesticide injection tank, supply tank or nurse tank using a commercially available acidifier. The entire drip chemigation system (i.e. the water used in the drip system) does not need to have the pH adjusted. Adjust the pH of the application solution after all products being applied have been added to the tank. Once prepared, an application solution may be held for up to 8 hours before starting the application. Do not store the application solution overnight.

Compatibility - This product can be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. Do not exceed labeled dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing. Concentrated mixtures such as those in a nurse tank and tank mixtures of more than two products can increase the chances of incompatible spray mixtures. A jar test (as described below) should be conducted when label guidance is not given or prior experience with a specific tank mixture is unknown. The jar test should follow the proper sequence of addition at the spray water volume planned to assure that the tank mix is compatible. Constant agitation may be required during mixing and spraying of mixtures.

Steps to conduct a jar test to determine physical tank mix compatibility of VERIMARK insect control with other products:

- Add clean water to jar proportional to the planned water volume that will be used in the spray tank (a jar size of 8-16 oz is acceptable).
- Using the most restrictive PPE of the products to be tested, mix proper proportions of VERIMARK insect control and desired tank mix partner(s) as will be present in the spray tank, add one product at a time following the sequence of addition according to formulation type provided in this label.
- Seal and shake mixture after each product is added.
- Allow to stand for 1 hour.
- View jar to determine if settling, flocculation, crystallization or any other undesirable changes have happened.
- If none of the above is observed or the solution can be easily remixed after shaking, the mixture is compatible with VERIMARK insect control.
- If the tank mix is not compatible, a higher water volume, reduced rate of the tank mix partner(s), reduced number of tank mix partners or a compatibility agent may be needed.

Tank Mixing - The crop safety of all tank mixtures with VERIMARK insect control which may include physically compatible pesticides, fertilizers, adjuvants, and/or additives, has not been tested. When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on VERIMARK insect control product labeling or in other FMC product use instruction, it is important to first understand crop safety. To test for crop safety, prepare a small volume of the intended tank mixture, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur. FMC will not be responsible for any crop injury arising from the use of a tank mixture that is not specifically described on VERIMARK insect control product labeling or in other FMC product use instruction.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations, and directions for use, on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements on each product in the tank mixture.

Tank Mixing Sequence -Add different formulation types in the sequence indicated below*. Allow time for complete mixing and dispersion after addition of each product.

1. Water soluble bags (WSB)
2. Water soluble granules (SG)
3. Water dispersible granules (WG, XP, DF)
4. Wettable powders (WP)
5. VERIMARK insect control and other water based suspension concentrates (aqueous flowables) (SC)
6. Water soluble concentrates (SL)
7. Suspoemulsions (SE)
8. Oil based suspension concentrates (OD)
9. Emulsifiable concentrates (EC)
10. Surfactants, oils, adjuvants
11. Soluble fertilizers
12. Drift retardants

* Unless otherwise specified by manufacturer directions for use or by local experience.

The following types of irrigation equipment may be used for chemigation applications: drip (trickle) or strip tubing irrigation systems. Microsprinkler applications can be made in citrus.

Do not connect any irrigation system used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices are in place. Public water system means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year.

See "**Required System Safety Devices For All Chemigation Systems**" at the end of the Chemigation section.

APPLICATION INSTRUCTIONS

DRIP (TRICKLE) AND MICROSPRINKLER CHEMIGATION

VERIMARK insect control must be applied in a manner that ensures the product is in the root zone. VERIMARK insect control must be in the root zone to provide effective control of target pests. VERIMARK insect control is most effective when it is applied so that the roots are at or near the site of application; manage irrigation so that significant quantities of VERIMARK insect control remain in the root zone where it is most effective. Unless directed otherwise in the specific crop sections of this label, a total of two applications can be made per crop season. Any subsequent applications made with products that contain cyantraniliprole must be foliar applications.

1. Do not begin applications until after crop emergence in direct seeded crops.
2. Do not make applications if soil moisture is below the level required for active plant growth.
3. This product must be applied uniformly in the root zone or poor performance may result. Drip tape or emitters must be located within or directly adjacent to the root zone. Microsprinkler spray patterns must include the majority of the tree's root zone.
4. The drip and microsprinkler systems must be properly designed, free of leaks, and operated in a manner that provides uniform application of water throughout the field or grove.
5. In most situations, this product should be applied during the first 1/3 of the irrigation cycle, starting just after the system has come up to pressure.
6. The minimum injection period is the time that it takes water to move from the injection point to the furthest emitter in the irrigation zone (propagation time). If this time is not known, it can be calculated by measuring the time for a soluble dye to move from the injection point to the farthest emitter. A longer injection improves uniformity throughout the zone, but needs to allow for at least an equal period of water to flush the system and move the product through the soil.
7. VERIMARK insect control must not be applied at the same time that a drip irrigation line clean out product is being used as performance may be reduced.

Directions for Chemigation:

Preparation

A pesticide tank is recommended for the application of VERIMARK insect control in drip chemigation systems.

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. With the mix tank 1/4 to 1/2 full with water and the agitator running, measure the required amount of VERIMARK insect control and add it to the tank. Then add additional water to bring your total pesticide mixture up to the desired volume for your application. Note: Always add the VERIMARK insect control to water, never put VERIMARK insect control into a dry tank or other mixing equipment without first adding water. See "Tank Mixing Sequence" section of the container label for tank mixing sequence. Continue to agitate the mixture throughout the application process. Use mechanical or hydraulic agitation, do not use air agitation.

Injection Into Chemigation Systems

Inject the proper amount of VERIMARK insect control into the irrigation water flow using a positive displacement injection pump or a Venturi injector. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water.

Uniform Water Distribution

The irrigation system used for application of VERIMARK insect control must provide for uniform distribution of VERIMARK insect control treated water. Non-uniform distribution can result in crop injury, lack of effectiveness or illegal pesticide residues in or on the crop being treated. Ensure the drip chemigation system is operating properly to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent or other experts if you have questions about achieving uniform distribution of the application.

Monitoring of Chemigation Applications

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for applicators and other handlers when making adjustments or repairs on the chemigation system when VERIMARK insect control is in the irrigation water.

Operation

Start the water pump and let the system achieve the desired pressure before starting the injector. Start the injector. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

Cleaning the System

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

REQUIRED SYSTEM SAFETY DEVICES FOR ALL CHEMIGATION SYSTEMS

1. The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering device, such as a positive displacement pump or a Venturi injector, that provides uniform injection of the product, is effectively designed and constructed of materials compatible with the product, and is capable of being fitted with a system interlock.
7. Chemigation systems connected to public water systems must contain a functional, reduced- pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

SPRAY TANK CLEANOUT

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain application equipment. Thoroughly rinse and flush all application equipment with clean water.

Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

CONTROLLING DROPLET SIZE - GROUND APPLICATION

For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

- Nozzle Type - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- Pressure - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- Flow Rate/Orifice Size - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

BOOM LENGTH AND APPLICATION HEIGHT

- Application Height (ground) - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas.

Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground, or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, and not interfering with uniform deposition of the product.

SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology.

CROP ROTATION

Crops on this label and the following crops or crop groups may be planted immediately following the last application of VERIMARK insect control: Brassica Leafy Vegetables (Crop Group 5); Bulb Vegetables (Crop Group 3-07); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Vegetables (except brassicas) (Crop Group 4); Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Crop Subgroup 13- 07H); Oilseeds (Crop Group 20); Peanuts; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.

The following crops or crop groups may be planted 30 days following the last application of VERIMARK insect control: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.

There is no plant back restriction for conversion of a treated field to, or for making a new or replacement planting into

established orchards or fields of, Bushberries (Crop Subgroup 13-07B); Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).

All other crops cannot be planted until 12 months after the last application of VERIMARK insect control.

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Brassica (Cole) Leafy Vegetables (Crop Group 5) Including Broccoli, Broccoli Chinese Broccoli raab, Brussels sprouts, Cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage, Cauliflower, Cavalo broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, Turnip greens	Soil at Planting (an in-furrow spray, transplant tray drench by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, transplant water treatment, hill drench, surface band, soil shank injection)	Beet armyworm Corn earworm Diamondback moth† Imported cabbageworm Western yellowstriped armyworm	0.065 - 0.130	5 - 10	N/A	4
		Cabbage looper Cabbage webworm	0.088 - 0.130	6.75 - 10		
		Cabbage aphid Flea beetle Green peach aphid Leafminers (<i>Liriomyza</i> spp.) Whitefly*	0.088 - 0.176	6.75 - 13.5		
		Thrips (foliage feeding only)§ Cabbage maggot	0.130 - 0.176	10 - 13.5		
	Drip chemigation**	Beet armyworm Corn earworm Diamondback moth† Imported cabbageworm Western yellowstriped armyworm	0.065 - 0.130	5 - 10	1	
		Cabbage looper Cabbage webworm Cabbage aphid Flea beetle Green peach aphid Leafminers (<i>Liriomyza</i> spp.) Whitefly*	0.088 - 0.130	6.75 - 10		
		Thrips (foliage feeding only)§	0.130	10		
		§ - Suppression only. Use as part of an overall effective thrips control program. Rotate to products with different modes of action. * - Allow 1 - 3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect the transplants following an at-plant application. During that time and when populations are high, use in conjunction with an effective foliar whitefly control program. ** - Begin drip application when populations first appear. Allow 1-3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect. Minimum application interval between drip chemigation treatments is 10 days. Do not apply more than 2 drip chemigation applications of VERIMARK insect control per crop. Rotate with products with different modes of action. † - Diamondback moth resistance management - Do not apply VERIMARK insect control (or other Group 28 insecticides) more than twice within any 30 day "treatment window". Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (different IRAC Group Number) for at least a 30 day "treatment window" before making any additional applications of VERIMARK insect control (or other Group 28 insecticides). Do not apply less than 5 fl oz of VERIMARK insect control per application per acre for diamondback moth control. Do not make more than 6 total applications per calendar year of any cyantraniliprole containing products (or other Group 28 insecticides) for control of diamondback moth at the same farm location. Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. VERIMARK insect control must be applied uniformly in the root zone to ensure effective control. Surface band application requires a sufficient amount of water post-application to ensure the treatment is moved into the root zone. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet. Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.)				

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Bulb vegetables, (Crop Group 3-07) Chive, fresh leaves; chive, Chinese, fresh leaves; daylily, bulb; elegans hosta; fritillaria, bulb; fritillaria, leaves; garlic, bulb; garlic, great-headed, bulb; garlic, serpent, bulb; kurrat; lady's leek; leek; leek, wild; lily, bulb; onion, Beltsville bunching; onion, bulb; onion, Chinese bulb; onion, fresh; onion, green; onion, macrostem; onion, pearl; onion, potato, bulb; onion, tree, tops; onion, Welsh, tops; shallot, bulb; shallot, fresh leaves	Soil at planting (in-furrow spray)	Thrips (foliage feeding only)§	0.130-0.176	10 - 13.5	1	4
	Drip chemigation	Thrips (foliage feeding only)§	0.088 - 0.130	6.75 - 10		
<p>§ - Suppression only. Use as part of an overall effective control program. Begin drip application when populations first appear, typically 1 thrips adult or larva per plant. Allow 1 - 3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect. Minimum application interval between drip chemigation treatments is 10 days.</p> <p>Do not apply more than 2 drip chemigation applications of VERIMARK insect control per crop. Rotate with products with different modes of action.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>VERIMARK insect control must be applied uniformly in the root zone to ensure effective control.</p> <p>Drip tape must be placed as close to the row of plants as possible to ensure VERIMARK insect control is applied in the root zone. See the SOIL APPLICATION section of the label for additional guidance.</p> <p>Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.)</p>						

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Root vegetables except sugar beets (Crop Subgroup 1B) Beet, garden; burdock, edible; carrot; celeriac; chervil, turnip-rooted; chicory; ginseng; horseradish; parsley, turnip-rooted; parsnip; radish; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret; turnip	Soil at planting (an in-furrow spray, transplant tray drench by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, surface band, soil shank injection)	Cabbage maggot§	0.130 - 0.176	10 - 13.5	N/A	4
<p>§ - Suppression only.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p>						

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Citrus (trees under five feet tall only), (Crop Group 10-10) Australian desert lime; Australia finger-lime; Australia round lime; Brown River finger lime; Calamondin; Citron; Citrus hybrids; Grapefruit; Japanese summer grapefruit; Kumquat; Lemon; Lime; Mediterranean mandarin; Mount white lime; New Guinea wild lime; Orange, sour; Orange, sweet; Pummelo; Russel River lime; Satsuma mandarin; Sweet lime; Tachibana orange; Tahiti lime; Tangelo; Tangerine (mandarin); Tangor; Trifoliate orange; Uniq fruit	Soil Drench or Microsprinkler Chemigation*	For trees 3 feet tall or less: Asian citrus psyllid Citrus leafminer	0.196 - 0.391	15 - 30	1	4
		For trees between 3 feet and 5 feet tall: Asian citrus psyllid Citrus leafminer	0.261 - 0.391	20 - 30		
<p>Two applications can be made to the soil per year at the 15 fluid ounce rate. Do not make 2 successive applications of VERIMARK insect control to citrus. At rates greater than 15 fl oz/A only one application is allowed per year.</p> <p>Use the lower rate for trees under 3 feet tall and the higher rates for trees 3 to 5 feet tall.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>Allow 4-7 days from the time of application for VERIMARK insect control to fully translocate into the aerial portions of the citrus trees.</p> <p>* - Soil drench applications should be made in a minimum of 1/2 to 1 pint of water per tree distributed evenly around the tree root zone. Soil drench applications should be followed by sufficient irrigation to move VERIMARK insect control into the root zone. Wait 24 hours before initiating the next irrigation event.</p> <p>Microsprinkler chemigation application pattern must include a majority of the tree's root zone while minimizing the application to areas where the tree roots are not present. For best results, apply to trees that have been trained to microsprinkler applications. Run the irrigation system for 5- 10 minutes before injecting the VERIMARK insect control into the system to achieve optimal uptake. Apply sufficient water to drive VERIMARK insect control into the root zone. Wait 24 hours before initiating the next irrigation event. See "CHEMIGATION" section for more information.</p> <p>Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.)</p>						

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)	
			Lb. ai per acre	fluid ounces product per acre			
Cucurbit Vegetables (Crop Group 9) Including Chayote (fruit), Chinese wax-gourd (Chinese preserving melon) Citron melon, Cucumber, Gherkin, Edible gourd (includes hyotan, cucuzza, hechima, Chinese okra), <i>Momordica</i> spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon), Pumpkin, Summer squash (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), Watermelon	Soil at planting (an in-furrow spray, transplant tray drench by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, transplant water treatment, hill drench, surface band, soil shank injection)	Beet armyworm Cabbage looper Cotton/melon aphid Leafminers (<i>Liriomyza</i> spp.) Whitefly*	0.088 - 0.176	6.75 - 13.5	1	4	
		Green peach aphid Thrips (foliage feeding only)§ Seed corn maggot (except when applied as shank injection)	0.130 - 0.176	10 - 13.5			
		Striped cucumber beetle	0.176	13.5			
	Drip chemigation Make application(s) in the first half of the crop growing cycle, typically up to peak bloom crop stage (usually approximately 40 days after crop emergence or transplanting).	Beet amyworm (foliage feeding only) Melonworm (foliage feeding only) Pickleworm	0.065 - 0.130	5 - 10			
		Cabbagelooper (foliage feeding only) Cotton/melon aphid	0.088 - 0.130	6.75 - 10			
		Green peach aphid Leafminers (<i>Liriomyza</i> spp.) Striped cucumber beetle Whitefly*	0.130	10			
		<p>§ - Suppression only. Use as part of an overall effective thrips control program. Rotate to products with a different mode of action.</p> <p>* - Allow 1 - 3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect transplants following an at-plant application. Allow 2-5 days for VERIMARK insect control to fully protect the plants following a drip application. During those times and when whitefly populations are high, use in conjunction with an effective foliar whitefly control program.</p> <p>Minimum application interval between drip chemigation treatments is 10 days. Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting.</p> <p>Do not apply more than 2 drip chemigation applications of VERIMARK insect control per crop. Do not make more than one drip chemigation application per crop if an at plant application of VERIMARK insect control was made. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>VERIMARK insect control must be applied uniformly in the root zone to ensure effective control.</p> <p>Surface band application requires a sufficient amount of water post-application to ensure the treatment is moved into the root zone. Drip tape must be placed directly underneath a single row of plants to ensure VERIMARK insect control is applied in the root zone. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet.</p> <p>Cucurbit Yellow Stunting Disorder Virus Suppression: Use of VERIMARK insect control to control whiteflies which may vector the cucurbit yellow stunting disorder virus at a rate of 10-13.5 fl oz/A at planting and at 10 fl oz/A via drip chemigation applied early season will help suppress and slow the expression of cucurbit yellow stunting disorder in cucurbits.</p> <p>Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.)</p>					

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)		
			Lb. ai per acre	fluid ounces product per acre				
Fruiting Vegetables (Crop Group 8-10) African eggplant; Bush tomato; Bell pepper; Cocona; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Groundcherry; Martynia; Naranjilla; Okra; Pea eggplant; Pepino; Pepper, bell; Pepper, nonbell; Roselle; Scarlet eggplant; Sunberry; Tomatillo; Tomato; Tree tomato	Soil at planting (an in-furrow spray, transplant tray drench by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, transplant water treatment, hill drench, surface band, soil shank injection)	Beet armyworm Fall armyworm Southern armyworm Tomato fruitworm Tomato pinworm Western yellowstriped armyworm	0.065 - 0.130	5 - 10	1	4		
		Flea beetles Green peach aphid§ Leafminers (<i>Liriomyza</i> spp.) Loopers Potato aphid§ Whitefly*	0.088 - 0.176	6.75 - 13.5				
		Thrips (foliage feeding only)§	0.130 - 0.176	10 - 13.5				
		Beet leafhopper**	0.176	13.5				
	Drip chemigation or soil injection	Beet armyworm Colorado potato beetle Fall Armyworm Hornworms Southern armyworm Tomato fruitworm Tomato pinworm Western yellowstriped armyworm	0.065 - 0.130	5 - 10				
		Green peach aphid§ Leafminers (<i>Liriomyza</i> spp.) Loopers Potato aphid§ Tomato psyllid§ Whitefly*	0.088 - 0.130	6.75 - 10				
		European corn borer Thrips (foliage feeding only)§	0.130	10				
		<p>§ - Suppression only. Use as part of an overall effective control program. Begin drip application when populations first appear. Rotate with products with different modes of action.</p> <p>* - Allow 1 - 3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect transplants following an at-plant application. Allow 2-5 days for VERIMARK insect control to fully protect plants in the first half of the growing cycle and 7-10 days for plants in the second half of the growing cycle following a drip application. During those times and when whitefly populations are high, use in conjunction with an effective foliar whitefly control program.</p> <p>Minimum application interval between drip chemigation treatments is 10 days. Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting.</p> <p>Do not apply more than 2 drip chemigation or soil injection applications of VERIMARK insect control per crop. Do not make more than one drip chemigation or soil injection application per crop if an at plant application of VERIMARK insect control was made.</p> <p>Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly.</p> <p>VERIMARK insect control must be applied uniformly in the root zone to ensure effective control.</p> <p>Surface band application requires a sufficient amount of water post-application to ensure the treatment is moved into the root zone. Drip tape must be placed directly underneath a single row of plants to ensure VERIMARK insect control is applied in the root zone. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet.</p> <p>Tomato Spotted Wilt Virus and Tomato Yellow Leaf Curl Virus Suppression: Use of VERIMARK insect control to control thrips which may vector the tomato spotted wilt virus and whiteflies which may vector the tomato yellow leaf curl virus at a rate of 10-13.5 fl oz/A at plant and at 10 fl oz/A via drip chemigation applied early season will help suppress and slow the expression of tomato spotted wilt virus and tomato yellow leaf curl virus in fruiting vegetables.</p> <p>**Curly Top Disease Suppression: VERIMARK insect control at 13.5 fl oz/A applied at plant via transplant water or transplant tray drench application is recommended for the suppression of curly top disease when vectored by beet leafhopper.</p> <p>Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.)</p>						

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Leafy Vegetables (non-brassica) (Crop Group 4) Including Amaranth leafy, Arugula, Cardoon, Celery, Celery (Chinese), Celtuce, Chevril, Chinese spinach, Chrysanthemum (edible leaved), Chrysanthemum, garland, Corn salad, Cress (garden), Cress (upland), Dandelion, Dock, Endive (escarole), Florence fennel, Lettuce (head & leaf), Orach, Parsley, Purslane (garden), Purslane (winter), Radicchio, Rhubarb, Spinach, Spinach (vine), Spinach (New Zealand), Swiss chard, Tampala	Soil at planting (an in-furrow spray, transplant tray drench by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field, transplant water treatment, hill drench, surface band, soil shank injection)	Beet armyworm Corn earworm Diamondback moth†	0.065 - 0.130	5 - 10	N/A	4
		Cabbage looper Green peach aphid Leafminers (<i>Liriomyza</i> spp.) Potato aphid§ Whitefly*	0.088 - 0.176	6.75 - 13.5		
	Drip chemigation**	Beet armyworm Corn earworm Diamondback moth†	0.065 - 0.130	5 - 10	1	
		Cabbage looper Green peach aphid Leafminers (<i>Liriomyza</i> spp.) Potato aphid§ Whitefly*	0.088 - 0.130	6.75 - 10		
<p>§ - Suppression only. Use as part of an overall effective aphid control program. Rotate to products with different modes of action.</p> <p>* - Allow 1 - 3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect the transplants following an at-plant application. During that time and when whitefly populations are high, use in conjunction with an effective foliar whitefly control program.</p> <p>** - Begin drip application when populations first appear. Allow 1-3 days for VERIMARK insect control to be translocated into the aerial portions and to fully protect. Minimum application interval between drip chemigation treatments is 10 days. Do not apply more than 2 drip chemigation applications of VERIMARK insect control per crop. Rotate with products with different modes of action.</p> <p>† - Diamondback moth resistance management – Do not apply VERIMARK insect control (or other Group 28 insecticides) more than twice within any 30 day “treatment window”. Application(s) during the next “treatment window” must be with an effective product(s) with a different mode of action (different IRAC Group Number) for at least a 30 day “treatment window” before making any additional applications of VERIMARK insect control (or other Group 28 insecticides). Do not apply less than 5 fl oz of VERIMARK insect control per application per acre for diamondback moth control. Do not make more than 6 total applications per calendar year of any cyantraniliprole containing products (or other Group 28 insecticides) for control of diamondback moth at the same farm location. Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. VERIMARK insect control must be applied uniformly in the root zone to ensure effective control. Surface band application requires a sufficient amount of water post-application to ensure the treatment is moved into the root zone. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet.</p> <p>Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.)</p>						

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Legume vegetables, succulent or dried (Crop Group 6) Bean (<i>Lupinus</i>) (includes grain lupin, sweet lupin, white lupin, and white sweet lupin); bean (<i>Phaseolus</i>) (includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean); bean (<i>Vigna</i>) (includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese long-bean, cowpea, crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean) broad bean (fava); chickpea (garbanzo); guar; jackbean; lablab bean; lentil; pea (<i>Pisum</i>) (includes dwarf pea, edible-podded pea, English pea, field pea, garden pea, green pea, snowpea, sugar snap pea); pigeon pea; sword bean	Soil at planting (in-furrow spray, surface band spray)	European corn borer§ Fall armyworm Lesser cornstalk borer Leafminers Whiteflies Black bean aphid Thrips (foliage feeding only)§ Corn seed maggot§	0.088 - 0.176	6.75 - 13.5	N/A	4
<p>§ - Suppression only. Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. VERIMARK insect control must be applied uniformly in the root zone to ensure effective control. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet.</p>						
Peanuts	Soil at planting (an in-furrow spray, surface band, soil shank injection)	Thrips (foliage feeding only)§** Cutworms Lesser cornstalk borer	0.130 - 0.176	10 - 13.5	N/A	4
<p>§ - Suppression only. ** - Use in conjunction with an effective thrips and tomato spotted wilt virus management program. Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting. Do not apply a total of more than 0.4 lb ai/A of CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the soil or foliarly. VERIMARK insect control must be applied uniformly in the root zone to ensure effective control. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet.</p> <p>Tomato Spotted Wilt Virus Suppression: Use of VERIMARK insect control to manage thrips which may vector the tomato spotted wilt virus at a rate of 10-13.5 fl oz/A at plant will help suppress and slow the expression of tomato spotted wilt virus in peanuts.</p>						

Crop	Application Method	Target Pest	VERIMARK insect control RATE		PHI (pre-harvest interval) (days)	REI (re-entry interval) (hours)
			Lb. ai per acre	fluid ounces product per acre		
Tobacco	Soil at planting (transplant water treatment, hill drench, float house or transplant tray drench by growers or commercial transplant producers no earlier than 72 hours prior to planting in the field)	Tobacco budworm Tomato hornworm Tobacco hornworm Flea beetle	0.130 - 0.176	10 - 13.5	N/A	4
Tuberous and Corm Vegetables (Crop Subgroup 1C) including, Arracacha; Arrowroot; Artichoke, Chinese; Artichoke, Jerusalem; Canna, edible; Cassava, (bitter), Cassava (sweet), Chayote (root); Chufa; Dasheen; Ginger; Leren; Potato, Sweet potato, Tanier; Turmeric; Yam bean; Yam (true)	Soil at planting (an in-furrow spray, transplant water treatment, hill drench, surface band, soil shank injection)	Beet armyworm Cabbage looper Colorado potato beetle† Western yellowstriped armyworm	0.088 - 0.176	6.75 - 13.5	N/A	4
		European corn borer Potato flea beetle§	0.130 - 0.176	10 - 13.5		
		Green peach aphid§ Potato psyllid§	0.176	13.5		
		§ - Suppression only. Use as part of an overall effective control program. Rotate to products with different modes of action. † - Colorado potato beetle resistance management: If VERIMARK insect control or any other Group 28 insecticide was used at-plant either as a soil or seed piece application, do not apply other Group 28 insecticides for Colorado potato beetle control for at least 60 days after emergence. Application(s) for Colorado potato beetle control during the first 30-60 days must be with an effective product with a different mode of action (i.e. a product with a different IRAC Group Number) for at least a 30 day "treatment window" before making any applications of a Group 28 insecticide. Adjusting the pH of the application solution: The pH of the application solution should be between pH 4 and 6. (See "Acidification of Application Solution" section of the label.) Do not apply more than 13.5 fl oz (0.176 lb ai/A) of VERIMARK insect control at planting. Do not apply a total of more than 0.4 lb ai/A of any CYAZYPYR active or cyantraniliprole containing products per calendar year whether applications are made to the seed, soil or foliarly. VERIMARK insect control must be applied uniformly in the root zone to ensure effective control. Surface band application requires a sufficient amount of water post-application to ensure the treatment is moved into the root zone. See the SOIL APPLICATION section of the label for additional guidance, also see the rate conversion chart for application rate per 1000 linear feet.				

VERIMARK insect control CONVERSION CHART FOR DRIP (TRICKLE) CHEMIGATION AND AT-PLANT SOIL APPLICATION															
Fl oz/Acre	Rate in Fluid Ounces product/1000 Row-feet Based on Planted Row Spacing (in inches) of:														
	20	25	30	34	36	38	40	44	48	60	66	72	78	80	84
5	0.19	0.24	0.29	0.33	0.34	0.36	0.38	0.42	0.46	0.57	0.63	0.69	0.75	0.77	0.80
6.75	0.26	0.32	0.39	0.44	0.46	0.49	0.52	0.57	0.62	0.77	0.85	0.93	1.01	1.03	1.08
8.5	0.33	0.41	0.49	0.55	0.59	0.62	0.65	0.72	0.78	0.98	1.07	1.17	1.27	1.3	1.37
10	0.38	0.48	0.57	0.65	0.69	0.73	0.77	0.84	0.92	1.15	1.26	1.38	1.49	1.53	1.61
13.5	0.52	0.65	0.77	0.88	0.93	0.98	1.03	1.14	1.24	1.55	1.70	1.86	2.01	2.07	2.17

VERIMARK insect control POTATO SEED PIECE TREATMENT

Application and Mixing Guidance

VERIMARK insect control may be applied as a water-based slurry with other registered seed treatment fungicides and insecticides. Potential mixing partners should be tested for physical compatibility with VERIMARK insect control and added dyes or polymers before mixing for seed treatment. Avoid mixtures of several materials and very concentrated seed treatment spray mixtures. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures. Do not mix this product with any product that prohibits such mixing. Caution should be used to ensure that excessive moisture is not applied to the seed pieces to limit potential rotting that may reduce crop emergence. Treat seed pieces on farm or at a local facility. Plant treated seed pieces within 24 hours of treatment with VERIMARK insect control.

Pests Controlled and Use Rate

Use VERIMARK insect control as specified in the following Use-Rate Table for control of beet armyworm, Colorado potato beetle, cabbage looper, European corn borer, western yellowstriped armyworm and suppression of potato flea beetle, potato psyllid, and green peach aphid. Determine the use rate of VERIMARK insect control based on the planned seeding density. Do not use a seed treatment rate of VERIMARK insect control greater than 0.176 pounds of cyantraniliprole per acre. Do not apply any other cyantraniliprole containing product for Colorado potato beetle control following a seed piece application of VERIMARK insect control. Do not apply a total of more than 0.4 lb ai/A per calendar year of any CYAZYPYR active or cyantraniliprole containing products whether applications are made to the soil or foliarly.

Potato Seeding Rate 100 lbs per acre	VERIMARK insect control Use Rate (fl oz/100 lb of seed pieces)	VERIMARK insect control Use Rate (lb ai/A)
16 - 18	0.63 – 0.75	0.132 – 0.176
19 - 22	0.53 – 0.61	0.131 – 0.175
23 - 25	0.46 – 0.54	0.138 – 0.176
26 - 27	0.46 – 0.5	0.156 – 0.176
28 - 29	0.46	0.168 – 0.174

Mixing Instructions

For use in standard and calibrated seed treatment equipment only. Treatment equipment must be clean and free of previous pesticide deposits before applying VERIMARK insect control. Add VERIMARK insect control directly to the mixing tank. Mix the specified amount of VERIMARK insect control thoroughly with sufficient water to coat the potato seed pieces.

Add an EPA approved dye or colorant to treat the seed pieces per 40 CFR 153.155(b)(1) during the seed treatment process. Ensure that all treated seed pieces are dyed an unnatural color.

Mixing Tank Cleanout

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all mixing equipment to reduce the risk of forming hardened deposits, which might become difficult to remove.

Drain mixing equipment. Thoroughly rinse mixing equipment and flush with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of water rinse water in accordance with local regulations.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING: Refer to the Net Contents section of this product's labeling for the applicable "Refillable Container" or "Nonrefillable Container" designation.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Greater Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Rigid Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers: Refillable container. Refilling Container: Refill this container with VERIMARK insect control containing cyantraniliprole only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use container, contact FMC at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact FMC at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact CHEMTREC (Transportation and Spills) at 1-800-424-9300, day or night.

NOTICE TO BUYER— Purchase of this material does not confer any rights under patents of countries outside of the United States.

FMC, VERIMARK, EXIREL and CYAZYPYR are trademarks or registered trademarks of FMC Corporation or an affiliate.

D-4792 061223

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Notice: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and, to the extent consistent with applicable law, Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) Seller or FMC, and, to the extent permitted by applicable law, Buyer assumes the risk of any such use.

To the extent consistent with applicable law, FMC or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Condition of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.

Attachment 11



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Samantha Miller
Corteva Agriscience
9330 Zionsville Road
Indianapolis, IN 46268

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Name: Lumiderm Insecticide Seed Treatment
EPA Registration Number: 352-858
Application Date: June 13, 2023
Decision Number: 593332

Dear Ms. Miller:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable. Accordingly, EPA has approved the requested registration amendment, provided Corteva Agriscience (“Corteva”) complies with all terms and conditions listed below.

Terms and Conditions

Corteva must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

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If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Corteva in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Corteva must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Corteva may respond by submitting a request for voluntary cancellation of this product. If Corteva fails to comply with this term, Corteva has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Corteva's control, Corteva must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Corteva under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Corteva to provide additional labeling for product that bears the previously approved label but is not under Corteva's control as of the date of this letter. However, Corteva should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²
- "it will perform its intended function without unreasonable adverse effects on the environment";³ and

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

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- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹ and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](https://www.epa.gov/pesticide-registration/registration-of-new-active-ingredient-cyantraniliprole)).

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the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

(Base label):

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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Lumiderm®

INSECTICIDE SEED TREATMENT

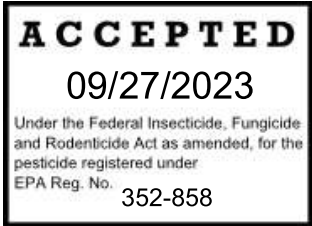
[Alternate Brand Name: Lumiderm]
[Alternate Brand Name: Lumiposa]

For seed treatment applications to rapeseed/canola, mustard, and soybean seed for pest management of sucking and chewing insects.

Active Ingredient

Cyantraniliprole 3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6- [(methylamino) carbonyl]phenyl]-1H-pyrazole-5-carboxamide.....	50%
Other Ingredients	50%
TOTAL	100%

Lumiderm is a flowable suspension.
Contains 5.21 lb. active ingredient per gallon.



Keep Out of Reach of Children
CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Personal Protective Equipment

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.
- Chemical resistant gloves made of any waterproof material (Category A such as natural rubber > 14 mils).

Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

USERS SHOULD:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside.
- Then wash thoroughly and put on clean clothing.

First Aid

For questions regarding emergency medical treatment, you may contact **1-800-992-5994** for information.

Environmental Hazards

This pesticide is toxic to aquatic invertebrates and oysters. Do not contaminate water when disposing of equipment wash water.

Physical or Chemical Hazards

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons):

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 5 Gallons):

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers:

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

Refillable container. Refilling Container: Refill this container with Lumiderm containing cyantraniliprole only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If leaks are found, do not reuse or transport container, contact Corteva Agriscience at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if container is damaged or leaking. If the container is damaged, leaking, or obsolete, or in the event of a major spill, fire, or other emergency, contact Corteva Agriscience at 1-800-992-5994, day or night.

Refer to inside of label booklet for additional precautionary information including First Aid and Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs, or clothing.

EPA Reg. No. 352-858

EPA Est. _____

[CD02-xxx-xxx]

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**Produced for
Corteva Agriscience LLC
9330 Zionsville Road
Indianapolis, IN 46268**

NET CONTENTS _____

(Booklet cover)

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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Lumiderm®

INSECTICIDE SEED TREATMENT

[Alternate Brand Name: Lumiderm]
[Alternate Brand Name: Lumiposa]

For seed treatment applications to rapeseed/canola, mustard, and soybean seed for pest management of sucking and chewing insects.

Active Ingredient

Cyantraniliprole 3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino) carbonyl]phenyl]-1H-pyrazole-5-carboxamide.....	50%
Other Ingredients	50%
TOTAL	100%

Lumiderm is a flowable suspension.
Contains 5.21 lb. active ingredient per gallon.

Keep Out of Reach of Children

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

Refer to inside of label booklet for additional precautionary information including First Aid and Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs, or clothing.

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NET CONTENTS _____

(Booklet page 1 through end)

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Personal Protective Equipment

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.
- Chemical resistant gloves made of any waterproof material (Category A such as natural rubber > 14 mils).

Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

USERS SHOULD:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside.
- Then wash thoroughly and put on clean clothing.

First Aid

For questions regarding emergency medical treatment, you may contact **1-800-992-5994** for information.

Environmental Hazards

This pesticide is toxic to aquatic invertebrates and oysters. Do not contaminate water when disposing of equipment wash water.

Physical or Chemical Hazards

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

- Use this product only as a commercial seed treatment in rapeseed/canola, mustard, or soybean seed.
- Treated seed must not be used for or mixed with food or animal feed, or processed for oil.

When applied according to this label, Lumiderm insecticide seed treatment will provide control of cutworms and flea beetles on rapeseed/canola and mustard. When applied according to this label, Lumiderm will reduce seed and root feeding damage caused by seed corn maggot, white grub, and wireworms, reduce leaf feeding damage caused by bean leaf beetle, cutworms, soybean aphids, and leaf feeding thrips and will suppress the spread of certain viruses on soybeans. Consult your local Corteva Agriscience representative or agricultural advisor for guidance on predicted pest pressure based on historical field data for these pests in your area.

Early season improvement of plant health, vigor and stand optimizing crop potential can be experienced under all levels of insect pressure.

Lumiderm must be used in accordance with the directions for use on this label, or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

Lumiderm may be applied to rapeseed/canola, mustard, or soybean seed. Rapeseed/canola and mustard seed are typically planted at a soil depth of 1/2 to 1 inch. Soybean seeds are typically planted at a minimum soil depth of 1 to 1-1/2 inches.

Treating significantly damaged seed or seed that is low in vigor or overall poor quality may result in reduced germination, seedling vigor and plant stand. Before treating an entire seed lot with the proposed seed treatment, treat a small portion of the seed lot and conduct subsequent germination tests. Corteva Agriscience makes no guarantee regarding the germination of damaged or carryover treated seed, since seed quality and storage conditions are beyond the control of Corteva Agriscience.

Corteva Agriscience will not be responsible for losses or damages resulting from the use of this product in any manner not specifically stated on this label. User assumes all risks associated with such non-recommended use.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING:

Nonrefillable Rigid Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons):

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 5 Gallons): Nonrefillable container.

Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container.

Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure

two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers: Refillable container. Refilling Container: Refill this container with Lumiderm containing cyantraniliprole only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If leaks are found, do not reuse or transport container, contact Corteva Agriscience at the number below for instructions. Disposing of Container: Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Do not transport if container is damaged or leaking. If the container is damaged, leaking, or obsolete, or in the event of a major spill, fire, or other emergency, contact Corteva Agriscience at 1-800-992-5994, day or night.

Integrated Pest Management

Corteva Agriscience supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

Insect Resistance Management

Lumiderm contains the active ingredient cyantraniliprole and is a Group 28 insecticide based on the mode of action classification system of the International Insecticide Resistance Action Committee (IRAC). Insecticides with the same Group Number affect the same biological site of action on the target pest and when used repeatedly in the same treatment area, naturally occurring resistant individuals may survive correctly applied insecticide treatments, reproduce, and become dominant.

To avoid or delay the development of insecticide resistance, a resistance management strategy should be established for the use area. This strategy may include incorporation of cultural and biological control practices, alternation to different mode-of-action insecticides on succeeding generations, and targeting the most susceptible life stage. Consult your local or state agricultural authorities and product manufacturer for more information about developing a resistance management strategy.

Unless directed otherwise in the specific crop/pest sections of this label, the best practices are to follow these guidelines to delay the development of insecticide resistance:

- Apply Lumiderm and other Group 28 insecticides within a single “treatment window” to minimize exposing multiple successive generations of a pest species to the same mode of action insecticides.
- A “treatment window” is defined as the period of insecticidal activity provided by one or more applications of products with the same mode of action.
- A “treatment window”, including residual control, should not exceed 30 days (the length of a typical pest generation).
- Within the Group 28 “treatment window”, make no more than 2 applications of a Group 28 insecticide.
- Following a Group 28 “treatment window”, rotate to a “treatment window” of effective insecticides with a different mode of action (Group Number).
- The period between Group 28 “treatment windows” should be at least 30 days.
- The total exposure of all Group 28 products applied throughout the crop cycle (from seedling to harvest) should not exceed approximately 50% of the crop cycle or 50% of the total number of insecticide applications targeted at the same pest species.
- For short cycle crops (< 50 days), the duration of the crop cycle may be considered as the Group 28 “treatment window” as long as no Group 28 insecticides are used during the next crop cycle at the same farm location.
- Avoid using less than labeled rates of Lumiderm when applied alone or in tank mixtures.
- Target the most susceptible insect life stages whenever possible.
- Monitor insect populations for product effectiveness. If poor performance occurs and it cannot be attributed to improper application or extreme weather conditions, a resistant pest population may be present. If resistance to Lumiderm develops in your area, Lumiderm or other products with a similar mode of action (Group 28) may not provide adequate control. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area.

If Lumiderm or any other Group 28 insecticide was used, do not apply other Group 28 insecticides for control of the same pest (see crop tables for labeled pests) for at least 60 days after emergence. If replant is required and no other Group 28 insecticides were used within the treatment window, then replanting rapeseed/canola, mustard or soybean seed treated with Lumiderm is allowed. Application(s) for control of the same pest during the first 30-60 days must be with an effective product with a different mode of action (i.e., a product with a different IRAC Group Number) for at least a 30 day “treatment window” before making any applications of a Group 28 insecticide.

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irc-online.org>.

Length of control:

The length of control provided by Lumiderm will depend on the rate used, the pest being controlled, and the environmental conditions such as soil type, soil moisture, soil pH, etc. Use the higher rates when high pest pressure is expected to occur, when the pest is expected to occur later in the crop stage or when pests are expected to be present continuously. Lumiderm will primarily have activity in the foliage of treated plants and will not provide protection within the blooms and fruit. Foliar applications of other products may be needed to protect these parts of the plant.

Application

Compatibility - Lumiderm may be applied as a water-based slurry with other registered seed treatment fungicides and insecticides in accordance with the most restrictive of label limitations and precautions. Do not exceed labeled dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing. Potential mixing partners should be tested for physical compatibility with Lumiderm and added dyes or polymers before mixing in a large tank for seed treatment.

The crop safety of all possible mixtures with Lumiderm has not been tested. When considering the use of a mixture without prior experience, or which is not specifically described on Lumiderm product labeling or in other Corteva Agriscience product use instruction, it is important to first understand crop safety. Before treating an entire seed lot with the proposed seed treatment mixture, treat a small portion of the seed lot and conduct subsequent germination tests.

Corteva Agriscience will not be responsible for any crop injury arising from the use of a mixture that is not specifically described on Lumiderm product labeling or in other Corteva Agriscience product use instruction.

Use Rate

Use Lumiderm as directed to listed crop seeds in the following Use-Rate Tables for control of listed insects. Consult your Corteva Agriscience representative for further guidance.

Lumiderm Insecticide Seed Treatment Use-Rate Tables

Seed Crops	Pest*	fl oz Lumiderm/ 100 lb of seed	lb active ingredient/ 100 lb of seed	mL Lumiderm/ 100 kg of seed
Rapeseed including canola varieties, Mustard Seed	Flea Beetles	14.8 - 24.6	0.6 - 1.0	960 - 1600
	Cutworms	3.7 - 24.6	0.15 - 1.0	240 -1600

* Use the higher rates in areas that are predicted to have high pest pressure, in areas with high populations of striped flea beetle, or where extended early season control is required.

Seed Crop	Pest**	mg active ingredient/ seed	fl oz Lumiderm/ 100 lb of seed	lb active ingredient/ 100 lb of seed	fl oz Lumiderm/ 140k seed unit	mL Lumiderm/ 100 kg of seed
Soybean ⁺	Bean leaf beetle, Cutworms, Leaf feeding thrips, Seed corn maggot, Soybean aphid, White grub, Wireworms	0.075 to 0.15	1.14 to 2.28	0.046 to 0.092	0.57 to 1.14	74 to 148

⁺ Not registered for use in the State of California.

** Use the higher rates in areas that are predicted to have high pest pressure.

Lumiderm Soybean Seed Treatment Rate Table - Grower Guide

Treatment Rate Per Soybean Seed	Soybean Seeding Per Acre	Lb AI (Cyantraniliprole) Rate Per Acre
0.075 mg ai /seed	150,000 seeds	0.025
	200,000 seeds	0.033
	225,000 seeds	0.037
0.15 mg ai /seed	150,000 seeds	0.05
	200,000 seeds	0.066
	225,000 seeds	0.074

Restriction: Do not apply a total of more than 0.4 lb ai/A of cyantraniliprole-containing products per calendar year — this is the total cyantraniliprole applied by seed treatment, soil application, and foliar application.

Mixing Guidance

For use in commercial seed treaters only, operating standard, calibrated seed treatment equipment. Not for use in hopper box, planter box, slurry box, or other farmer applied applications. Treatment equipment must be clean and free of previous pesticide deposits before applying Lumiderm. Thoroughly mix recommended amount of Lumiderm with the required amount of water.

Add an EPA approved dye or colorant to treat the seeds per 40 CFR 153.155(b)(1) during the seed treatment process. Ensure that all treated seed are dyed an unnatural color.

Mixing Tank Cleanout

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all mixing equipment to reduce the risk of forming hardened deposits, which might become difficult to remove.

Drain mixing equipment. Thoroughly rinse mixing equipment and flush with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

Crop Rotation

- Rapeseed/canola, mustard, or soybean seed treated with Lumiderm may be replanted immediately if needed due to crop failure.
- Crops on this label and the following crops or crop groups may be planted immediately following the last application of a cyantraniliprole containing product: Brassica Leafy Greens (Crop Subgroup 4-16B) and Brassica Head and Stem Vegetables (Crop Group 5-16); Bulb Vegetables (Crop Group 3-07); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Greens (Crop Subgroup 4-16A) and Leaf Petiole Vegetables (Crop Subgroup 22B); Celtuce; Florence Fennel; Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Berry and Fruit Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Soybeans; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.
- The following crops or crop groups may be planted 30 days following the last application of a cyantraniliprole containing product: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.
- There is no plant back restriction for conversion of a treated field to, or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Caneberry Subgroup (Crop Subgroup 13-07A); Coffee; Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).
- All other crops cannot be planted until 12 months after the last application of a cyantraniliprole containing product.

Commercial Seed Bag Labeling

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- Treated Seed. Do not use for food, feed, or oil purposes.
- This seed has been treated with Lumiderm insecticide seed treatment (cyantraniliprole).

In addition, the U.S. Environmental Protection Agency requires the following statements on bags containing seeds treated with Lumiderm (cyantraniliprole):

- Store away from food or feed.
- Do not allow children, pets, or livestock to have access to treated seed.
- Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seed.
- Use of Lumiderm as a seed treatment must be communicated to all personnel involved in seasonal insect control recommendations.
- This product is highly toxic to bees. Ensure that the planting equipment is functioning properly in accordance with manufacturer specifications to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops and weeds.
- Rapeseed/canola and mustard seed are typically planted at a soil depth of 1/2 to 1 inch and soybean seed at a minimum depth of 1 to 1-1/2 inches.
- Treated seed exposed on soil surface may be hazardous to wildlife. Immediately cover or collect seeds spilled during loading. Do not allow treated seed to remain uncovered on the soil surface.
- Dispose of all excess treated seed by burying seed away from bodies of water. Leftover treated seed may be double sown around the headland or buried away from water sources in accordance with local requirements.
- Excess treated seed may be used for ethanol production only if (a) ethanol production by-products are not used for livestock feed and, (2) no measurable residues of pesticides remain in the ethanol by-products that are used in agronomic practice.
- Dispose of seed packaging in accordance with local requirements.
- Canola seed has been treated with maximum of 1.0 lb cyantraniliprole per 100 lb seed. Therefore, each 1 lb cyantraniliprole treated canola seed planted per acre results in an application of 0.01 lb cyantraniliprole/acre.
- Do not apply a total of more than 0.4 lb ai/A of cyantraniliprole containing products per calendar year — this is the total cyantraniliprole applied by seed treatment, soil application, and foliar application.
- Including the Lumiderm seed treatment, make no more than two applications of cyantraniliprole or other Group 28 products per generation to the same insect species on a crop or within a 30 day period (count planting date as day 1 if using treated seed). Application(s) to the next generation of target pest(s) must be with an effective product with a different mode of action (non-Group 28 insecticide).

Crop Rotation

- Rapeseed/canola, mustard, or soybean seed treated with Lumiderm may be replanted immediately if needed due to crop failure.
- Crops on this label and the following crops or crop groups may be planted immediately following the last application of a cyantraniliprole containing product: Brassica Leafy Greens (Crop Subgroup 4-16B) and Brassica Head and Stem Vegetables (Crop Group 5-16); Bulb Vegetables (Crop Group 3- 07); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Greens (Crop Subgroup 4-16A) and Leaf Petiole Vegetables (Crop Subgroup 22B); Celtnuce; Florence Fennel; Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Berry and Fruit Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Soybeans; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.
- The following crops or crop groups may be planted 30 days following the last application of a cyantraniliprole containing product: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.
- There is no plant back restriction for conversion of a treated field to, or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B);

Caneberry Subgroup (Crop Subgroup 13-07A); Coffee; Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).

- All other crops cannot be planted until 12 months after the last application of a cyantraniliprole-containing product.

NOTICE TO BUYER— Purchase of this material does not confer any rights under patents of countries outside of the United States.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. To the extent permitted by law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Corteva Agriscience warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. To the extent permitted by law, Corteva Agriscience MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Corteva Agriscience or the seller. Corteva Agriscience will not be responsible for losses or damages resulting from the use of this product in any manner not specifically directed by Corteva Agriscience. To the extent permitted by law, all such risks associated with non-directed use shall be assumed by buyer and/or user.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, tort, strict liability, or other legal theories), shall be limited to, at Corteva Agriscience's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

To the extent permitted by law, Corteva Agriscience shall not be liable for losses or damages resulting from handling or use of this product unless Corteva Agriscience is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Corteva Agriscience be liable for consequential, incidental or special damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Corteva Agriscience or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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EPA accepted __/__/____

Attachment 12



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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EPA Reg. Nos.

Decision Nos. 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master Label]

RESTRICTED USE PESTICIDE
DUE TO TOXICITY TO FISH, MAMMALS, AND AQUATIC ORGANISMS.
 FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR
 PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES
 COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

Not for sale, sale into, distribution and/or use in Nassau and Suffolk counties of New York State

Minecto® Pro

Insecticide/Miticide

ABAMECTIN	GROUP	6	INSECTICIDE
CYANTRANILIPROLE	GROUP	28	INSECTICIDE

Active Ingredient:

Cyantraniliprole* 12.70%

Abamectin** 2.68%

Other Ingredients: 84.62%

Total: 100.00%

Minecto Pro is formulated as a suspension concentrate and contains 1.13 lb cyantraniliprole and 0.24 lb abamectin per gallon.

*CAS No. 736994-63-1

**CAS No. 71751-41-2

KEEP OUT OF REACH OF CHILDREN.

WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-1592

EPA Est. No. XXXX

SCP XXXX

Net Contents

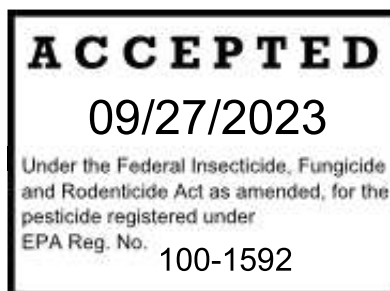


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1.0 FIRST AID

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call poison control center or doctor immediately for treatment advice. • Have a person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	
<p>Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of this product can be minimized by early administration of chemical adsorbents (e.g., activated charcoal).</p> <p>If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements.</p> <p>In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Because abamectin, one of the active ingredients in this formulation, is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.</p>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p>	
HOTLINE NUMBER	
<p>For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident), Call</p> <p>1-800-888-8372</p>	

2.0 PRECAUTIONARY STATEMENTS

2.1 Hazards to Humans and Domestic Animals

WARNING/AVISO

May be fatal if swallowed. Harmful if inhaled. Harmful if absorbed through the skin. Causes moderate eye irritation. Avoid breathing vapor or spray mist. Avoid contact with skin, eyes, or clothing.

Attention: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

2.2 Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt
- Long pants
- Shoes and socks
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils, or Viton™ \geq 14 mils

2.2.1 User Safety Requirements

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

2.2.2 User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

2.2.3 Engineering Control Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

2.3 Environmental Hazards

This pesticide is toxic to fish, aquatic invertebrates, oysters, and wildlife. For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from target areas. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites. Do not contaminate water when disposing of equipment washwater or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging the treatment area.

Use of this product may pose a risk to threatened and endangered species of fish, amphibians, crustaceans (including fresh water shrimp), and insects. All use of this product in the state of California should comply with the recommendations of the California Endangered Species Project. Before using this product in California, consult with your county agriculture commissioner to determine use limitations that apply in your area.

2.3.1 Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching both surface water and aquatic sediment via runoff for several weeks to months after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of cyantraniliprole and abamectin from runoff water and sediment.

2.3.2 Runoff Prevention

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters, or surface waters. For foliar uses, do not apply during rain. Applying this product in calm weather when rain is not predicted for the next 24 hours will help ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

2.3.3 Groundwater Advisory

One of the active ingredients in this product, cyantraniliprole, has properties and characteristics associated with chemicals detected in groundwater. Cyantraniliprole

may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html.

Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov.

DIRECTIONS FOR USE

RESTRICTED USE PESTICIDE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

See individual crops for specific pollinator protection application restrictions. If none exist under the specific crop, for foliar applications, follow these application directions for crops that are contracted to have pollinator services or for food/feed crops & commercially grown ornamentals that are attractive to pollinators.



FOR CROPS UNDER CONTRACTED POLLINATION SERVICES

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met:

If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered, or otherwise protected prior to spraying.



FOR FOOD/FEED CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT WHICH ARE ATTRACTIVE TO POLLINATORS

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- **The application is made to the target site after sunset.**
- **The application is made to the target site when temperatures are below 55°F.**
- **The application is made in accordance with a government-initiated public health response.**

- **The application is made in accordance with an active state-administered apiary registry program where beekeepers are notified no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered, or otherwise protected prior to spraying.**
- **The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48 hours prior to the time of the planned application so that the bees can be removed, covered, or otherwise protected prior to spraying.**

Minecto Pro must be used only in accordance with instructions on this label, in a supplemental label, or in state-specific 24C labeling. Always read the entire label, including the Conditions of Sale and Limitation of Warranty and Liability.

Endangered and Threatened Species Protection Requirements:

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins (“Bulletins”) within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR PEST CONTROL, OR ILLEGAL RESIDUES.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment (PPE), and restricted-entry interval, and notification to workers (as applicable). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes and socks
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, polyvinyl chloride (PVC) \geq 14 mils, or Viton \geq 14 mils

3.0 PRODUCT INFORMATION

Minecto Pro is a suspension concentrate that can be mixed with water and applied as a foliar spray to control a broad spectrum of insects and mites, as listed on this label. It is specially formulated for optimal performance by foliar application on the target crops.

3.0.1 Mode of Action

Minecto Pro contains two active ingredients, cyantraniliprole and abamectin. Cyantraniliprole is a member of the anthranilic diamide class of insecticides with a novel mode of action on insect ryanodine receptors. Abamectin is a member of the avermectin class of miticide/insecticide with a unique agonist mode of action on the neurotransmitter gamma-aminobutyric acid (GABA).

Although Minecto Pro has some contact activity, it is most effective through ingestion of plant material. After exposure to Minecto Pro, affected insects and mites will rapidly stop feeding, become paralyzed, and typically die within 1-3 days, reducing both direct damage and the transmission of some arthropod-vectorated plant diseases. Minecto Pro has preventative activity but low curative activity for sucking pests.

3.0.2 Pest Suppression

Suppression can mean either inconsistent control (good to poor) or consistent control at a level below that generally considered acceptable for commercial control.

3.0.3 Crop Tolerance

Not all crops within a crop group, and not all varieties, cultivars, or hybrids of crops, have been individually tested for crop safety. It is not possible to evaluate for crop safety all applications of Minecto Pro on all crops within a crop group, on all varieties, cultivars, or hybrids of those crops, or under all environmental conditions and growing circumstances. To test for crop safety, apply the product in accordance with the label instructions to a small area of the target crop to ensure that a phytotoxic response will not occur, especially where the application is a new use of the product by the applicator. Refer to **Section 4.4.2** for information regarding crop safety of tank mixtures.

3.1 Integrated Pest Management (IPM)

Syngenta supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes of action, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area.

3.2 Resistance Management

ABAMECTIN	GROUP	6	INSECTICIDE
CYANTRANILIPROLE	GROUP	28	INSECTICIDE

For resistance management, please note that Minecto Pro contains both a Group 28 (cyantraniliprole) insecticide and Group 6 (abamectin) miticide/insecticide. Any insect/mite population may contain individuals naturally resistant to Minecto Pro and other Group 28 insecticides or Group 6 miticides/insecticides. The resistant individuals may dominate the insect/mite population if these insecticides/miticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide/miticide resistance, take the following steps:

- Rotate the use of Minecto Pro or other Group 28 insecticides or Group 6 miticides/insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/miticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - o Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - o Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - o When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).

- o Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
- o The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/miticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological, and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact your local Syngenta representative.

3.2.1 Maintaining Susceptibility to These Classes of Chemistry

- Avoid using Group 28 insecticides or Group 6 miticides/insecticides exclusively for season-long control of insect or mite species with more than one generation per crop season.
- For insect or mite species with successive or overlapping generations, apply Minecto Pro or other Group 28 insecticides or Group 6 miticides/insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 28 insecticides or Group 6 miticides/insecticides. Do not exceed the maximum Minecto Pro allowed per year.
- Following a treatment window of Group 28 insecticides or Group 6 miticides/insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 28 insecticides or Group 6 miticides/insecticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to these classes of chemistry.
- If resistance is suspected, do not reapply Minecto Pro or other Group 28 insecticides or Group 6 miticides/insecticides.

3.2.2 Other Sources for Information on Insect or Mite Resistance Management

- Contact your local extension specialist, certified crop advisor, and/or product manufacturer for additional insect resistance management recommendations.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org/>.

4.0 APPLICATION DIRECTIONS

4.1 Methods of Application

Foliar applications of Minecto Pro are permitted by ground, air, or chemigation as specified in **Section 7.0**, unless otherwise restricted in **Section 6.1**.

4.2 Application Equipment

Minecto Pro may be applied by foliar ground or aerial application equipment, except as otherwise directed in **Section 7.0** or **Section 6.1**.

4.2.1 Spray Tank Clean-Out

- Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.
- Drain application equipment. Thoroughly rinse and flush all application equipment with clean water.
- Clean all other associated equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources, or desirable vegetation.
- Dispose of waste rinse water in accordance with local regulations.

4.3 Application Volume and Spray Coverage

See **Section 7.0** for additional application volume information.

- Thorough spray coverage is essential for good insect and mite control.
- Use sufficient water carrier to obtain thorough, uniform coverage.
- The highest labeled rate for a specified pest may be needed when aerial applications are made.

4.4 Mixing Directions

- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Refer to **Section 4.4.5** for instructions on the use of adjuvants with this product.
- If the pH of the spray tank after all products have been added and mixed is above pH 8, adjust to a range of pH 5-8 using a registered acidifying agent.
- If the spray tank pH is 8 or less, no adjustment of the spray tank pH is necessary.
- Do not store the spray mixture overnight in the spray tank.

4.4.1 Minecto Pro Alone

1. Fill clean spray tank 1/4 - 1/2 full of water.
2. Add Minecto Pro directly to the spray tank.
3. Mix thoroughly to fully disperse the insecticide/miticide. Once dispersed, continuous agitation is required.
4. Use mechanical or hydraulic means; do not use air agitation.
5. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

4.4.2 Tank-Mix Precautions

- This product may be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions.
- Do not exceed labeled dosage rates.
- This product cannot be mixed with any product containing a label prohibition against such mixing.

Crop Safety of Tank Mixtures

- The crop safety of Minecto Pro in tank mix with many common insecticides, fungicides, nutritionals, and adjuvants has been found to be acceptable. However, the safety of all potential tank mixes on all crops may not have been tested. See crop tables in this label for specific information when using Minecto Pro in tank mixes on those crops. Before applying any tank mixture not specifically recommended on this label, the safety to the target crop should be confirmed.
- Some of the following materials when applied individually, sequentially, or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissues, and increase the potential for crop injury.
 - Oils
 - Surfactants
 - Adjuvants
 - Nutritionals
 - Pesticide formulations
- Applying Minecto Pro with any product that produces adverse crop response in a tank mixture, specifically including but not limited to those listed in the crop tables, may also cause adverse crop response when applied in a short time sequence. Such uses should be tested as described below before broad application is made.
- Crop varieties can differ in their responsiveness to tank mixtures, and environmental conditions can have an influence on product performance and crop response. It is not possible to test Minecto Pro alone or with all possible tank-mix combinations and sequences on all varieties under all environmental conditions.
- When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on Minecto Pro product labeling or in other Syngenta product use instructions, or when applying the aforementioned products in close sequence with Minecto Pro, it is important to check crop safety first.
- To test for crop safety, prepare a small volume of the intended tank mixture or sequence, apply it to an area of the target crop as directed by both this and the tank

mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur.

- Use of Minecto Pro in any tank mixture or sequence of applications that is not specifically described on Minecto Pro product labeling, or in other Syngenta product use instructions, could potentially result in crop injury.
- Follow the precautions on this label and on the label for any other product to be used in tank mixtures or in sequential applications before making such applications to your crops. Follow the most restrictive label.
- To the extent allowed by applicable law, Syngenta will not be responsible for any crop injury arising from the use of a tank mixture or sequence of applications that is not specifically described on Minecto Pro product labeling or in other Syngenta product use instructions.

Physical Compatibility of Tank Mixtures

- Minecto Pro has been tested and shown to have broad physical compatibility with many commonly used pesticides, spray adjuvants, and nutritional products. However, since it is not possible to test all potential mixtures, it is recommended that the user conduct a jar test for physical compatibility (**Section 4.4.3**) of all components of the proposed mixture using proper concentrations of each mixture component.
- Avoid mixtures of several materials and very concentrated spray mixtures.

4.4.3 Tank-Mix Compatibility Test

Minecto Pro is physically compatible with many commonly used fungicides, herbicides, insecticides, biological control products, liquid fertilizers, non-ionic surfactants, crop oils, methylated seed oils, and drift control additives. However, since the formulations of products change, it is important to test the physical compatibility of desired tank mixes and check for undesirable physical effects, including settling out or flocculation.

A jar compatibility test is recommended prior to tank mixing with other pesticides and/or adjuvants/additives, in order to ensure the compatibility of Minecto Pro with other tank-mixed pesticide, adjuvant, or fertilizer partners. The recommended procedure for conducting jar tank-mix compatibility tests is as follows:

Compatibility Test: Since pesticides, adjuvants, and fertilizers can vary in quality, always **check tank-mix compatibility with tank-mixed partners each time before use**. Be especially careful when using **complete** suspension or fluid fertilizers as carriers, as serious compatibility problems are more likely to occur with these products. Commercial application equipment may improve tank-mix compatibility in some instances. The following test assumes a spray volume of 25 gallons/A. For other spray volumes, make appropriate changes in the components. Check tank-mix compatibility using this procedure:

1. Add 1 pt of carrier (either the water or liquid fertilizer to be used in the spray operation) to each of two clear 1-qt jars with tight lids.

2. To **one** of the jars, add ¼ teaspoon or 1.2 ml of a commercially available tank-mix compatibility agent approved for this use (¼ teaspoon is equivalent to 2 pt/100 gallons of spray). Invert the jar, shake, or stir gently to ensure thorough mixing.
3. To **both** jars, add the appropriate amount of each tank-mix partner. If more than one tank-mix partner is to be used, add them separately with dry formulations (wettable powders or water dispersible granules) first, followed by liquid flowables, capsule suspensions, emulsifiable concentrates and finally adjuvants. After each addition, invert the jar, shake, or stir gently to thoroughly mix. The appropriate amount of each tank-mix partner for this test, is as follows:
 - Dry formulations:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
 - Liquid formulations:** For each pint to be applied per acre, add 1/2 teaspoon or 2.5 milliliters to each jar.
4. After adding all ingredients, put lids on and tighten, then invert each jar 10 times to fully mix. Let the mixtures stand for 15-30 minutes and then assess by looking for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if a compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry dry formulations in water before addition, or (B) add the compatibility agent directly into liquid formulations, before addition to the tank-mixture. If these procedures are followed but incompatibility is still observed, do not use the tank-mixture.

4.4.4 Minecto Pro in Tank Mixtures

Add different formulation types in the sequence indicated below, unless otherwise specified by manufacturer directions for use or by local experience. Allow time for complete mixing and dispersion after addition of each product.

1. Water-soluble bag (WSB)
2. Water-soluble granules (SG)
3. Water-dispersible granules (WG, XP, DF)
4. Wettable powders (WP)
5. Minecto Pro and other water-based suspension concentrates (SC)
6. Water-soluble concentrates (SL)
7. Suspoemulsions (SE)
8. Oil-based suspension concentrates (OD)
9. Emulsifiable concentrates (EC)
10. Surfactants, oils, adjuvants
11. Soluble fertilizers
12. Drift retardants

4.4.5 Spray Additives

- To avoid illegal crop residues, Minecto Pro **must always** be mixed with a non-phytotoxic, non-ionic activator type wetting, spreading and/or penetrating spray adjuvant or horticultural oil (not a dormant oil) and applied as specified in **Section**

- 7.0** for each crop on this label.
- Non-ionic activator type wetting, spreading and/or penetrating spray adjuvants include:
 - Non-ionic surfactants (NIS) with at least 75% surface active agent
 - Crop oil concentrates (COC)
 - Vegetable oil concentrates (VOC)
 - Methylated seed/vegetable oils (MSO)
 - Organosilicones (OS) with at least 15% emulsifiers/surfactants
 - Blends of these non-ionic activator type spray adjuvants
 - Since spray adjuvants alone are known to cause phytotoxicity to certain crops under certain environmental conditions, **do not** use Minecto Pro on a spray-adjuvant-sensitive crop unless the spray adjuvant supplier can confirm a known non-phytotoxic labeled use rate for the intended spray adjuvant on the target crop.
 - Spray adjuvants must be compatible with Minecto Pro and must be used at concentrations specified on the **spray adjuvant product label** directions for use for the targeted crop unless more specific directions are provided in the **Section 7.0** for individual crops on this label.
 - **Do not use binder or sticker type adjuvants because these type adjuvants may reduce translaminar movement of the active ingredient into the plant and can result in reduced efficacy.**
 - Syngenta recommends the use of a Chemical Producers and Distributors Association (CPDA) certified spray adjuvant.

4.5 Application through Irrigation Systems (Chemigation)

4.5.1 Chemigation Precautions

- Apply this product at rates and timings described in **Section 7.0**.
- Apply this product only through overhead sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- Never put Minecto Pro into a dry tank or other mixing equipment without first adding water. See **Section 4.4** for more information.
- Inject Minecto Pro downstream from any water filtration system.
- The irrigation system used must provide uniform water distribution. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- End guns must be turned off during application if they irrigate non-target areas or if they do not provide uniform application and coverage.
- Nozzles in the immediate area of wells, control panels, chemical supply tanks, and system safety devices are to be plugged to prevent contamination of these areas.
- Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.
- Do not allow irrigation water to collect or run-off during chemigation application.
- Do not apply when wind speeds favor drift beyond the area intended.

- Apply in 0.1-0.20 inches/acre. Excessive water may reduce efficacy.
- Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- Wear the personal protective equipment as defined in **Section 2.2** for applicators and other handlers when making adjustments or repairs on the chemigation system with Minecto Pro in the irrigation water.

4.5.2 Operating Instructions for Chemigation

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check-valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

4.5.3 Specific Instructions for Public Water Systems

1. Do not apply Minecto Pro through an irrigation system connected to public water system unless the pesticide label prescribed safety devices for public water systems are in place. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical

break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

4.5.4 Application Directions for Irrigation Systems

1. Apply Minecto Pro in sufficient water and of sufficient duration to ensure the specified rate is applied evenly to the entire treated area.
2. A pesticide tank is recommended for the application of Minecto Pro in chemigation systems.
3. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.
4. With the mix tank $\frac{1}{4}$ to $\frac{1}{2}$ full with water and the agitator running, measure the required amount of Minecto Pro and add it to the tank. Then add additional water to bring the total pesticide mixture up to the desired volume for application.
5. Continue agitation throughout the application. Use mechanical or hydraulic agitation. Do not use air for agitation.
6. Injection should occur at a point in the main irrigation water flow to ensure proper mixing with the irrigation water.
7. For continuously moving systems, inject the solution containing Minecto Pro into the irrigation water line continually and uniformly throughout the irrigation cycle.
8. For continuously moving systems, the maximum recommended water volume for overhead chemigation application is 0.1 acre inches of water.
9. For overhead sprinkler irrigation systems that are stationary, add the solution containing Minecto Pro to the irrigation water line and apply in a maximum water volume of 0.20 acre inches of water.
10. Calibrate the irrigation system and injector before applying Minecto Pro. Calibrate the injection pump while the system is running using the expected irrigation rate.
11. Start the water pump and sprinkler and let the system achieve the desired pressure and speed before starting the injector.
12. Start the injector and calibrate the injection system. This is necessary to deliver the desired product rate per acre in a uniform manner.
13. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.
14. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean out procedure. Dispose of any residues in accordance with State and Federal laws.

5.0 ROTATIONAL CROP RESTRICTIONS

The following crops may be planted at the specified interval following application of Minecto Pro:

There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Caneberry (Crop Subgroup 13-07A); Coffee; Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).

Crop, Crop Group, or Subgroup	Plant-back Restriction (in Days) following Last Application of Minecto Pro
Brassica Leafy Greens (Crop Subgroup 4-16B)	0
Brassica Head and Stem Vegetables (Crop Group 5-16)	
Bulb Vegetables (Crop Group 3-07)	
Celtuce	
Corn (Field, Pop, Seed and Sweet)	
Cotton	
Cucurbit Vegetables (Crop Group 9)	
Florence Fennel	
Fruiting Vegetables (Crop Group 8-10)	
Leafy Greens (Crop Subgroup 4-16A)	
Leaf Petiole Vegetables (Crop Subgroup 22B)	
Leaves of Root and Tuber Vegetables (Crop Group 2)	
Legume Vegetables (Crop Groups 6 and 7)	
Low Growing Berries (Crop Subgroup 13-07H)	
Oilseeds (Crop Group 20)	
Peanuts	
Rice	
Root and Tuber Vegetables (Crop Subgroups 1B and 1C)	
Soybean	
Tobacco	
Cereal Grains (Crop Group 15), Except Corn and Rice	30
Forage, Fodder, and Straw of Cereal Grains (Crop Group 16), Except Corn and Rice	

Grass Forage, Fodder, and Hay (Crop Group 17)	
Non-grass Animal Feeds (forage, fodder, straw, and hay) (Crop Group 18)	
Sugar beets	
Sugarcane	
All other crops not listed	12 months

6.0 RESTRICTIONS AND PRECAUTIONS

See **Section 7.0** for crop-specific restrictions and precautions.

6.1 Use Restrictions

- To avoid illegal residues the product must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant or horticultural oil (not a dormant oil). The spray adjuvant must be approved for use on the intended target crop.
- For foliar uses, **DO NOT** apply during rain.
- **DO NOT** treat plants grown for transplanting. Minecto Pro is not for use in nurseries, plant propagation houses, or greenhouses by commercial transplant producers on plants being grown for transplanting.
- **DO NOT** use on crops grown to harvest in greenhouses unless specified in the crop use section of this label.
- **DO NOT** apply Minecto Pro to the soil or through drip irrigation systems as doing so may damage the plant root system.
- **DO NOT** use in residential areas or residential landscapes.
- **DO NOT** apply Minecto Pro through any type of irrigation system (chemigation) to any crop except for bulb onions, green onions, and potatoes.
- **DO NOT** apply a total of more than 0.4 lb ai per acre per calendar year including all application types (seed treatment, soil, foliar) of cyantraniliprole-containing products unless otherwise stated for a specific crop.
- **DO NOT** apply Minecto Pro with aircraft in New York State.

6.2 Spray Drift Management

SPRAY DRIFT

Aerial Applications:

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- For fixed wing and helicopter aerial applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed wing aircraft and 90% or less of the rotor diameter for helicopters.
- When the windspeed is 10 mph or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 mph, applicators must use a full swath displacement upwind at the downwind edge of the field.
- Do not apply during temperature inversions.

Airblast Applications:

- Sprays must be directed into the canopy.
- When making applications to orchard crops, including citrus, with sparse canopies a 25 foot buffer is required between the application site and all adjacent areas except for roads (and other paved or gravel surfaces), agricultural areas (fields that have been planted into or prepared for planting), and structural areas (buildings or other man-made structures with walls and/or a roof). A sparse canopy occurs during the period of dormancy starting from first leaf drop at the end of the season until vegetation is fully leafed out in the spring and on young orchard crops, including citrus, that are not yet bearing.
- Do not apply when wind speeds exceed 15 mph at the application site.
- User must turn off outward pointing nozzles at the row end and when spraying outer row.
- Do not apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 ft above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

6.2.1 Vegetative Buffer Strip

- **DO NOT** make ground applications within 25 ft or aerial application within 150 ft of aquatic habitats (such as but not limited to lakes, rivers, reservoirs, permanent streams, wetlands or natural ponds, estuaries, and commercial fish ponds). Do not cultivate within 30 ft of these aquatic areas to allow growth of a vegetative filter strip.

6.3 Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

6.3.1 Importance of Droplet Size

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

• Controlling Droplet Size – Ground Boom

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

• Controlling Droplet Size – Aircraft

- **Adjust Nozzles** – Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

6.3.2 Boom Height – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

6.3.3 Release Height – Aircraft

Higher release heights increase the potential for spray drift.

6.3.4 Shielded Sprayers

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

6.3.5 Temperature and Humidity

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

6.3.6 Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

6.3.7 Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

6.3.8 Sensitive Areas

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

6.3.9 Drift Control Additives

- Using product compatible drift control additives can reduce drift potential.
- When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label.
- If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.
- Preferred drift control additives have been certified by the Council of Producers and Distributors of Agrotechnology.

7.0 CROP USE DIRECTIONS

Choose the lower rate for light infestations and the higher rate for heavy infestations.

7.1 Arugula

Crops (including all cultivars, varieties, and/or hybrids of these)			
Arugula			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Diamondback moth Fall armyworm Imported cabbageworm <i>Liriomyza</i> leafminers Twospotted spider mite Western yellowstriped armyworm	5.5 - 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cabbage looper	7.5 – 10.0	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Cabbage aphid Cabbage seedpod weevil False cabbage aphid Flea beetle Grasshoppers Green peach aphid Swede midge Turnip aphids Whitefly Suppression: Thrips (foliage feeding only)	10.0	For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	
Resistance Management: <ul style="list-style-type: none"> • Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. • Diamondback Moth: <ul style="list-style-type: none"> ○ Do not apply Minecto Pro or other Group 28 insecticides more than twice within any 30-day "treatment window." ○ Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day "treatment window" before making any additional applications of Minecto Pro or other Group 28 insecticides. ○ Do not apply less than 5.5 fl oz/A/application of Minecto Pro for diamondback moth control. 			

- o Do not make more than 6 total applications per calendar year of any Group 28 insecticides for control of diamondback moth at the same farm location.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 7 days

7.2 Caneberry, Crop Subgroup 13-07A

Crops (Including cultivars, varieties, and/or hybrids of these)			
Blackberry Loganberry		Raspberry, black and red	Wild raspberry
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Spider mites	7.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear. For mite control, apply when mites are first observed and repeat application, if needed, to maintain control.	Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage can result in reduced control. Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air.
Adult root weevils Broad mite Spotted wing drosophila	10.0		Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precaution:			
<ul style="list-style-type: none"> The crop safety of Minecto Pro in tank mixture has not been evaluated on these crops. When using Minecto Pro alone or in tank mixtures on caneberry crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin) <ol style="list-style-type: none"> Do not apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar). Do not apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar). DO NOT apply from onset of flowering until petal fall is complete. Pre-Harvest Interval (PHI): 7 days 			

7.3 Celeriac

Crops (including all cultivars, varieties, and/or hybrids of these)			
Celeriac (<i>Apium graveolens</i>)			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Armyworms Cutworms Loopers	7.5 - 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	Thorough coverage of the crop canopy is essential for optimum results. Inadequate crop coverage can result in reduced control. Apply this product diluted in a minimum volume of 20 gal/A by ground.
Beet Armyworm Cabbage seedpod weevil Carrot weevil Cotton aphid Flea beetle Green peach aphid Twospotted spider mite Whitefly Suppression: Thrips (foliage feeding only)	10.0	For mite control, apply when mites are first observed and repeat application, if needed, to maintain control. For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precaution:			
<ul style="list-style-type: none"> The crop safety of Minecto Pro in tank mixture has not been evaluated on this crop. When using Minecto Pro alone or in tank mixtures on a celeriac crop, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 7 days 			

- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** apply by air.
- 7) **Pre-harvest Interval (PHI):** 7 days

7.4 Celtuce

Crops (including all cultivars, varieties, and/or hybrids of these)			
Celtuce			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Diamondback moth Fall armyworm <i>Liriomyza</i> leafminers Twospotted spider mite Western yellowstriped armyworm	5.5 - 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cabbage looper	7.5 – 10.0		
Cabbage aphid False cabbage aphid Flea beetle Grasshoppers Green peach aphid Turnip aphid Whitefly Suppression: Thrips (foliage feeding only)	10.0	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control. For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> • Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. • Diamondback Moth: <ul style="list-style-type: none"> ○ Do not apply Minecto Pro or other Group 28 insecticides more than twice within any 30-day "treatment window." ○ Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day "treatment window" before making any additional applications of Minecto Pro or other Group 28 insecticides. ○ Do not apply less than 5.5 fl oz/A/application of Minecto Pro for diamondback moth control. ○ Do not make more than 6 total applications per calendar year of any Group 28 insecticides for control of diamondback moth at the same farm location. 			
Precaution:			

- The crop safety of Minecto Pro in tank mixture has not been evaluated on this crop. When using Minecto Pro alone or in tank mixtures on a celuce crop, it is recommended that a small area be tested to demonstrate safety before using in large areas. See **Section 4.4.2** for more information.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantranilprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantranilprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantranilprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantranilprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 7 days

7.5 Citrus Fruit, Crop Group 10-10

Crops (Including cultivars, varieties, and/or hybrids of these)			
Australian desert lime	Lemon	Satsuma mandarin	
Australian finger lime	Lime	Sweet lime	
Australian round lime	Mediterranean mandarin	Tachibana orange	
Brown River finger lime	Mount White lime	Tahiti lime	
Calamondin	New Guinea wild lime	Tangelo	
Citron	Orange, sour	Tangerine (mandarin)	
Citrus hybrids	Orange, sweet	Tangor	
Grapefruit	Pummelo	Trifoliolate orange	
Japanese summer grapefruit	Russell River lime	Uniq fruit	
Kumquat			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Citrus leafminer Citrus rust mite	8.0 – 12.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	With aerial application, the resulting level and duration of control of Asian citrus psyllid and citrus leafminer could be reduced compared to ground application. When applying by air, use the higher end of the rate range (11.0-12.0 fl oz/A).
Asian citrus psyllid Broad mite Citrus bud mite Citrus cutworm Citrus thrips Cotton aphid Diaprepes root weevil adults Orange dog caterpillar Twospotted spider mite	10.0 - 12.0	For Asian citrus psyllid control, apply to protect newly expanding foliage flush during the spring, summer, or fall. For mite control, apply when mites first appear during spring, summer, or fall.	Apply this product diluted in a minimum volume of 10 gal/A by air. When pest populations are high, use the highest rate allowed for that pest. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage.
Forktailed bush katydid nymph	12.0	For citrus bud mite control, time the spray at “bud swell” for best results. For citrus leafminer control, apply to protect new growth during spring, summer, or fall. For citrus thrips control, application will only control the current generation and must be correctly timed. Apply when economic thresholds have been reached (after egg hatch has begun – preferably early to mid-hatch).	Apply this product diluted in a minimum volume of 30 gal/A by ground application. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.

Resistance Management:

- Do not make more than 3 applications of Minecto Pro or any other foliar applied abamectin-containing product per year.
- Do not apply in citrus nurseries.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant or horticultural oil (not a dormant oil) as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 12.0 fl oz/A/application (0.106 lb ai/A of cyantraniliprole and 0.023 lb ai of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.023 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 30 days
- 5) **Maximum Annual Rate:** 24.0 fl oz/A/calendar year (0.21 lb ai/A of cyantraniliprole and 0.044 lb ai of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.046 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Aerial application** is permitted **only** for control of citrus leafminer and Asian citrus psyllid. For all other pests, apply only by ground application.
- 7) **DO NOT** allow livestock to graze in treated citrus groves.
- 8) Application of this product is prohibited from the onset of flowering until the end of the flowering period. Observe defined flowering periods as established by local university extension offices, County Agricultural Commissioners, or other state/tribal lead agencies. In areas where these authorities do not provide a declaration or definition of flowering onset and end, applications are prohibited from onset of flowering until flowering is complete.
- 9) **Pre-Harvest Interval (PHI):** 7 days

7.6 Cotton

Crops (including all cultivars, varieties, and/or hybrids)			
Cotton			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Cotton bollworm Fall armyworm Pacific spider mite Saltmarsh caterpillar Southern armyworm Strawberry spider mite Tobacco budworm Twospotted spider mite Western yellowstriped armyworm	6.0 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear. For mite control, apply when mites first appear. Repeat application, if needed, to maintain control.	When pest populations are high, use the highest rate allowed for that pest. Apply this product, by ground or air, diluted in a minimum volume of 5 gal/A. For best control of spider mites , apply with ground application equipment. With aerial application, spray coverage and the resulting level and duration of control of mites may be less than with ground application.
Cabbage looper Soybean looper Whitefly Suppression: Thrips (foliage-feeding only)	10.0	For thrips suppression, begin making applications when populations are low. If populations are higher, use an effective thrips knockdown product before spraying with Minecto Pro.	For Heliothine control (cotton bollworm and/or tobacco budworm), make the first application at rates of 8.0-10.0 fl oz/A. Subsequent applications may be at rates of 6.0-10.0 fl oz/A, depending on pressure. For thrips suppression, use the highest rate listed. Use as part of an effective thrips control program. Rotate with products with different modes of action.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precautions:			
<ul style="list-style-type: none"> Application to seedling cotton may result in crop response. Affected plants outgrow the effects in most cases. If the risk of crop response cannot be accepted, do not apply to seedling cotton. The crop safety of Minecto Pro in tank mixture has not been evaluated on this crop. When using Minecto Pro alone or in tank mixtures on a cotton crop, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. 			

- 4) **Minimum Application Interval:** 21 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.038 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** feed or allow livestock to graze treated cotton.
- 7) **Pre-harvest Interval (PHI):** 20 days

7.7 Cress, Garden and Upland

Crops (including all cultivars, varieties, and/or hybrids of these)			
Cress, garden Cress, upland			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Diamondback moth Fall armyworm Imported cabbageworm <i>Liriomyza</i> leafminers Twospotted spider mite Western yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cabbage looper	7.5 – 10.0	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Cabbage aphid Cabbage seedpod weevil False cabbage aphid Flea beetle Grasshoppers Green peach aphid Swede midge Turnip aphid Whitefly Suppression: Thrips (foliage feeding only)	10.0	For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	
Resistance Management:			
<ul style="list-style-type: none"> • Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. • Diamondback Moth: <ul style="list-style-type: none"> ○ Do not apply Minecto Pro or other Group 28 insecticides more than twice within any 30-day "treatment window." ○ Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day "treatment window" before making any additional applications of Minecto Pro or other Group 28 insecticides. ○ Do not apply less than 5.5 fl oz/A/application of Minecto Pro for diamondback moth control. ○ Do not make more than 6 total applications per calendar year of any Group 28 insecticides for control of diamondback moth at the same farm location. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions.			

- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 7 days

7.8 Cucurbit Vegetables, Crop Group 9

Crops (including all cultivars, varieties, and/or hybrids of these)			
<p>Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cucumber Gherkin Gourd, edible Hyotan Cucuzza Hechima Chinese okra Momordica spp. Balsam apple Balsam pear Bitter melon Chinese cucumber</p>			
<p>Muskmelon Cantaloupe Casaba Crenshaw melon Golden pershaw melon Honeydew melon Honey balls Mango melon Persian melon Pineapple melon Santa Claus melon Snake melon True cantaloupe Pumpkin</p>			
<p>Squash, summer Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini Squash, winter Acorn squash Butternut squash Calabaza Hubbard squash Spaghetti squash Watermelon</p>			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm <i>Liriomyza</i> leafminers Melonworm Pickleworm Spider mites Western yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air.
Cabbage looper	7.5 – 10.0	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cotton/melon aphid Green peach aphid Whitefly Suppression: Flea beetle Thrips (foliage-feeding only)	10.0	For spider mites and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control within constraints of a sound resistance management program. Apply foliarly soon after emergence or transplant to control whiteflies , which may vector the cucurbit yellow stunting disorder virus . This will help to suppress and slow the expression of the virus in cucurbit vegetables.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.

	<p>For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.</p>	
<p>Resistance Management:</p> <ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 		
<p>Precautions:</p> <ul style="list-style-type: none"> Tank mixes of Minecto Pro with some products formulated as emulsifiable concentrates (EC), strobilurin fungicides (for example, Cabrio® fungicide and Quadris® fungicide), copper-based fungicides, Luna® Sensation fungicide (trifloxystrobin + fluopyram), and Venom® insecticide (dinotefuran) may result in adverse crop response. See Tank Mix Precautions in Section 4.4.2. 		
<p>USE RESTRICTIONS</p>		
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin) <ol style="list-style-type: none"> Do not apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar). Do not apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar). Pre-harvest Interval (PHI): 7 days 		

7.9 Dried Shelled Pea and Bean, Crop Subgroup 6C (Except Soybean)

Crops (Including cultivars, varieties, and/or hybrids of these)			
Broad bean (dry) Chickpea Guar Lablab bean (hyacinth bean) Lentil		Phaseolus spp. Field bean Kidney bean Lima bean (dry) Navy bean Pinto bean Tepary bean	Vigna spp. Adzuki bean Blackeyed pea Catjang Cowpea Crowder pea Moth bean Mung bean Rice bean Southern pea Urd bean
Lupinus spp. Grain lupin Sweet lupin White lupin White sweet lupin		Pigeon pea Pisum spp. Field pea	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Corn earworm European corn borer Leafminers Spider mites	7.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage can result in reduced control.
Whitefly Suppression: Potato leafhopper Thrips (foliage-feeding only)	10.0	For spider mites and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control within constraints of a sound resistance management program.	Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			

Precautions:

- Applications of Minecto Pro to certain species of the commodities in this crop group may result in adverse crop response. Affected plants outgrow the effects in most cases. If the risk of adverse crop response to Minecto Pro cannot be accepted, do not apply it to legume vegetables.
- The crop safety of Minecto Pro in tank mixture has not been evaluated on these crops. When using Minecto Pro alone or in tank mixtures on bean crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See **Section 4.4.2** for more information.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 6 days
- 5) **Maximum Annual Rate:** 30.0 fl oz/A/calendar year (0.26 lb ai/A of cyantraniliprole and 0.056 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.057 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** allow livestock to graze pea or bean forage.
- 7) **DO NOT** harvest pea or bean forage or hay for use as livestock feed. For use on cowpeas that are grown only for dry seed.
- 8) **Pre-Harvest Interval (PHI):** 7 days

7.10 Edible-Podded Legume Vegetables, Crop Subgroup 6A

Crops (Including cultivars, varieties, and/or hybrids of these)			
Jackbean Phaseolus spp. Runner bean Snap bean Wax bean		Pisum spp. Dwarf pea Edible-podded pea Snow pea Sugar snap pea Pigeon pea Soybean (immature seed)	Sword bean Vigna spp. Asparagus bean Chinese longbean Moth bean Yardlong bean
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Corn earworm European corn borer Leafminers Spider mites	7.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air.
Whitefly Suppression: Potato leafhopper Thrips (foliage-feeding only)	10.0	For spider mites and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control within constraints of a sound resistance management program.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precautions:			
<ul style="list-style-type: none"> Applications of Minecto Pro to certain species of the commodities in this crop group may result in adverse crop response. Affected plants outgrow the effects in most cases. If the risk of adverse crop response to Minecto Pro cannot be accepted, do not apply it to legume vegetables. The crop safety of Minecto Pro in tank mixture has not been evaluated on these crops. When using Minecto Pro alone or in tank mixtures on bean crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. 			

- 4) **Minimum Application Interval:** 6 days
- 5) **Maximum Annual Rate:** 30.0 fl oz/A/calendar year (0.26 lb ai/A of cyantraniliprole and 0.056 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.057 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** allow livestock to graze pea or bean forage.
- 7) **DO NOT** harvest pea or bean forage or hay for use as livestock feed.
- 8) **Pre-Harvest Interval (PHI):** 7 days

7.11 Fennel, Florence

Crops (including all cultivars, varieties, and/or hybrids of these)			
Fennel, Florence			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Diamondback moth Fall armyworm <i>Liriomyza</i> leafminers Twospotted spider mite Western yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cabbage looper	7.5 – 10.0		
Cabbage aphid False cabbage aphid Flea beetle Grasshoppers Green peach aphid Turnip aphid Whitefly Suppression: Thrips (foliage feeding only)	10.0	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control. For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> • Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. • Diamondback Moth: <ul style="list-style-type: none"> ○ Do not apply Minecto Pro or other Group 28 insecticides more than twice within any 30-day "treatment window." ○ Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day "treatment window" before making any additional applications of Minecto Pro or other Group 28 insecticides. ○ Do not apply less than 5.5 fl oz/A/application of Minecto Pro for diamondback moth control. • Do not make more than 6 total applications per calendar year of any Group 28 insecticides for control of diamondback moth at the same farm location. 			
Precaution:			

- The crop safety of Minecto Pro in tank mixture has not been evaluated on this crop. When using Minecto Pro alone or in tank mixtures on a Florence fennel crop, it is recommended that a small area be tested to demonstrate safety before using in large areas. See **Section 4.4.2** for more information.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 7 days

7.12 Fruiting Vegetables, Crop Group 8-10

Crops (including all cultivars, varieties, and/or hybrids of these)			
African eggplant	Goji berry	Nonbell pepper	
Bush tomato	Groundcherry	Roselle	
Bell pepper	Martynia	Scarlet eggplant	
Cocona	Naranjilla	Sunberry	
Currant tomato	Okra	Tomatillo	
Eggplant	Pea eggplant	Tomato	
Garden huckleberry	Pepino	Tree tomato	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Broad mite Colorado potato beetle European corn borer Fall armyworm <i>Liriomyza</i> leafminers Southern armyworm Spider mites <i>Thrips palmi</i> Tomato fruitworm Tomato hornworm Tomato pinworm Tomato psyllid Tomato russet mite Western yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear. For broad, russet and spider mite control, apply when mites first appear. For <i>Thrips palmi</i> control, apply when thrips are first observed.	All crops except commercially grown greenhouse tomato: When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Loopers	7.5 – 10.0	For tomato pinworm control, application can be made from the time moth activity is detected up to, but no later than, the time when newly emerged larvae are present. For pepper weevil and thrips suppression, begin making applications when populations are low. Use as part of an effective control program. Rotate with products of different modes of action. For thrips , if populations are above threshold, use an effective thrips knockdown product before spraying Minecto Pro.	Commercially grown greenhouse tomato only: When pest populations are high, use the highest rate allowed for that pest. Apply by ground only. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the
Green peach aphid Potato aphid Tomato pinworm Whitefly Suppression: Pepper weevil Thrips (foliage-feeding only)	10.0		

<p>Commercially grown greenhouse tomato only: <i>Liriomyza</i> leafminers Spider mites <i>Thrips palmi</i> Tomato psyllid Tomato russet mite</p>	5.5 – 10.0	Apply foliarly soon after emergence or transplant to control thrips , which may vector the tomato spotted wilt virus . This will help to suppress and slow the expression of the virus in fruiting vegetables.	size of plants and density of foliage but do not apply diluted product in a volume less than 20 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
<p>Commercially grown greenhouse tomato only: Tomato pinworm Whitefly</p> <p>Suppression: Thrips (foliage-feeding only)</p>	10.0	Apply foliarly soon after emergence or transplant to control whiteflies , which may vector the tomato yellow leaf curl virus . This will help to suppress and slow the expression of the virus in fruiting vegetables.	

Resistance Management:

- Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product.

Precautions:

- Peppers: Tank mixes of Minecto Pro with adjuvants can cause leaf spotting or increase the potential for other products used in tank mix with Minecto Pro to cause an adverse crop response. Tank mixes of Minecto Pro with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide), chlorothalonil based fungicide formulations (for example Bravo Weather Stik® fungicide), and DuPont™Tanos® fungicide (cymoxanil + famoxadone) may also result in an adverse crop response.
- Tomatoes: Tank mixes of Minecto Pro with strobilurin fungicides (for example Cabrio fungicide and Quadris fungicide) may result in adverse crop response.
- The crop safety of Minecto Pro in tank mixture has not been evaluated on all other crops in this crop group. When using Minecto Pro alone or in tank mixtures on these crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See **Section 4.4.2** for more information.

USE RESTRICTIONS

- Refer to **Section 6.1** for additional product use restrictions.
- Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- Minimum Application Interval:** 7 days
- Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- Not for use in commercially grown greenhouse tomatoes in New York State.**
- Pre-harvest Interval (PHI):**

- a. Commercially grown greenhouse tomatoes: 1 day
- b. All other crops: 7 days

7.13 Leaf Petiole Vegetables, Crop Subgroup 22B

Crops (including all cultivars, varieties, and/or hybrids of these)			
Cardoon	Fuki	Udo	
Celery	Rhubarb	Zuiki	
Celery, Chinese			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Diamondback moth Fall armyworm <i>Liriomyza</i> leafminers Twospotted spider mite Western yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cabbage looper	7.5 – 10.0		
Cabbage aphid False cabbage aphid Flea beetle Grasshoppers Green peach aphid Turnip aphid Whitefly Suppression: Thrips (foliage feeding only)	10.0	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control. For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> • Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. • Diamondback Moth: <ul style="list-style-type: none"> ○ Do not apply Minecto Pro or other Group 28 insecticides more than twice within any 30-day "treatment window." ○ Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day "treatment window" before making any additional applications of Minecto Pro or other Group 28 insecticides. ○ Do not apply less than 5.5 fl oz/A/application of Minecto Pro for diamondback moth control. ○ Do not make more than 6 total applications per calendar year of any Group 28 insecticides for control of diamondback moth at the same farm location. 			
Precaution:			

- The crop safety of Minecto Pro in tank mixture has not been evaluated on all of these crops. When using Minecto Pro alone or in tank mixtures on these crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See **Section 4.4.2** for more information.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 7 days

7.14 Leafy Greens, Crop Subgroup 4-16A (Except Spinach)

Crops (including all cultivars, varieties, and/or hybrids of these)			
Amaranth, Chinese spinach	Dang-gwi, leaves	Lettuce, leaf	
Amaranth, leafy	Dillweed	Orach	
Aster, Indian	Dock	Parsley, fresh leaves	
Blackjack	Dol-nam-mul	Plantain, buckhorn	
Cat's whiskers	Ebolo	Primrose, English	
Cham-chwi	Endive	Purslane, garden	
Cham-na-mul	Escarole	Purslane, winter	
Chervil, fresh leaves	Fameflower	Radicchio	
Chipilin	Feather cockscomb	Swiss chard	
Chrysanthemum, garland	Good king henry	Violet, Chinese, leaves	
Cilantro, fresh leaves	Huauzontle		
Corn salad	Jute, leaves		
Cosmos	Lettuce, bitter		
Dandelion, leaves	Lettuce, head		
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Diamondback moth Fall armyworm <i>Liriomyza</i> leafminers Twospotted spider mite Western yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Cabbage looper	7.5 – 10.0		
Cabbage aphid False cabbage aphid Flea beetle Grasshoppers Green peach aphid Turnip aphid Whitefly Suppression: Thrips (foliage feeding only)	10.0	For spider mite and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control. For thrips suppression, begin making applications when populations are low. Use as part of an effective thrips control program. Rotate with products of different modes of action. If populations are above threshold, use an effective thrips knockdown product before spraying with Minecto Pro.	For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			

- **Diamondback Moth:**

- Do not apply Minecto Pro or other Group 28 insecticides more than twice within any 30-day "treatment window."
- Application(s) during the next "treatment window" must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day "treatment window" before making any additional applications of Minecto Pro or other Group 28 insecticides.
- Do not apply less than 5.5 fl oz/A/application of Minecto Pro for diamondback moth control.
- Do not make more than 6 total applications per calendar year of any Group 28 insecticides for control of diamondback moth at the same farm location.

- **Precautions:**

- Lettuce: Tank mixes of Minecto Pro with Aliette® fungicide (fosetyl-al) plus oil adjuvant may result in adverse crop response.
- The crop safety of Minecto Pro in tank mixture has not been evaluated on all other crops in this crop group. When using Minecto Pro alone or in tank mixtures on these crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See **Section 4.4.2** for more information.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 7 days

7.15 Low Growing Berries (Except Strawberry)

Crops (Including cultivars, varieties, and/or hybrids of these)			
Bearberry Bilberry Blueberry, lowbush		Cloudberry Cranberry[*] Lingonberry	
		Muntries Partridgeberry	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Black headed fireworm Cherry fruitworm Cranberry fruitworm Sparganothis fruitworm	7.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	Thorough coverage of the upper and lower leaves is essential for optimum results. Inadequate coverage can result in reduced control. Adjust spray volume and nozzle placement to ensure maximum coverage of tops and undersides of leaves.
Blueberry aphid Blueberry maggot Carmine spider mite Citrus thrips Plum curculio Spotted wing drosophila Strawberry spider mite Twospotted spider mite Suppression: Blueberry gall midge Broad mite	10.0	For mite control, make 2 applications 7-10 days apart when mites first appear. Repeat this application sequence, if needed, to maintain control. For blueberry gall midge suppression, use as part of an overall blueberry gall midge control program and rotate with products with different modes of action. Begin applications when blueberry gall midge populations are low.	Apply this product diluted in a minimum volume of 50 gal/A with conventional ground application equipment. When using an electro-static sprayer, do not use in less than 10 gal/A. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Precautions:			
<ul style="list-style-type: none"> The crop safety of Minecto Pro in tank mixture has not been evaluated on these crops. When using Minecto Pro alone or in tank mixtures on berry crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. Do not tank mix Minecto Pro with any type of adjuvant on these crops unless crop safety has been tested. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 21 days after the second application. 			

- 5) **Maximum Annual Rate:** 40.0 fl oz/A/calendar year (0.35 lb ai/A of cyantraniliprole and 0.075 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.076 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
 - 6) For applications made to cranberries, production fields must be drained of water for at least 24 hours prior to application and water must not be re-applied to the field for a minimum of 24 hours following the application.
 - 7) **DO NOT** apply by air.
 - 8) **Pre-Harvest Interval (PHI):**
 - a. Blueberry, low bush and Lingonberry: 3 days
 - b. Bearberry; bilberry; cloudberry; cranberry; muntries; partridgeberry: 14 days
- [*Not for Use in California]

7.16 Onion, Bulb, Crop Subgroup 3-07A

Crops (including all cultivars, varieties, and/or hybrids of these)			
Daylily, bulb		Lily, bulb	Onion, pearl
Garlic, bulb		Onion, bulb	Onion, potato, bulb
Garlic, great-headed, bulb		Onion, Chinese, bulb	Shallot, bulb
Garlic, serpent, bulb			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
<i>Liriomyza</i> leafminers Thrips (foliage-feeding only)	7.0 – 10.0	For leafminer control, apply when adult leafminer flies are first observed and repeat application if needed. For thrips control, apply as part of a thrips management program. Begin making applications when populations are low (1-3 thrips/plant). Repeat application as needed. If populations are high, use an effective thrips knockdown product before spraying Minecto Pro.	For best control of thrips , use 10.0 fl oz/A. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air.
Suppression: Spider mites	10.0	For spider mite suppression, it is recommended to apply Minecto Pro when spider mites first appear.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. Minecto Pro may be applied through overhead chemigation systems for suppression of thrips. See Section 4.5 for more information. For best control, apply Minecto Pro with ground application equipment. With aerial or chemigation application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precaution:			
<ul style="list-style-type: none"> Do not use Minecto Pro as a rescue treatment for thrips control. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin). <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 20.0 fl oz/A/calendar year (0.18 lb ai/A cyantraniliprole and 0.038 lb ai/A of abamectin). 			

- a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **Pre-harvest Interval (PHI):** 30 days

7.17 Onion, Green, Crop Subgroup 3-07B

Crops (including all cultivars, varieties, and/or hybrids of these)			
Chive, fresh leaves		Lady's leek	Onion, green
Chive, Chinese, fresh leaves		Leek	Onion, macrostem
Elegans hosta		Leek, wild	Onion, tree, tops
Fritillaria, leaves		Onion, Beltsville bunching	Onion, Welsh, tops
Kurrat		Onion, fresh	Shallot, fresh leaves
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
<i>Liriomyza</i> leafminers Thrips (foliage-feeding only)	7.0 – 10.0	For leafminer control, apply when adult leafminer flies are first observed and repeat application if needed. For thrips control, apply as part of a thrips management program. Begin making applications when populations are low (1-3 thrips/plant). Repeat application as needed. If populations are high, use an effective thrips knockdown product before spraying Minecto Pro.	For best control of thrips , use 10.0 fl oz/A. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air.
Suppression: Spider mites	10.0	For spider mite suppression, it is recommended to apply Minecto Pro when spider mites first appear.	Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. Minecto Pro may be applied through overhead chemigation systems for suppression of thrips. See Section 4.5 for more information. For best control, apply Minecto Pro with ground application equipment. With aerial or chemigation application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precaution:			
<ul style="list-style-type: none"> Do not use Minecto Pro as a rescue treatment for thrips control. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin). <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 7 days 			

- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A cyantraniliprole and 0.038 lb ai/A of abamectin).
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.076 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** apply with aircraft in New York State and California.
- 7) **Pre-harvest Interval (PHI):** 7 days

7.18 Pome Fruit, Crop Group 11-10

Crops (including all cultivars, varieties, and/or hybrids of these)			
Apple		Mayhaw	Quince
Azarole		Medlar	Quince, Chinese
Crabapple		Pear	Quince, Japanese
Loquat		Pear, Asian	Tejocote
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Codling moth European apple sawfly European red mite Green fruitworm McDaniel spider mite Obliquebanded leafroller Oriental fruit moth Pear rust mite Redbanded leafroller Spotted tentiform leafminer Tufted apple budmoth Twospotted spider mite Variegated leafroller Western tentiform leafminer White apple leaf hopper Yellow mite	8.0 – 12.0	<p>Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.</p> <p>For spider mite control, apply when spider mite or insect thresholds are reached. Make a second application, if needed, to maintain control.</p> <p>For apple maggot suppression, begin making applications when pest populations are at or below threshold. Use as part of an effective control program.</p>	<p>When pest populations are high, use the highest rate allowed for that pest.</p> <p>Apply by ground only.</p> <p>Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage, but do not apply diluted product in a volume less than 40 gal/A.</p> <p>For apple maggot suppression, use 12.0 fl oz/A for best results.</p>
Pear psylla Plum curculio Rosy apple aphid <u>Suppression:</u> Apple maggot Thrips	10.0 – 12.0	<p>Rotate with products of different modes of action. If populations are above threshold, use an effective knockdown product before spraying with Minecto Pro.</p> <p>For thrips control, apply as part of a thrips management program. Begin making applications when populations are low (1-3 thrips/plant). Repeat application as needed. If populations are high, use an effective thrips knockdown product before spraying Minecto Pro.</p> <p>For best results, start applications for rosy apple aphid at green tip to early pink timing.</p>	
Resistance Management:			

- Do not make more than 2 applications of Minecto Pro or any other foliar applied abamectin-containing product per year.
- Do not make more than 3 applications of Group 28 insecticides within a single generation of the target pest on a crop.
- **Codling moth:** Do not make more than 3 applications of Group 28 insecticides within a single generation of codling moth. Codling moth typically has a single generation “treatment window” of 30-45 days. Application(s) to the next generation of codling moth must be with an effective product(s) with a different mode of action (different IRAC group number) for at least a 30–45 day “treatment window” before making additional applications of Group 28 insecticides.
- **Obliquebanded leafroller:** Only apply Minecto Pro or other Group 28 insecticides to one generation of obliquebanded leafroller per year. Application(s) to other generations of obliquebanded leafroller must be with an effective product with a different mode of action (i.e., a product with a different IRAC group number).

Precautions:

- Applying the combination of Minecto Pro and horticultural spray oil fewer than 14 days before or after applying Captan® or other sulfur-containing products can result in phytotoxicity and crop loss.
- Do not tank mix Minecto Pro with any type of adjuvant on these crops unless crop safety has been demonstrated.
- See Tank Mix Precautions in **Section 4.4.2.**

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a spray adjuvant as instructed in **Section 4.4.5.** Horticultural spray oil (not dormant oil) is recommended. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 12.0 fl oz/A/application (0.106 lb ai/A of cyantraniliprole and 0.023 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.023 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 21 days
- 5) **Maximum Annual Rate:** 24.0 fl oz/A/calendar year (0.21 lb ai/A of cyantraniliprole and 0.044 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.046 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** apply by air.
- 7) **DO NOT** allow livestock to graze in treated orchards.
- 8) Application is not permitted from onset of flowering until after petal fall is complete.
- 9) **Pre-harvest Interval (PHI):** 28 days

7.19 Soybean

Crops (Including all cultivars, varieties, and/or hybrids of these)			
Soybeans			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Green cloverworm Spider Mites (Tetranychid species) Soybean looper Velvetbean caterpillar	7.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage can result in reduced control.
Lesser cornstalk borer Japanese beetle Soybean aphid Suppression: Bean leaf beetle Stink bug species Thrips (foliage feeding only)	10.0	For spider mite control, apply when spider mites are first observed and repeat application, if needed, to maintain control.	Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air. With aerial application, the resulting control of spider mites could be less than with ground application. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage.
Resistance management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precaution:			
<ul style="list-style-type: none"> The crop safety of Minecto Pro in tank mixture has not been evaluated on this crop. When using Minecto Pro alone or in tank mixtures on soybeans, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 7 days Maximum Annual Rate: 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin) <ol style="list-style-type: none"> Do not apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar). Do not apply more than 0.038 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar). DO NOT allow livestock to graze in treated areas or harvest treated soybean forage, straw, or hay as feed for meat or dairy animals. 			

- 7) **DO NOT** feed treated soybean fodder or silage to meat or dairy animals.
- 8) **Pre-Harvest Interval (PHI):** 28 days

7.20 Stone Fruit, Crop Group 12

Crops (including all cultivars, varieties, and/or hybrids of these)			
Apricot		Peach	Plum, Japanese
Cherry, sweet		Plum	Plumcot
Cherry, tart		Plum, Chickasaw	Prune (fresh)
Nectarine		Plum, Damson	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Cherry fruit fly Codling moth European red mite Obliquebanded leafroller Omnivorous leafroller Oriental fruit moth Pacific spider mite Peach twig borer Tufted apple budmoth Twospotted spider mite	8.0 – 12.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	When pest populations are high, use the highest rate allowed for that pest. Apply by ground only. Thorough coverage is essential to obtain best results. Select a spray volume appropriate for the size of trees and density of foliage but do not apply diluted product in a volume less than 40 gal/A.
Spotted wing <i>Drosophila</i> Black cherry aphid Japanese beetle Plum curculio Suppression: Thrips	10.0 – 12.0	For spider mite control, apply when spider mites first appear. Make a second application, if needed, to maintain control. For peach twig borer control, application may be made throughout the growing season. For April-May applications to the summer generation, make applications at peak moth flight (timed at or before peak egg lay).	For peach twig borer control, use higher rates for dormant applications and lower rates for delayed dormant applications. Use 12.0 fl oz/A for best results. For peach twig borer control in the April-May applications to the summer generation period, higher rates in the labeled rate range may be needed for higher infestation levels and large, dense foliage trees.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 applications of Minecto Pro or any other foliar applied abamectin-containing product per year. Do not make more than 3 applications of Group 28 insecticides within a single generation of the target pest on a crop. 			
Precautions:			
<ul style="list-style-type: none"> See Tank Mix Precautions in Section 4.4.2. Tank mixes with organosilicone adjuvants at rates of 0.03% v/v or lower on sweet or tart cherries should not result in crop response on cherry fruit or leaves. However, it is impossible to test all conditions and varieties. Therefore, it is recommended that a small area be tested to demonstrate safety to fruit and leaves before using in large areas. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant or with a horticultural spray oil (not a dormant oil) as instructed in Section 4.4.5. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 12.0 fl oz/A/application (0.106 lb ai/A of cyantraniliprole and 0.023 lb ai/A of abamectin) 			

- a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.023 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 21 days
- 5) **Maximum Annual Rate:** 24.0 fl oz/A/calendar year (0.21 lb ai/A of cyantraniliprole and 0.044 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.046 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** apply by air.
- 7) **DO NOT** allow livestock to graze in treated orchards.



- 8) Application is not permitted from onset of flowering until after petal fall is complete.
- 9) **Pre-harvest Interval (PHI):** 21 days

7.21 Strawberry

Crops (including all cultivars, varieties, and/or hybrids of these)			
Strawberry			
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Carmine spider mite Corn earworm Fall armyworm Soybean looper Spotted wing drosophila Strawberry spider mite Twospotted spider mite Whitefly <u>Suppression:</u> Cyclamen mite Thrips (foliage-feeding only)	10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear.	Apply by ground only. Thorough coverage is essential to obtain best results. Select a spray volume and nozzle placement to ensure maximum coverage of tops and undersides of leaves. Do not apply diluted product in less than 50 gal/A with conventional ground application equipment. When using electrostatic sprayers, do not apply diluted product in less than 10 gal/A. For cyclamen mite control, apply in sufficient water volume to obtain good coverage into the crown of the plant. For spider mite control, make 2 sequential applications 7-10 days apart when mites first appear. Repeat this application sequence no sooner than 21 days after the second application, if needed, to maintain control.
Resistance Management: <ul style="list-style-type: none"> For management of thrips, use Minecto Pro in conjunction with an effective thrips management system. For resistance management purposes, DO NOT use in strawberry nurseries. 			
Precaution: <ul style="list-style-type: none"> Not all varieties of strawberries have been tested for crop safety with Minecto Pro alone or in tank mixture. It is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			
1) Refer to Section 6.1 for additional product use restrictions. 2) Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in Section 4.4.5 . Do not use binder or sticker type adjuvants. 3) Maximum Single Application Rate: 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin). <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products. 			

- 4) **Minimum Application Interval:** 7 days; wait 21 days after the second application before repeating application.
- 5) **Maximum Annual Rate:** 40.0 fl oz/A/calendar year (0.35 lb ai/A of cyantraniliprole and 0.075 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.075 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** apply by air.
- 7) **Pre-harvest Interval (PHI):** 3 days


7.22 Succulent Pea and Bean, Crop Subgroup 6B (Except Cowpea)

Crops (including all cultivars, varieties, and/or hybrids of these)			
Phaseolus spp. Lima bean (green) Broad bean (succulent)	Vigna spp. Blackeyed pea Southern pea	Pisum spp. English pea Garden pea Green pea Pigeon pea	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Corn earworm European corn borer Leafminers Spider Mites	7.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear. For spider mites and leafminer control, apply when spider mites or adult leafminer flies are first observed and repeat application, if needed, to maintain control within constraints of a sound resistance management program.	Thorough coverage of the crop canopy is essential for optimum results. Inadequate coverage can result in reduced control.
Whitefly Suppression: Potato leafhopper Thrips (foliage feeding only)	10.0		Apply this product diluted in a minimum volume of 10 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. For best control, apply Minecto Pro with ground application equipment. With aerial application, the resulting level and duration of control could be less than with ground application.
Resistance Management:			
<ul style="list-style-type: none"> Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product. 			
Precautions:			
<ul style="list-style-type: none"> Applications of Minecto Pro to certain species of the commodities in this crop group may result in adverse crop response. Affected plants outgrow the effects in most cases. If the risk of adverse crop response to Minecto Pro cannot be accepted, do not apply it to legume vegetables. The crop safety of Minecto Pro in tank mixture has not been evaluated on these crops. When using Minecto Pro alone or in tank mixtures on bean crops, it is recommended that a small area be tested to demonstrate safety before using in large areas. See Section 4.4.2 for more information. 			
USE RESTRICTIONS			

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 6 days
- 5) **Maximum Annual Rate:** 30.0 fl oz/A/calendar year (0.26 lb ai/A of cyantraniliprole and 0.056 lb ai/A of abamectin)
 - a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.057 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** allow livestock to graze pea or bean forage.
- 7) **DO NOT** harvest pea or bean forage or hay for use as livestock feed.
- 8) **Pre-Harvest Interval (PHI):** 7 days

7.23 Tree Nuts, Crop Group 14-12

Crops (including all cultivars, varieties, and/or hybrids of these)			
African nut-tree	Coconut	Okari nut	
Almond	Coquito nut	Pachira nut	
Beech nut	Dika nut	Peach palm nut	
Brazil nut	Ginkgo	Pecan	
Brazilian pine	Guiana chestnut	Pequi	
Bunya	Hazelnut (filbert)	Pili nut	
Bur oak	Heartnut	Pine nut	
Butternut	Hickory nut	Pistachio	
Cajou nut	Japanese horse-chestnut	Sapucaia nut	
Candlenut	Macadamia nut	Tropical almond	
Cashew	Mongongo nut	Walnut, black	
Chestnut	Monkey-pot	Walnut, English	
Chinquapin	Monkey puzzle nut	Yellowhorn	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Codling moth European red mite Hickory shuckworm Obliquebanded leafroller Oriental fruit moth Pacific spider mite Peach twig borer Pecan nut casebearer Strawberry spider mite Twospotted spider mite	8.0 – 12.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear. For spider mite control, apply when spider mites first appear. Residual spider mite control is greater from spray deposits on newer leaves compared to older leaves. Make a second application, if needed, to maintain control. For codling moth (walnut) control, make initial application at or before peak egg lay for targeted generation. Depending on level of infestation, reapply 21 days later as needed. For peach twig borer control, application may be made throughout the growing season. For spring application to overwintering generation: Make applications at late dormant (just prior to bud break) to	When pest populations are high, use the highest rate allowed for that pest. Apply by ground only. Select a spray volume appropriate for the size of trees and density of foliage, but do not apply diluted product in a volume less than 40 gal/A. For codling moth (walnut) control, use higher rates and higher water volumes to achieve thorough coverage. For peach twig borer control in the April-May applications to the summer generation, higher rates in the labeled rate range may be needed for higher infestation levels and large, dense foliage trees. For navel orangeworm control, depending on infestation levels, use of higher rates in the labeled rate range and multiple applications may be needed.
Navel orangeworm Walnut aphid	10.0 – 12.0		

		<p>early bloom. For April-May applications to the summer generation: Make applications at peak moth flight (timed at or before peak egg lay).</p> <p>For navel orangeworm control, applications can be made during the “May spray” or “Hull split” application timing. For applications made at “Hull split” timing, make an application at 1-2% hull-split timing.</p>	
<p>Resistance Management:</p> <ul style="list-style-type: none"> Do not make more than 2 applications of Minecto Pro or any other foliar applied abamectin-containing product per year. Do not make more than 3 applications of Group 28 insecticides within a single generation of the target pest on a crop. 			
<p>Precautions:</p> <ul style="list-style-type: none"> See Tank Mix Precautions in Section 4.4.2. Do not tank mix Minecto Pro with any type of adjuvant on these crops unless crop safety has been demonstrated. 			
USE RESTRICTIONS			
<ol style="list-style-type: none"> Refer to Section 6.1 for additional product use restrictions. Adjuvant Requirement: To avoid illegal residues, Minecto Pro must be mixed with a spray adjuvant as instructed in Section 4.4.5. Horticultural spray oil (not a dormant oil) is recommended. Do not use binder or sticker type adjuvants. Maximum Single Application Rate: 12.0 fl oz/A/application (0.106 lb ai/A of cyantraniliprole and 0.023 lb ai/A of abamectin) <ol style="list-style-type: none"> If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.023 lb ai/A of any foliar-applied abamectin-containing products. Minimum Application Interval: 21 days Maximum Annual Rate: 24.0 fl oz/A/calendar year (0.21 lb ai/A of cyantraniliprole and 0.044 lb ai/A of abamectin) <ol style="list-style-type: none"> Do not apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar). Do not apply more than 0.046 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar). DO NOT apply by air. DO NOT allow livestock to graze in treated orchards. <div style="text-align: center;">  </div> <ol style="list-style-type: none"> Application is not permitted from onset of flowering until after petal fall is complete. Pre-harvest Interval (PHI): 21 days 			

7.24 Tuberos and Corm Vegetables, Crop Subgroup 1C

Crops (including all cultivars, varieties, and/or hybrids of these)			
Arracacha		Chayote (root)	Sweet potato
Arrowroot		Chufa	Tanier
Artichoke, Chinese		Dasheen	Turmeric
Artichoke, Jerusalem		Ginger	Yam bean
Canna, edible		Leren	Yam, true
Cassava, bitter and sweet		Potato	
Target Pest	Rate (fl oz/A)	Application Timing	Use Directions
Beet armyworm Colorado potato beetle European corn borer <i>Liriomyza</i> leafminers Potato tuberworm Spider mites Yellowstriped armyworm	5.5 – 10.0	Time applications to the most susceptible insect or mite pest stage at locally determined action thresholds, before populations reach damaging levels. For best results when targeting control of sucking pests, begin applications when populations first appear. For Colorado potato beetle control, make the first application after approximately 50% of the egg masses have hatched and early instar larvae are present. If two applications are needed, limit them to a single Colorado potato beetle generation per crop.	When pest populations are high, use the highest rate allowed for that pest. Apply this product diluted in a minimum volume of 20 gal/A by ground or 5 gal/A by air. Under conditions such as high pest populations, dense foliage, or adverse application conditions (such as high temperatures), use a greater volume of water to ensure adequate coverage. Thorough coverage of the crop canopy is essential for optimum results.
Cabbage looper	7.5 – 10.0		
Green peach aphid Potato psyllid Suppression: Potato aphid Potato flea beetle Thrips (foliage feeding only)	10.0	For <i>Liriomyza</i> leafminer control, make the first application when adult flies are first observed. Repeat applications, if needed, to maintain control. For spider mite control, make the first application when mites first appear. Repeat application, if needed, to maintain control. For potato tuberworm control, begin application when field scouting indicates the presence of tuberworm adults and/or larvae. Potato tuberworm often has overlapping generations, so repeat application may be needed based on scouting. Avoid treating successive	For best control of mites, apply with ground application equipment. With aerial or chemigation application, the resulting level and duration of control could be less than with ground application. For potato tuberworm control, apply at rates of 5.5–10.0 fl oz/A. See the Precaution below for further guidance. For potato psyllid control, use a rate of 10 fl oz/A. to help suppress zebra chip disease . Minecto Pro may be applied through overhead chemigation systems in potatoes only. See Section 4.5 for more information. For best control, apply Minecto Pro with ground application equipment. With aerial or chemigation application, the resulting level and duration of control could be less than with ground application.

		<p>generations with the same mode of action.</p> <p>Begin application when populations are low to control potato psyllid, which may vector zebra chip disease. This will help to suppress the expression of the disease symptoms.</p> <p>For potato aphid and potato flea beetle suppression, use as part of an effective control program. Rotate with products with different modes of action.</p>	
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Resistance Management:

- Do not make more than 2 sequential applications of Minecto Pro or any other foliar applied abamectin-containing product.
- **Colorado Potato Beetle:**
 - Do not apply Minecto Pro or other Group 28 insecticides more than twice to a generation of Colorado potato beetle or within any 30-day “treatment window.”
 - Application(s) to the next generation of Colorado potato beetle must be with an effective product(s) with a different mode of action (i.e., a non-Group 28 insecticide) for at least a 30-day “treatment window” before making any additional applications of Minecto Pro or other Group 28 insecticides.
 - If a Group 28 insecticide was used at-plant either as a soil or seed-piece application, do not apply Minecto Pro or other Group 28 insecticides for Colorado potato beetle control for at least 60 days after emergence. Application(s) for Colorado potato beetle control during the first 30-60 days must be with an effective product with a different mode of action for at least a 30-day “treatment window” before making any additional applications of Minecto Pro or other Group 28 insecticides.

Precautions:

- **Potato tuberworm control:** It is important to protect the crop just prior to harvest when foliage starts to senesce. Use the higher rate (10.0 fl oz/A) when tuberworm pressure is high. Failure to adequately control potato tuberworm larvae prior to crop senescence or vine kill increases the risk of tuber damage. Foliar sprays alone, by air or ground, may not provide adequate control of the larvae in the mid to lower crop canopy. For best results, add methylated seed oil (MSO) adjuvant at 1% volume to volume. For chemigation applications, apply in 0.1 to 0.2 acre inches of water and add MSO at 12-16 fl oz/A.
- Spider mite control may be greatly reduced when Minecto Pro is applied through chemigation.

USE RESTRICTIONS

- 1) Refer to **Section 6.1** for additional product use restrictions.
- 2) **Adjuvant Requirement:** To avoid illegal residues, Minecto Pro must be mixed with a non-ionic activator type wetting, spreading, and/or penetrating spray adjuvant as instructed in **Section 4.4.5**. Do not use binder or sticker type adjuvants.
- 3) **Maximum Single Application Rate:** 10.0 fl oz/A/application (0.088 lb ai/A of cyantraniliprole and 0.019 lb ai/A of abamectin)
 - a. If a concurrent foliar application of another product is made, do not exceed a total of 0.133 lb ai/A of any foliar-applied cyantraniliprole-containing products or 0.019 lb ai/A of any foliar-applied abamectin-containing products.
- 4) **Minimum Application Interval:** 7 days
- 5) **Maximum Annual Rate:** 20.0 fl oz/A/calendar year (0.18 lb ai/A of cyantraniliprole and 0.038 lb ai/A of abamectin)

- a. **Do not** apply more than 0.4 lb ai/A/calendar year of cyantraniliprole-containing products including all application types (seed treatment, soil, foliar).
 - b. **Do not** apply more than 0.056 lb ai/A/calendar year of abamectin-containing products including all application types (seed treatment, soil, foliar).
- 6) **DO NOT** feed or allow livestock to graze treated foliage.
 - 7) **Pre-harvest Interval (PHI):** 14 days

8.0 STORAGE AND DISPOSAL

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Keep container closed when not in use. Always store pesticides in the original container only, away from other pesticides, food, pet food, feed, seed, fertilizers, and veterinary supplies. If a leaky container must be contained within another, mark the outer container to identify the contents. Storage areas must be locked and secure from vandalism, with precautionary signs posted. The storage area must be dry, well-lit, and well-ventilated. Keep pesticide storage areas clean. Clean up any spills promptly. Protect pesticide containers from extreme heat and cold. Store herbicides, insecticides, and fungicides in separate areas within the storage unit. Place liquid formulations on lower shelves and dry formulations above. Maintaining a spill kit and fire extinguisher on hand and having emergency phone numbers posted will allow you to be prepared for emergencies. If spill cleanup PPE is stored nearby, but outside the pesticide storage area, it will be accessible when needed.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER.

9.0 CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

10.0 APPENDIX

10.1 Minecto Pro Use Summary Table

IMPORTANT: The table below is a summary of the Crop Use Directions for Minecto Pro. However, it is important for the user to read and follow the complete instructions contained within this label.

Crop or Crop Group or Subgroup, with examples	Maximum Minecto Pro Rate per Application (lb ai/A)		Minimum Application Interval (days)	Pre-Harvest Interval - PHI (days)	Maximum Minecto Pro Rate per Year (lb ai/A)	
	CYNT*	ABA*			CYNT*	ABA*
Arugula	0.088	0.019	7	7	0.18	0.038
Caneberry, Crop Subgroup 13-07A, blackberry	0.088	0.019	7	7	0.18	0.038
Celeriac	0.088	0.019	7	7	0.18	0.038
Celtuce	0.088	0.019	7	7	0.18	0.038
Citrus Fruit, Crop Group 10-10, orange, lemon, grapefruit	0.106	0.023	30	7	0.21	0.044
Cotton	0.088	0.019	21	20	0.18	0.038
Cress, Garden and Upland	0.088	0.019	7	7	0.18	0.038
Cucurbit Vegetables, Crop Group 9, cucumber, squash	0.088	0.019	7	7	0.18	0.038
Dried Shelled Pea and Bean, Crop Subgroup 6C (except soybean), lima bean (dry)	0.088	0.019	6	7	0.26	0.056

Edible Podded Legume Vegetables, Crop Subgroup 6A, snap bean, sugar snap pea	0.088	0.019	6	7	0.26	0.056
Fennel, Florence	0.088	0.019	7	7	0.18	0.038
Fruiting Vegetables, Crop Group 8-10, tomato, bell pepper	0.088	0.019	7	1 (greenhouse tomato) 7 (all other crops)	0.18	0.038
Leaf Petiole Vegetables, Crop Subgroup 22B, celery	0.088	0.019	7	7	0.18	0.038
Leafy Greens, Crop Subgroup 4-16A, (except spinach), lettuce	0.088	0.019	7	7	0.18	0.038
Low Growing Berries (except strawberry)	0.088	0.019	21	3 (lowbush blueberry, lingonberry) 14 (bearberry, bilberry, cloudberry, muntries, partridge berry)	0.35	0.075
Onion, Bulb, Crop Subgroup 3-07A, garlic, shallot	0.088	0.019	7	30	0.18	0.038
Onion, Green, Crop Subgroup 3-07B, chive, leek	0.088	0.019	7	7	0.18	0.038
Pome Fruit, Crop Group 11-10, apple, pear	0.106	0.023	21	28	0.21	0.044
Soybean	0.088	0.019	7	28	0.18	0.038
Stone Fruit, Crop Group 12, apricot, peach	0.106	0.023	21	21	0.21	0.044

Strawberry	0.088	0.019	7; 21 (after 2 nd application)	3	0.35	0.075
Succulent Pea and Bean, Crop Subgroup 6B (except cowpea), lima bean, (green), garden pea	0.088	0.019	6	7	0.26	0.056
Tree Nuts, Crop Group 14-12, almond, pecan	0.106	0.023	21	21	0.21	0.044
Tuberous and Corm Vegetables, Crop Subgroup 1C, potato, ginger	0.088	0.019	7	14	0.18	0.038

*ABA = abamectin; *CYNT = cyantraniliprole

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Venom® is a trademark of Valent U.S.A. LLC Agricultural Products.

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<p>For non-emergency (e.g. current product information), call Syngenta Crop Protection at 1-800-334-9481.</p>

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Minecto Pro 1592 MAS 0422 AMEND-B 0623-CL – JVB – 08/04/23
000100-01592.20230616B.MINECTO_PRO.AMEND-0623-CL.pdf

Attachment 13



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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EPA Reg. Nos.

Decision Nos. 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master Label]

Not for Sale, Sale Into, Distribution and/or Use in Nassau, Suffolk, Kings, Queens Counties of New York State unless permitted under FIFRA Section 24(c) Special Local Need Registration

GROUP 28 INSECTICIDE

Ference®

Insecticide

For foliar and systemic control of Annual Bluegrass Weevil and other listed pests infesting recreational turfgrass (including golf courses) and sod farms

[Optional Claims]

1. [Provides quick knockdown and residual control]
2. [Taken up by the roots and protects plants from insect pests]
3. [Systemically moves through the plant]
4. [Root absorbed, with systemic movement through plant]
5. [Controls multiple pests with one application]
6. [Single application controls annual bluegrass weevils, white grubs, billbugs, and surface feeders [caterpillars]]
7. [Controls annual bluegrass weevils, grubs, billbugs, and surface feeders [caterpillars] all with one application]
8. [Starts impacting labeled insect pests upon ingestion [contact]]

Active Ingredient:

Cyantraniliprole*:

3-bromo-1-(3-chloro-2-pyridinyl)-N-[4-cyano-2-methyl-6-[(methylamino) carbonyl]phenyl]-1H-pyrazole-5-carboxamide:..... 18.66%

Other Ingredients:..... 81.34%

Total:..... 100.00%

Ference® is a suspension concentrate.

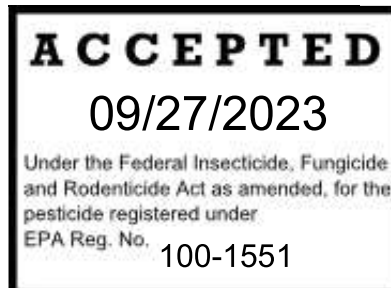
This product contains 1.67 pounds of active ingredient per gallon.

*Cyantraniliprole belongs to the anthranilic diamide chemical class.

KEEP OUT OF REACH OF CHILDREN. / MANTÉNGASE FUERA DEL ALCANCE DE LOS NIÑOS.

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.) See additional precautionary statements and directions for use inside booklet. Vea el folleto para Precauciones e instrucciones del uso.

EPA Reg. No. 100-1551



EPA Est. No.

Net Contents

[Refillable Container] [Non-refillable Container]

FIRST AID • PRIMEROS AUXILIOS
Have the product container or label with you when calling a poison control center or doctor or going for treatment.
HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire or Accident), Call 1-800-888-8372
Cuando llame a un centro de control de envenenamiento, a un médico, o intente obtener tratamiento, tenga a la mano el envase o la etiqueta del producto. Para más información sobre el tratamiento médico de emergencia, llame al 1-800-888-8372

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

When used as directed, this product does not present a hazard to humans or domestic animals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

After the product has been diluted in accordance with label directions for use, shirt, pants, socks, and shoes are sufficient Personal Protective Equipment (PPE). Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

EQUIPO DE PROTECCIÓN PERSONAL (PPE)

Los aplicadores y otros manipuladores de pesticidas necesitan usar:

- Camisa de manga larga, pantalones largos.
- Zapatos y calcetines.

Después de diluir el pesticida de acuerdo a las instrucciones de uso en la etiqueta, es suficiente usar el equipo de protección como camisa de manga larga, pantalones, calcetines y zapatos. Sigue las instrucciones del fabricante para la

limpieza/mantenimiento del Equipo de Protección Personal. En el caso de no existir dichas instrucciones de limpieza para equipos de protección, utilice detergente y agua caliente. Mantenga y lave el Equipo de Protección Personal separadamente de otras prendas de vestir.

RECOMENDACIONES DE SEGURIDAD PARA LOS MANIPULADORES DE PESTICIDAS

LOS MANIPULADORES DEBEN: Lávese minuciosamente con agua y jabón después de manipular los pesticidas, y antes de comer, beber, masticar chicle, usar tabaco o utilizar el sanitario. Quítese la ropa sucia y lávela antes de volverla a usar.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming plants or weeds if bees are foraging the treatment area.

Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application.

- **Do not** apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
- **Do not** cultivate within 30 feet of the aquatic area to allow growth of a vegetative filter strip.
- Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Ground Water Advisory

This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Spray Drift Advisory

FERENCE may be applied by ground equipment or aerial application.

Ground Application

- For broadcast applications made at planting or prior to the emergence of crops, applicators are required to use a coarse or coarser droplet size (ASABE S572.1). For all other broadcast applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).

Aerial Application (sod farms)

- Avoid spraying at a height greater than 10 ft above the ground or vegetative canopy unless a greater application height is necessary for pilot safety.
- If the windspeed is 10 miles per hour or less, applicators must use $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full swath displacement upwind at the downwind edge of the field.
- **DO NOT** spray when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- **DO NOT** apply during temperature inversions.

Physical or Chemical Hazards

Do not place product near or allow product to come into contact with strong oxidizing substances (such as potassium permanganate) since a hazardous chemical reaction may occur.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

Read and understand the entire label before using this product. Ference must be used in accordance with the directions of this label.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS

Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms (sod farms included), forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

For early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides, 40 CFR Part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Professional applications to golf courses, residential, industrial and commercial lawns and sports fields are not within the scope of the Worker Protection Standard. Do not enter or allow others to enter the treated area until sprays have dried.

USE RESTRICTIONS AND PRECAUTIONS

- **DO NOT** formulate this product into other end-use products without written permission from Syngenta Crop Protection, LLC.
- **DO NOT** use on turf grown for seed production.
- **DO NOT** allow this product to contact plants in bloom if bees are foraging in the treatment area.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply this product with aerial application equipment.

- **DO NOT** apply more than 32 fluid ounces (equivalent to 0.4 lb of active ingredient) of product per acre per year.
- For foliar uses: **DO NOT** apply during rain.
- Wait a minimum of 7 days to retreat.
- Not for Sale, Sale Into, Distribution and/or Use in Nassau, Suffolk, Kings, Queens Counties of New York State unless permitted under FIFRA Section 24© Special Local Need Registration.

PRODUCT INFORMATION

Ference is a suspension concentrate that may be applied for the control of annual bluegrass weevils, white grubs, billbugs, caterpillars and other listed pests infesting landscape and recreational turfgrass (including golf courses and sod farms).

Ference may be used on turfgrasses that are being grown for aesthetic or recreational purposes in or around home lawns, residential dwellings, business and office complexes, shopping complexes, multi-family residential complexes, institutional buildings, airports, cemeteries, parks, playgrounds, schools, daycare facilities, golf courses (tee box areas, roughs, fairways, greens, collars etc.), athletic fields and sod farms. Ference may also be used on turfgrass in and around small and large companion animal (including horses) boarding and exercising areas providing that the animals exposed to the treated areas are not used for human consumption.

INTEGRATED PEST MANAGEMENT (IPM) PROGRAMS

Ference is recommended for IPM programs on turf. The feeding behavior of predatory beneficial arthropods will aid in extending natural control of other insect and mite pests and will reduce the possibility of secondary pest outbreaks. Ference will reduce the target pest species that may serve as a food source for beneficial arthropods. If Ference is tank-mixed with an insect control product that negatively impacts beneficial arthropods, then the full benefit of Ference to the IPM program may not be realized.

RESISTANCE MANAGEMENT

Ference is in GROUP 28 of the EPA's Insecticide and Acaricide Groups based on target site of action and may be used in rotational resistance management programs.

Some insects are known to develop resistance to products used repeatedly for control. When this occurs, the labeled dosages fail to suppress the pest population below threshold levels. As the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. These strategies may include incorporation of cultural and biological control

practices, alternation of active classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local Syngenta representative, Cooperative Extension Service specialist or pest control advisor for the latest information on resistance management in your area.

APPLICATION TIMING

Consult your local Syngenta representative, Cooperative Extension Service specialist or pest control advisor for regionally specific information regarding application timing.

Annual Bluegrass Weevil

For preventive control of annual bluegrass weevils, apply Ference when early instar larvae are hatching and penetrating into the turfgrass sheaths.

For curative control of summer annual bluegrass weevils, Ference can be applied to any asynchronous larval stage. The higher rate in Table 1 may be required to control late instar larvae.

Use Ference as part of a season-long program to prevent turf damage from overwintering and following generations of annual bluegrass weevil larvae. Consult your local Syngenta representative, Cooperative Extension Service specialist or pest control advisor for the latest information on using Ference to control annual bluegrass weevil larvae.

Billbugs: Apply Ference when overwintered adult billbugs are first observed. The higher rates listed in Table 1 may be required for applications made in late spring or when billbug species other than bluegrass billbug are present.

Chinch Bugs: For suppression of chinch bugs, apply Ference before eggs hatch.

European Crane Fly: Apply Ference between midsummer and fall to control the fall generation of European crane fly larvae in turfgrass. An application of Ference in early summer will also provide white grub control. The higher rate listed in Table 1 may be required to achieve European crane fly control when fall applications are made.

Turf Caterpillars: Ference will provide curative and residual caterpillar control in turfgrass. To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application.

When the area being treated is maintained at a mowing height of greater than one inch, then the higher rate listed in Table 1 may be required during periods of high pest pressure. Ference provides long term residual control of turfgrass-infesting caterpillars, and the duration of control increases with the application rate. For golf course green, tee and fairway applications, extend the treatment one boom length around the

perimeter of the treated area to minimize subsequent movement of large caterpillars onto the treated area.

White Grubs: Apply Ference for preventative and early curative control of white grub species infesting turfgrass. For optimum control, treat from peak adult flight through peak egg hatch of the primary white grub species targeted. The need for an application may be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. The higher rate listed for white grub control in Table 1 may be required for curative control when less sensitive mid-instar grubs are present. Irrigate turf immediately after application or allow rainfall to move the product into the soil.

APPLICATION RATES FOR LAWNS, GOLF COURSES, OTHER RECREATIONAL TURFGRASS AREAS AND SOD FARMS

For maximum residual effectiveness or for optimal control of large pest infestations, apply Ference at up to 24 fluid ounces per acre (= 0.55 fluid ounces per 1,000 square feet or 0.313 lb ai/A) to control any of the pests listed below. Apply Ference in sufficient water to provide optimal distribution in the treated area (refer to Table 2). Use properly calibrated application equipment that will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift.

Restriction: Do not apply more than 32 fluid ounces of product (equivalent to 0.4 lb of active ingredient) per acre per year.

APPLICATION EQUIPMENT CLEANING

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all application equipment to reduce the risk of forming hardened deposits that might become difficult to remove. Drain application equipment. Thoroughly rinse application equipment and flush hoses, boom and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. **DO NOT** clean equipment near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

MIXING DIRECTIONS

Ference is a suspension concentrate (SC) formulation. Ference must be diluted with water before application.

1. Use clean, well maintained and properly calibrated application equipment.
2. Fill sprayer tank 1/4 to 1/2 full of water.
3. Shake the container of Ference well before pouring.
4. Add Ference directly to the sprayer tank.

5. Mix thoroughly to fully disperse the insecticide and continue agitation to keep the insecticide in suspension. Use mechanical or hydraulic agitation. Do not use air agitation.
6. It is recommended that the mixture not be stored in the spray or mix tank overnight.

Tank Mixtures

Ference may be tank-mixed with other pesticides. When tank-mixing Ference with other pesticides, observe all precautions and limitations on each separate product label. **DO NOT** exceed label dosage rates. Ference may not be mixed with any product containing a label prohibition against such mixing. The physical compatibility of Ference will vary with different sources of pesticide products and local cultural practices. For a tank-mixture test, prepare on a small scale (pint or quart jar) using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture. Always follow the tank mix instructions of the product label that is most restrictive.

Tank-mixing Sequence:

Add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after the addition of each product.

1. Water-soluble bags
2. Water-dispersible granules
3. Wettable powders
4. Ference and other water-based suspension concentrates
5. Water-soluble concentrates
6. Oil-based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants, oils
9. Soluble fertilizers
10. Drift retardants

Table 1: Turf Application Rates

Target Pest	FERENCE Turf Application Rates		
	Fl oz product per acre**	Fl oz product per 1,000 sq ft	Lb ai per acre
Annual bluegrass weevil	12 to 20	0.275 to 0.459	0.157 to 0.261
Billbugs	8 to 16	0.184 to 0.367	0.104 to 0.208
Chinch bugs (suppression only)	8 to 20	0.184 to 0.459	0.104 to 0.261
European Crane Fly	8 to 16	0.184 to 0.367	0.104 to 0.208
Turf Caterpillars (including armyworms, cutworms and sod webworms)	2 to 16	0.046 to 0.367	0.026 to 0.208
White Grubs (including <i>Aphodius</i> spp., Asiatic garden beetle, black turfgrass ataenius*, European chafer, green June beetle, Japanese beetle, May/June beetles (<i>Phyllophaga</i> spp.), northern masked chafer, oriental beetle, [and] southern masked chafer [and sugarcane grub])	8 to 16	0.184 to 0.367	0.104 to 0.208

*Applications targeting black turfgrass ataenius larvae should be made from peak adult flight through peak egg hatch to ensure control of the first-generation larvae. A second Ference application may be required to control second-generation black turfgrass ataenius.

**Do not apply more than 32 fl oz of product per acre per calendar year.

Table 2: Turf Application Dilution Chart

Application Volume (gallons per 1,000 sq ft)	Turf Application Rates			Fluid ounces of Ference diluted to these volumes of finished spray			
	Fl oz product per acre	Fl oz product per 1,000 sq ft	Lb ai per acre	1 gal	5 gal	10 gal	100 gal
1	1	0.023	0.013	0.023	0.115	0.23	2.3
	2	0.046	0.026	0.046	0.23	0.46	4.6
	4	0.092	0.052	0.092	0.46	0.92	9.2
	8	0.184	0.104	0.184	0.92	1.84	18.4
	16	0.367	0.208	0.367	1.84	3.67	36.7
	20	0.46	0.26	0.46	2.3	4.6	46.0
	24	0.55	0.313	0.55	2.76	5.5	55.0
2	1	0.023	0.013	0.0115	0.058	0.115	1.15
	2	0.046	0.026	0.023	0.115	0.23	2.3
	4	0.092	0.052	0.046	0.23	0.46	4.6
	8	0.184	0.104	0.092	0.46	0.92	9.2
	16	0.367	0.208	0.184	0.92	1.84	18.4
	20	0.46	0.26	0.23	1.15	2.3	23.0
	24	0.55	0.313	0.275	1.38	2.75	27.5
3	1	0.023	0.013	0.0077	0.039	0.077	0.77
	2	0.046	0.026	0.015	0.077	0.15	1.5
	4	0.092	0.052	0.03	0.154	0.3	3.0
	8	0.184	0.104	0.06	0.308	0.6	6.0
	16	0.367	0.208	0.123	0.616	1.23	12.3
	20	0.46	0.26	0.153	0.77	1.53	15.3
	24	0.55	0.313	0.184	0.92	1.84	18.4
4	1	0.023	0.013	0.0058	0.029	0.058	0.58
	2	0.046	0.026	0.0115	0.058	0.115	1.15
	4	0.092	0.052	0.023	0.116	0.23	2.3
	8	0.184	0.104	0.046	0.23	0.46	4.6
	16	0.367	0.208	0.092	0.46	0.92	9.2
	20	0.46	0.26	0.115	0.58	1.15	11.5
	24	0.55	0.313	0.138	0.7	1.38	13.8

Application Volume (gallons per 1,000 sq ft)	Turf Application Rates			Fluid ounces of Ference diluted to these volumes of finished spray			
	Fl oz product per acre	Fl oz product per 1,000 sq ft	Lb ai per acre	1 gal	5 gal	10 gal	100 gal
5	1	0.023	0.013	0.0046	0.023	0.046	0.46
	2	0.046	0.026	0.0092	0.046	0.092	0.92
	4	0.092	0.052	0.0184	0.092	0.184	1.84
	8	0.184	0.104	0.037	0.184	0.37	3.7
	16	0.367	0.208	0.074	0.368	0.74	7.4
	20	0.46	0.26	0.092	0.46	0.92	9.2
	24	0.55	0.313	0.11	0.55	1.1	11.0
10	1	0.023	0.013	0.0023	0.0115	0.023	0.23
	2	0.046	0.026	0.0046	0.023	0.046	0.46
	4	0.092	0.052	0.0092	0.046	0.092	0.92
	8	0.184	0.104	0.0184	0.092	0.184	1.84
	16	0.367	0.208	0.0367	0.184	0.367	3.67
	20	0.46	0.26	0.046	0.23	0.46	4.6
	24	0.55	0.313	0.055	0.276	0.55	5.5

- To convert from fluid ounces to milliliters, multiply by 29.57.
- 1 fluid ounce = 29.57 ml = 2 tablespoons = 6 teaspoons.
- Do not use household utensils to measure Ference.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Do not subject to temperatures below 32°F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

Pesticide Disposal

Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling [(less than or equal to 5 gallons)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons – mini-bulk)]

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling [(greater than 5 gallons – bulk)]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

FERENCE®, the ALLIANCE FRAME
the Syngenta Logo and the PURPOSE ICON
are Trademarks of a Syngenta Group Company

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For non-emergency information (e.g., current product information), call
Syngenta Crop Protection at 1-800-334-9481.

Manufactured for:
Syngenta Crop Protection, LLC
P. O. Box 18300
Greensboro, North Carolina 27419-8300

Ference 1551 MAS 0619 AMEND-B JUNE2023-CL-jd-8/7/23
000100-01551.20230615B.FERENCE.AMEND.0623-CL

Attachment 14



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460**

**OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION**

September 27, 2023

Robyn Clark
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, NC 27419

Subject: Registration Amendment – Amended Terms and Conditions, and Revised Labeling
Product Names: Fortenza, Fortenza Red, Minecto Duo Insecticide, Minecto Pro, Mainspring GNL, Zyrox Fly Granular Bait, Spinner Insecticide, Ference, Mainspring Flora and A16901B Residential Insecticide
EPA Registration Numbers: 100-1420, 100-1418, 100-1421, 100-1592, 100-1543, 100-1541, 100-1424, 100-1551, 100-1585 and 100-1423
Application Date: June 15, 2023
Decision Numbers: 593337, 593338, 593342, 593343, 593341, 593344, 594352, 593336, 593339 and 593334

Dear Ms. Clark:

The amended labels referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, are acceptable. Accordingly, EPA has approved the requested registration amendments, provided Syngenta Crop Protection, LLC (“Syngenta”) complies with all terms and conditions listed below.

Terms and Conditions

Syngenta must comply with all the following terms and conditions. Release for shipment of these products constitutes acceptance of the below conditions. If these conditions are not complied with, the registrations will be subject to cancellation in accordance with FIFRA section 6.

Endangered Species Protection and Formal Consultation

1. For this action, EPA conducted effects determinations under the Endangered Species Act (ESA). In its final effects determinations (included in a biological evaluation), EPA made may affect, likely to adversely affect (LAA), determinations for certain listed species and designated critical habitats for products containing cyantraniliprole (including this product). For these LAA determinations, EPA also assessed the potential likelihood of jeopardy or adverse modification in its effects determination, consistent with 50 C.F.R. § 402.40(b)(1). EPA predicted no potential likelihood of jeopardy for listed species or adverse modification for designated critical habitat. On September 25, 2023, EPA initiated formal consultation with the

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Services. The Services will make the final determination as to the potential for jeopardy for listed species or adverse modification for designated critical habitat in any final biological opinions issued at the completion of consultation.

If, following formal consultation with Service(s), additional modifications are identified in any applicable Biological Opinion, EPA will notify Syngenta in writing within 45 calendar days of the issuance of the Biological Opinion of any necessary changes. Within 30 calendar days of receiving EPA's notice, Syngenta must submit an amendment application incorporating the necessary changes, including amended labels. Alternatively, Syngenta may respond by submitting a request for voluntary cancellation of this product. If Syngenta fails to comply with this term, Syngenta has agreed in prior written acceptance of these terms that EPA may cancel the registration under an expedited process under FIFRA 6(e).

Implementation of Revised Labeling

2. To ensure the prompt adoption of the mitigations in this registration amendment in newly produced product and previously produced product that is still under Syngenta's control, Syngenta must submit state registrations for approval, in all states where products are currently registered, for the products with the labeling associated with this approval letter no later than November 30, 2023.
3. In accordance with 40 C.F.R. § 152.130(c), product may be distributed or sold by Syngenta under the previously approved labeling for no longer than 12 months from the date of this letter or 75 days after the final state approval from those submitted under Term #2, whichever is earlier.
4. Nothing in Terms #2-3 should be read to obligate Syngenta to provide additional labeling for product that bears the previously approved label but is not under Syngenta's control as of the date of this letter. However, Syngenta should conduct outreach for users of this product to update them on the forthcoming changes to the label and their importance in mitigating potential effects to listed species and avoiding violations of the Endangered Species Act.

EPA's Rationale for Approving This Registration Amendment

FIFRA section 3(c)(5) requires EPA to unconditionally approve a registration amendment if:

- "its composition is such as to warrant the proposed claims for it";¹
- "its labeling and other material required to be submitted comply with the requirements of [FIFRA]";²

¹ FIFRA § 3(c)(5)(A), 7 U.S.C. § 136a(c)(5)(A). Here, EPA reviewed the proposed labeling and determined that the claims made for the product were consistent with composition of the product based on the data submitted.

² FIFRA § 3(c)(5)(B), 7 U.S.C. § 136a(c)(5)(B). Here, EPA reviewed the submitted labeling and other materials submitted and found them to be compliant with the requirements of FIFRA. Additionally, there are no data gaps.

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- “it will perform its intended function without unreasonable adverse effects on the environment”;³ and
- “when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment.”⁴

Prior to approving the previous registrations and registration amendments for this product and others containing cyantraniliprole, EPA considered risks and benefits of approving the registrations and registration amendments. To determine the risks and benefits, the Agency reviews a large body of information to determine the effects of using these products. In assessing the risks from use of products containing cyantraniliprole, EPA has conducted both human health risk assessments⁵ and ecological and environment fate risk assessments.⁶ EPA also updated its ecological and environmental fate risk assessments in support of the 2023 draft biological evaluation (BE).⁷ EPA believes that that these risk assessments (and the benefits discussed below) are also applicable to the action to approve this amended registration.

³ FIFRA § 3(c)(5)(C), 7 U.S.C. § 136a(c)(5)(C).

⁴ FIFRA § 3(c)(5)(D), 7 U.S.C. § 136a(c)(5)(D).

⁵ Summary of Analytical Chemistry and Residue Data (Jan. 25, 2013) ([EPA-HQ-OPP-2011-0668-0009](#)); Dietary Exposure and Risk Assessment (Jan. 29, 2013) ([EPA-HQ-OPP-2011-0668-0010](#)); Occupational and Residential Exposure and Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Feb. 28, 2013) ([EPA-HQ-OPP-2011-0668-0011](#)); Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide Cyantraniliprole (Mar. 7, 2013) ([EPA-HQ-OPP-2011-0668-0012](#)); Chronic Aggregate Dietary Exposure and Risk Assessments in Support of a Section 3 Registration Action (Sept. 7, 2016) ([EPA-HQ-OPP-2014-0357-0009](#)); Human Health Risk Assessment for Various Proposed Uses and Several Tolerance Requests without U.S. Registration (Jan. 12, 2017) ([EPA-HQ-OPP-2014-0357-0011](#)); Summary of Analytical Chemistry and Residue Data (Apr. 21, 2016) ([EPA-HQ-OPP-2014-0357-0012](#)); Summary of Analytical Chemistry and Residue Data (Aug. 8, 2016) ([EPA-HQ-OPP-2014-0357-0013](#)); Human Health Risk Assessment for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A; Leafy Greens Subgroup 4-16B (June 20, 2018) ([EPA-HQ-OPP-2017-0694-0011](#)); Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Uses and Tolerance Requests on Coffee; Caneberry Subgroup 13-07A; Low Growing Berry Subgroup 13-07H, Except Strawberry, Lowbush Blueberry and Lingonberry; Brassica Leafy Greens Subgroup 4-16A (May 30, 2018) ([EPA-HQ-OPP-2017-0694-0012](#)); Human Health Risk Assessment for an Inadvertent Tolerance on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0007](#)); Highly Refined Chronic Aggregate Dietary Exposure and Risk Assessments for Proposed Inadvertent Use and Tolerance Request on Sugarcane (Feb. 28, 2022) ([EPA-HQ-OPP-2021-0154-0008](#)).

⁶ Environmental Fate and Ecological Risk Assessment for the Registration of the New Chemical Cyantraniliprole – Amended (April 30, 2013) ([EPA-HQ-OPP-2011-0668-0008](#)); Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole – Addendum (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0055](#)); Revised Drinking Water Assessment including Ground Water Exposure Refinements for Proposed New Uses on Leafy, Bulb, Fruiting, and Cucurbit Vegetables with Two Seasons of Applications (June 9, 2016) ([EPA-HQ-OPP-2014-0357-0010](#)); Ecological Risk Assessment and Drinking Water Assessment for the IR-4 New Use Petition for Pronamide on Low Growing Berry Subgroup except Strawberry, Subgroup 13-07H; Stone Fruit Crop group 12-12; Pome Crop Group 11-10; Caneberry subgroup 13-07A; Bushberry subgroup 13-07B; and Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit Subgroup 13-07F) (May 14, 2018) ([EPA-HQ-OPP-2017-0694-0013](#)).

⁷ See EPA’s Draft Biological Evaluation for Cyantraniliprole and supporting documentation, available at [EPA-HQ-OPP-2011-0668](#), Document ID Nos. 71-72, 75-87.

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In the human health risk assessments, EPA did not select an acute dietary toxicity endpoint because the Agency did not identify any effect attributed to a single dose (*i.e.*, CTP is not expected to pose an acute risk to humans). In general, CTP produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeat dosing, consistent findings of mild to moderate increases in liver weights are observed across multiple species (rats, mice, dogs). CTP was classified as “not likely to be carcinogenic to humans” based upon data demonstrating lack of treatment-related increase in tumor incidence in rats and mice. No cumulative effects were identified. CTP presents no mutagenicity, neurotoxicity, immunotoxicity, developmental reproductive toxicity.

In the environmental risk assessments, EPA identified risks of concern for both aquatic and terrestrial invertebrates. Overall, however, the major risks of concerns are for direct effects to freshwater, estuarine/marine, and benthic invertebrates. EPA did not identify direct risks of concerns for birds, reptiles, amphibians, freshwater fish, terrestrial plants, or aquatic plants.

EPA also considered the benefits of products containing cyantraniliprole, including CTP’s activity on a wide variety of target insects on a variety of crops. CTP is effective for controlling aphids, weevils and thrips—all major agricultural pests. CTP is not expected to pose any acute risk to humans and was registered in 2013 as a reduced risk pesticide due to it posing lower relative risk to alternative chemicals available at that time. CTP also poses lower risk to non-target organisms relative to alternatives and is compatible with IPM practices.

This amended registration includes additional mitigation measures to address effects to listed species, including the following:

- Requirement that applicators use coarse/coarser droplets for ground and aerial applications to reduce spray drift
- Requirement that aerial applications abide by wind-directional buffers, as identified in Bulletins Live Two (BLT), also to reduce spray drift
- Increase in distance of vegetative filter strips from 25 to 30 feet to mitigate the potential for runoff to aquatic habitats
- Use of a 25’ buffer for airblast applications to dormant, non-bearing and/or vegetation that is not yet fully leafed out
- Requirement that treated seeds be immediately covered or collected if spilled during loading

After consideration, EPA has determined that approving this amended registration will not cause unreasonable adverse effects because the amended registrations are not expected to result in increased exposures⁸ and because EPA continues to believe that—consistent with the 2014 registration decision⁹

⁸ While the mitigations in the amended registrations are intended to reduce exposures to listed species, EPA expects that the mitigations will (1) not increase exposures to other non-listed non-target organisms, and (2) will generally reduce exposures to all non-target organisms (both listed and non-listed).

⁹ For EPA’s full risk-benefit analysis, *see* Registration of New Active Ingredient Cyantraniliprole, at 13-14 (Jan. 24, 2014) ([EPA-HQ-OPP-2011-0668-0057](#)).

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and other previous registration decision for products contain cyantraniliprole—the benefits of these registrations outweigh any remaining risks of concern from its use and there are no human dietary risks from uses of cyantraniliprole that are inconsistent with the FFDCA safety standard.¹⁰ Accordingly, EPA is approving these registration amendments because the FIFRA registration standard is met.

Conclusion

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. Consistent with Terms 2-5 above, and notwithstanding 40 C.F.R. § 152.130(c), you may only distribute or sell¹¹ this product under either the final stamped label associated with this approval letter or with accompanying labeling that incorporates the mitigations in this registration amendment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 C.F.R. § 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the product will be referred to EPA's Office of Enforcement and Compliance.

If you have any questions, please contact Gene Benbow at 703-712-9669 or at benbow.gene@epa.gov.

Sincerely,



Deanna (Dee) Colby, Chief
Invertebrate & Vertebrate Branch 3
Registration Division
Office of Pesticide Programs

Enclosure

¹⁰ See FIFRA § 2(bb) (defining “unreasonable adverse effects on the environment” as, in relevant part, “any unreasonable risk to [humans] or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide” or any “human dietary risks” from pesticidal residues in or on food).

¹¹ See FIFRA § 2(gg), 7 U.S.C. § 136(gg); 40 C.F.R. § 152.3.

[Master label]

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

CYANTRANILIPROLE	GROUP	28	INSECTICIDE
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Fortenza® Red

Insecticide

A seed treatment product for protection against early-season damage caused by [Colorado potato beetle and European corn borer on potato;] cutworms and flea beetles on rapeseed crop subgroup 20A; cutworms and wireworms on sunflower crop subgroup 20B and cottonseed crop subgroup 20C; cutworms, grubs, wireworms, fall armyworm, and seedcorn maggot on corn; bean leaf beetle, thrips, grubs, and wireworms on soybeans; and rice water weevil on rice (dry-seeded)

Active Ingredient:

Cyantraniliprole ¹	48.8%
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Other Ingredients:	51.2%
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Total:	100.0%
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¹CAS No. 736994-63-1

Fortenza Red is formulated as a flowable suspension that contains 5.0 lb/gal [600 g/L] of cyantraniliprole (FS). One fluid ounce of Fortenza Red contains 17.72 grams of cyantraniliprole.

KEEP OUT OF REACH OF CHILDREN.

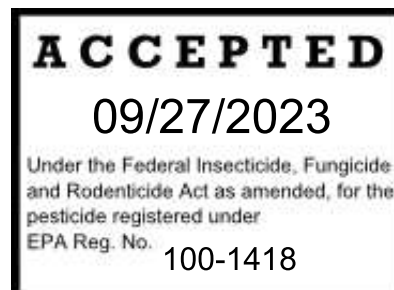
CAUTION

See additional precautionary statements and directions for use [in booklet] [on label].

EPA Reg. No. 100-1418

EPA Est. xxxxx

Net Contents



FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOTLINE NUMBER For 24-Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

Applicators and Other Handlers Must Wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) or Viton™ ≥ 14 mils
- Shoes plus socks

User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash thoroughly with soap and water after handling.
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is toxic to aquatic invertebrates. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not contaminate water when disposing of equipment washwater.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the seed is treated with the product and the treated seed is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils, natural rubber \geq 14 mils, polyethylene, polyvinyl chloride (PVC) or Viton \geq 14 mils
- Shoes plus socks

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.

Sale, use, and distribution of this product in Nassau and Suffolk Counties in the State of New York is prohibited.

Treatment of highly mechanically scarred or damaged seed, or seed known to be of low vigor and poor quality, may result in reduced germination and/or reduction of seed and seedling vigor. Treat a small quantity of seed using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of seed before committing the total seed lot to a selected seed treatment. Due to seed quality, crop or variety sensitivity, and seed storage conditions beyond the control of Syngenta,

no claims are made to guarantee the germination of carry-over seed [or propagating material] for all crop seed.

PRODUCT INFORMATION

Cyantraniliprole is a broad-spectrum insecticide belonging to the chemical class of diamides. Cyantraniliprole products are effective on the larval stages of lepidopteran insects and some other insect pests, including some coleopterans and dipterans. The length of control of the major insect pests will vary depending on the product use rate, insect pressure, crop growth and maturity, and soil and environmental conditions. When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.

Resistance Management

Fortenza Red contains cyantraniliprole, a Group 28 insecticide. Cyantraniliprole is a systemic insecticide belonging to the diamide class of chemistry. Diamides cause muscle contraction and paralysis in insects by activating muscle ryanodine receptors.

Insect populations may contain individuals naturally resistant to Group 28 insecticides, and, if used repeatedly in the same fields, then resistant members may eventually dominate the population. Because resistance development cannot be predicted, use sound resistance management strategies established for the crop and use area.

Base seed treatment on an integrated pest management program that includes field sanitation, historical information related to pesticide use, careful selection of pest-tolerant crop varieties, scouting, and management practices which optimize populations of natural enemies of insect pests such as within-field refugia (untreated areas). Sound management programs also consider cultural and biological control practices.

In order to maintain susceptibility to this class of chemistry:

- Use products at their full, specified doses.
- Use appropriate, well-maintained equipment. Use specified water volumes and apply at optimal temperatures in order to obtain optimal treatment.
- When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.
- Avoid using a single active ingredient or mode of action (same insecticide group) exclusively for season long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, use a treatment window approach. A treatment window is a period of time defined by the stage of crop development and the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, single or consecutive applications may be made using seed, in-furrow, or foliar treatments unless

otherwise excluded by product labels. Do not exceed the maximum amount of this insecticide's mode of action allowed per growing season.

- Following a treatment window of this insecticide's mode of action, rotate to a treatment window of effective products with a different mode of action before making additional applications of this insecticide.

If resistance to this product develops in your area, this product or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for the crop and use area.

Syngenta encourages responsible product stewardship to ensure effective long term control of the insect pests on this label.

For additional information on Insect Resistance Management:

- Contact Syngenta representatives at 1-866-796-4368.
- Contact your local Cooperative Extension Service specialist, pest control advisor, or certified crop advisor.
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at: <http://www.irac-online.org>.

MIXING PROCEDURES

Apply Fortenza Red only with Syngenta-approved seed-treating equipment.

Potatoes may be treated either on farm by the grower with Syngenta-approved equipment or at a commercial seed-treatment facility. All other crops must **only** be treated at Syngenta-approved commercial seed-treatment facilities. Not for use in hopper box, planter box, slurry box, or other farmer applied applications.

Important: Thoroughly recirculate or agitate the container of Fortenza Red prior to use.

Apply Fortenza Red as a water-based slurry utilizing standard slurry seed treatment equipment which provides uniform seed coverage. Uneven or incomplete seed coverage may not give the desired level of insect or disease control. Thoroughly mix the specified amount of Fortenza Red into the required amount of water for the slurry treater and dilution rate to be used. (See **Fortenza Red in Tank Mixtures**.) Consult the manufacturer of the application equipment you plan to use for suitability for this application and for instructions on operation and calibration of the equipment.

- Use an EPA-approved dye or colorant that imparts an unnatural color to the seed as stated in 40 CFR 153.155 (c).
- Allow seed to dry before bagging.
- Store away from feed and foodstuffs.

Fortenza Red has been found to be compatible with some liquid inoculant products. Fortenza Red may be mixed or applied sequentially with approved liquid inoculants. Consult the maker of the liquid inoculants and a Syngenta Crop Protection representative for directions before applying Fortenza Red with inoculants.

Fortenza Red in Tank Mixtures:

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

SEED BAG LABEL REQUIREMENTS

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- This seed has been treated with cyantraniliprole insecticide.
- Do not use treated seed for food, feed or oil purposes.

In addition, the U.S. Environmental Protection Agency requires the following statements on bags containing seeds treated with Fortenza Red (cyantraniliprole):

- Store treated seed away from feed and foodstuffs.
- Do not allow children, pets, or livestock to have access to treated seed.
- Wear long-sleeved shirt, long pants and chemical-resistant gloves when handling treated seed.
- Use of Fortenza Red as a seed treatment must be communicated to all personnel involved in seasonal insect control recommendations.
- This product is highly toxic to bees exposed to direct treatment or residues on blooming crop or weeds. Ensure that the planting equipment is functioning properly in accordance with manufacturer specifications to minimize seed coat abrasion during planting to reduce dust which can drift to blooming crops and weeds.
- Corn seeds must be planted at a minimum soil depth of 1½ inches.
- Potato seed tubers must be planted at a minimum soil depth of 2 inches.
- Rapeseed crop subgroup 20A seeds must be planted at a minimum soil depth of ¼ inch.
- Rice (dry-seeded) must be planted at a minimum soil depth of ½ inch.
- Soybean must be planted at a minimum soil depth of 1 inch.
- Sunflower crop subgroup 20B seeds must be planted at a minimum soil depth of 1 inch.

- Cottonseed crop subgroup 20C seeds must be planted at a minimum soil depth of ½ inch.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Immediately cover or collect seeds spilled during loading and planting. Do not allow treated seed to remain uncovered on the soil surface.
- Dispose of all excess treated seed by burying seed away from bodies of water. Leftover treated seed may be double sown around the headland or buried away from water sources in accordance with local requirements. Do not contaminate bodies of water when disposing of excess treated seed or washwaters of planting equipment.
- Excess treated seed may be used for ethanol production only if (1) ethanol production by-products are not used for livestock feed and (2) no measurable residues of pesticides remain in the ethanol by-products that are used for agronomic practice.
- Dispose of seed packaging in accordance with local requirements.
- For all crops: Do not apply a total of more than 0.4 lb ai per acre of cyantraniliprole-containing products per calendar year; this is the total cyantraniliprole applied by seed treatment, soil application and foliar application.
- For corn: This seed has been treated with a maximum of 0.5 mg cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For potato: This seed has been treated with a maximum of 0.0135 lb cyantraniliprole per 100 lb seed tuber. Do not plant more than 3000 tubers per acre when treated at 0.0135 lb ai/100 lb of seed.
- For rapeseed crop subgroup 20A [based on flax seed]: This seed has been treated with a maximum of 0.05 mg active cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For rice (dry-seeded): This seed has been treated with a maximum of 0.03 mg cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For soybean: This seed has been treated with a maximum of 0.076 mg cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For sunflower crop subgroup 20B: This seed has been treated with a maximum of 0.2 mg active cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre.
- For cottonseed crop subgroup 20C: This seed has been treated with a maximum of 0.9 mg active cyantraniliprole per seed. Calculate actual amount of cyantraniliprole applied per acre based on seeds planted per acre. Do not apply more than 0.17 lb active cyantraniliprole per acre as a seed treatment application.
- Including the Fortenza Red seed treatment, make no more than two applications of cyantraniliprole or other Group 28 products per generation to the same insect species on a crop or within a 30-day period (count planting date as day 1 if using

treated seed). Application(s) to the next generation of target pest(s) must be with an effective product with a different mode of action (non-Group 28 insecticide).

Crop Rotation

- There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).
- Crops on this label and the following crops or crop groups may be planted immediately following the last application of Fortenza Red: Brassica Leafy Vegetables (Crop Group 5); Bulb Vegetables (Crop Group 3-07); Corn (Field, Pop, Seed and Sweet); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Vegetables (except Brassica) (Crop Group 4); Leaves of Root and Tuber Vegetables (Crop Group 2); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.
- The following crops or crop groups may be planted 30 days following the last application of Fortenza Red: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.
- All other crops cannot be planted until 12 months after the last application of cyantraniliprole.

CROP USE DIRECTIONS

CORN (FIELD, POP, SEED AND SWEET) – NOT FOR USE IN CALIFORNIA

Crop	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on 1800 seeds/lb)
Corn Field Pop Seed Sweet Not for Use in California	Cutworms Grubs Wireworms Fall armyworm Seedcorn maggot	0.125 – 0.5	1.24 – 5.0
Additional Information			
<ul style="list-style-type: none"> Fortenza Red at labeled rates provides protection against damage caused by cutworms, grubs, wireworms, fall armyworm, and seedcorn maggot during early-season growth and development of corn. Full-season protection or complete reduction of damage is not expected against the listed insects. Based on numerous popcorn seed-safety studies, popcorn use rates >0.125 mg ai/seed (2.75 fl oz/100 lb seed, based on 4,000 seeds/lb) on individual hybrids should be tested for seed safety to evaluate specific genetic tolerance to higher rates of Fortenza Red. It is recommended to apply Fortenza Red with compatible and registered seed treatment fungicides such as Apron XL[®], Dynasty[®], Maxim[®] 4FS, Maxim Quattro, and Vibrance[®], which are proven to provide protection from seed and seedling diseases; Cruiser[®] 5FS for additional early season insect pest protection; and Avicta[®] Complete Corn for early-season disease, insect and nematode protection. Follow planter manufacturer instructions for use of talc or other hopper box additives at planting. 			
USE RESTRICTION			
<ul style="list-style-type: none"> DO NOT apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year, including all types of applications (seed treatment, soil, foliar). 			

POTATO SEED PIECE TREATMENT

Fortenza Red is to be used as an integral part of potato pest management strategy. This strategy includes the use of high quality certified potato seed, crop rotation, monitoring proper insect population thresholds, appropriate comprehensive insect control measures, optimal harvest time of potato tubers and proper handling of the potatoes. Consult your local agricultural extension agent for more detailed information on insect management practices.

Crop	Protection Against Damage Caused by:	Use Rate (See Tables 1 and 2 for additional rate information.)		
		[grams ai/100 kg seed tubers]	lb ai/100 lb seed tubers	fl oz product/100 lb seed tubers
Potato	Colorado potato beetle European corn borer	[6 – 13.5]	0.006 – 0.0135	0.15 – 0.35
Additional Information				
<ul style="list-style-type: none"> • Potatoes may be treated either on farm by the grower with Syngenta-approved equipment or at a commercial seed-treatment facility. • Fortenza Red used at labeled rates provides protection against damage caused by Colorado potato beetle and European corn borer during early- to mid-season growth and development of potatoes. • Full-season protection or complete reduction of damage caused by labeled pests is not expected with the use of Fortenza Red. • If a crop failure occurs, treated potato seed pieces may be replanted if the total cyantraniliprole rate applied does not exceed 0.4 lb ai per acre. • For protection against certain seed- and soil-borne diseases of potatoes, Fortenza Red may be applied with Maxim 4FS, CruiserMaxx® Vibrance Potato, CruiserMaxx Potato, or CruiserMaxx Potato Extreme family of products. • Application of Fortenza Red with CruiserMaxx Potato or CruiserMaxx Potato Extreme also provides protection against potato aphid, green peach aphid, beet leaf hopper and psyllids. • If an inert dust (fir bark or talc etc.) or a dust-based fungicide is applied, apply Fortenza Red prior to applying the dust treatments. 				
USE RESTRICTIONS				
<ul style="list-style-type: none"> • DO NOT apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year, including all types of applications (seed treatment, soil, foliar). • DO NOT BAG POTATO SEED THAT IS TREATED WITH ANY LIQUID SEED TREATMENTS. 				

Application of Fortenza Red

Apply Fortenza Red utilizing Syngenta-approved seed treating systems designed to apply liquid seed treatments of potatoes. Uneven or incomplete seed coverage may not give the desired level of insect control. For slurry treatment, thoroughly mix the specified amount of Fortenza Red into the required amount of water for the slurry treater and dilution rate to be used. Maintain constant agitation of the slurry during the seed treatment process. Follow the manufacturer's application instructions for the seed treatment equipment being used with appropriate set-up and calibration. Calibrate the equipment so that every potato seed tuber is uniformly coated with a fine layer of the slurry mix without any excess dripping off of the treated seed.

Storing Treated Potato Seed Pieces

If the treated potato seed piece needs to be stored or held for a few days (2 to 3 weeks maximum), make sure the potato seed piece is stored in well ventilated areas that allow air to move through and out the treated potato seed piece. An ideal air temperature is

60 degrees Fahrenheit at a relative humidity of 85 to 90 percent. Do not allow free moisture to form within or around the treated potato seed piece during storage. If possible, allow treated potato seed pieces to dry during transit and planted the same day of treatment.

Syngenta, LLC makes no claims as to the effect of this product or delivery systems on germination of the potato seed. The user, buyer or applicator of the seed treatment assumes all risks from such application.

Note: Treatment of highly damaged or bruised potato seed, or seed known to be of low vigor and poor quality, or potato seed that is deemed “physiologically old”, may result in reduced germination and/or reduction of seed and seedling vigor and multiple stems from germination of the seed. When in doubt or if the status/condition of the potato seed tubers is unknown, treat a small sample batch of the same potato seed load with Fortenza Red using specified rates, equipment, and application procedures; before treating the total seed lot. Conduct this test on a small batch of the potato seed and observe the germination, emergence, stem count from the germinating seed. Consult with local experts in the region or conduct the test with university or area experts. Only if the data confirm that the seed treated with Fortenza Red are acceptable should the rest of the seed load from which the sample was taken be treated. **Due to seed quality, seed condition and seed storage conditions beyond the control of Syngenta LLC, no claims are made to guarantee the germination and/or performance of the potato seed tuber from treatment with Fortenza Red.**

Table 1. Empirical Calculations based on popular potato seeding rates:

Seeding rate	Expected lb ai per acre at popular seeding rates and expected use rate of Fortenza Red			
	Pounds/acre	0.006 lb ai/100 lb	0.01 lb ai/100 lb	0.0135 lb ai/100 lb
1500		0.090	0.150	0.203
2000		0.120	0.200	0.270
2500		0.150	0.250	0.338
3000		0.180	0.300	0.405
3500		0.210	0.350	Do not apply. ¹

¹ The lb ai applied per acre at this seeding density and application rate exceeds the maximum allowable 0.4 lb ai per acre.

Table 2. Empirical Calculations based on popular potato seeding rates:

Seeding rate	Expected fl oz per acre at popular seeding rates and expected use rate of Fortenza Red			
	Pounds/acre	0.15 fl oz/100 lb	0.26 fl oz/100 lb	0.35 fl oz/100 lb
1500		2.3	3.8	5.2
2000		3.1	5.1	6.9
2500		3.8	6.4	8.6
3000		4.6	7.7	10.4
3500		5.4	9.0	Do not apply. ¹

¹The fl oz applied per acre at this seeding density and application rate exceeds the maximum allowable 11 fl oz per acre.

OILSEED CROP GROUP 20

Crops	Early-season Protection Against Damage Caused by:	Use Rate	
		lb ai/100 lb seed	fl oz product/100 lb seed
Rapeseed Crop Subgroup 20A: Borage Crambe Cuphea Echium Flax seed Gold of Pleasure Hare's Ear Mustard Lesquerella Lunaria Meadowfoam Milkweed Mustard seed Oil radish Poppy seed Rapeseed (including Canola) Sesame Sweet Rocket Cultivars, varieties, and/or hybrids of these	Cutworms	0.30	7.7
	[Flea beetles]	[0.80]	[20.4]
Additional Information <ul style="list-style-type: none"> Fortenza Red at labeled rates provides protection against the damage caused by cutworms during early-season growth and development of rapeseed crop subgroup 20A. Full-season protection or complete reduction of damage from the use of Fortenza Red is not expected against the listed insects. For protection against damage caused by flea beetles when applied at 7.7 fl oz product per 100 lb seed, Fortenza Red must be tank mixed with Helix® Vibrance or other thiamethoxam-containing seed treatment product. In all cases, it is recommended to apply Fortenza Red with Helix Vibrance for control of seedling diseases and other insect pests of seedling crops. Follow planter manufacturer instructions for use of talc or other hopper-box additives at planting. 			
USE RESTRICTION			
DO NOT apply more than 0.40 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar).			

Crops	Early-season Protection Against Damage Caused by:	Use Rate (based on an average of 4,500 seeds/lb)		
		[mg ai/seed]	lb ai/100,000 seed	fl oz product/100,000 seed
Sunflower Crop Subgroup 20B: Calendula Castor Oil plant Chinese Tallowtree Euphorbia Evening Primrose Jojoba Niger seed Rose hip Safflower Stokes Aster Sunflower Tallowwood Tea Oil plant Vernonia Cultivars, varieties, and/or hybrids of these	Cutworms	[0.1 – 0.2]	0.022 – 0.044	0.56 – 1.1
Additional Information <ul style="list-style-type: none"> Fortenza Red at labeled rates provides protection against the damage caused by cutworms during early-season growth and development of sunflower crop subgroup 20B. Full-season protection or complete reduction of damage from the use of Fortenza Red is not expected against the listed insects. [When applied at these rates in combination [with Cruiser 5FS, Fortenza Red may provide additional protection against wireworms.] It is recommended to apply Fortenza Red with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, Bion®, Maxim 4FS or Plenaris® 200FS, which are proven to control seed and seedling diseases, and with Cruiser 5FS for additional early-season insect pest protection. Follow planter manufacturer instructions for hopper box additives at planting. 				
USE RESTRICTION				
DO NOT apply more than 0.40 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar).				

Crops	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on an average of 4,500 seeds/lb)
Cottonseed Crop Subgroup 20C Cottonseed Cultivars, varieties, and/or hybrids of these	Cutworms	0.1 – 0.9	2.55 – 23.0
Additional Information			
<ul style="list-style-type: none"> Fortenza Red at labeled rates provides protection against the damage caused by cutworms during early-season growth and development of cotton. Full-season protection or complete reduction of damage from the use of Fortenza Red is not expected against the listed insects. [When applied at these rates in combination with Cruiser 5FS, Fortenza Red may provide additional protection against wireworms.] It is recommended to apply Fortenza Red with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, Dynasty CST, Bion, Maxim 4FS, Vibrance, or Vibrance CST, which are proven to provide early-season protection from seed and seedling diseases, and with Cruiser 5FS for additional early-season insect pest protection. Follow planter manufacturer instructions for hopper box additives at planting. 			
USE RESTRICTIONS			
<ul style="list-style-type: none"> DO NOT apply more than 0.17 lb active cyantraniliprole per acre as a seed treatment application. DO NOT apply more than 0.40 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar). 			

RICE (DRY SEEDED ONLY) – NOT FOR USE IN CALIFORNIA

Crop	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on an average of 21,000 seeds/lb)
Rice	Rice water weevil	0.03	3.47

Additional Information

- Fortenza Red at labeled rates provides protection against the damage caused by rice water weevil during early-season growth and development of rice.
- Fortenza Red-treated rice seed may be planted by drill or broadcast (ground or aerial) on soil.
- Full-season protection or complete reduction of damage from the use of Fortenza Red is **not** expected against the listed insects.
- It is recommended to apply Fortenza Red with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, or Maxim 4FS, which are proven to provide early-season protection from seed and seedling diseases, and Cruiser 5FS for additional early-season insect pest protection.

USE RESTRICTIONS

- When broadcasting Fortenza Red-treated seeds on soil, the rice seeds must be incorporated into the soil.
- Fortenza Red-treated dry rice seed cannot be soaked or pre-germinated before seeding.
- **DO NOT** apply more than 0.17 lb active cyantraniliprole per acre as a seed treatment application.
- **DO NOT** apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar).
- **DO NOT** use Fortenza Red-treated rice fields for the aquaculture of edible fish or crustacea (including crawfish) during the rice growing season from planting through harvest.

SOYBEAN (INCLUDING SOYBEAN VEGETABLE) – NOT FOR USE IN CALIFORNIA

Crop	Early-season Protection Against Damage Caused by:	Use Rate	
		mg ai/seed	fl oz product/100 lb seed (based on an average of 3,000 seeds/lb)
Soybean (including soybean vegetable) Not for Use in California	Bean leaf beetle Thrips Grubs Wireworms	0.038 – 0.076	0.627 – 1.25
Additional Information <ul style="list-style-type: none"> Fortenza Red at labeled rates provides protection against the damage caused by bean leaf beetle, thrips, grubs and wireworms during early-season growth and development of soybeans. Full-season protection or complete reduction of damage from the use of Fortenza Red is not expected against the listed insects. It is recommended to apply Fortenza Red with compatible and registered seed treatment fungicides such as Apron XL, Dynasty, Maxim 4FS, Mertect® 340-F, and Vibrance, which are proven to provide protection from seed and seedling diseases; with Cruiser 5FS for additional early-season insect pest protection; or with a combination fungicide/insecticide product such as CruiserMaxx Vibrance for early-season disease and insect protection. Follow planter manufacturer instruction for use of talc or other hopper box additives at planting. 			
USE RESTRICTIONS			
<ul style="list-style-type: none"> DO NOT apply more than 0.4 lb ai of cyantraniliprole-containing products per acre per calendar year including all types of applications (seed treatment, soil, foliar). 			

ROTATIONAL CROP RESTRICTIONS

- There is no plant back restriction for conversion of a treated field or for making a new or replacement planting into established orchards or fields of Bushberries (Crop Subgroup 13-07B); Citrus (Crop Group 10-10); Pome Fruits (Crop Group 11-10); Stone Fruits (Crop Group 12); Low Growing Berries (Crop Subgroup 13-07G); or Tree Nuts (Crop Group 14-12).
- Crops on this label and the following crops or crop groups may be planted immediately following the last application of Fortenza Red: Brassica Leafy Vegetables (Crop Group 5); Bulb Vegetables (Crop Group 3-07); Corn (Field, Pop, Seed and Sweet); Cotton; Cucurbit Vegetables (Crop Group 9); Fruiting Vegetables (Crop Group 8-10); Leafy Vegetables (except Brassica) (Crop Group 4); Legume Vegetables (Crop Group 6); Legume Vegetables (Crop Groups 6 and 7); Low Growing Berries (Crop Subgroup 13-07H); Oilseeds (Crop Group 20); Peanuts; Root and Tuber Vegetables (Crop Subgroups 1B and 1C); Tobacco.
- The following crops or crop groups may be planted 30 days following the last application of Fortenza Red: Cereal Grains (Crop Group 15); Forage, Fodder and Straw of Cereal Grains (Crop Group 16); Grass Forage, Fodder and Hay (Crop Group 17); Nongrass Animal Feeds (forage, fodder, straw and hay) (Crop Group 18); Sugar beets.
- All other crops cannot be planted until 12 months after the last application of cyantraniliprole.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Store in a cool, dry place. Do not store above 90°F for extended periods.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

Pesticide Disposal

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

Container Handling (less than or equal to 5 gallons)

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling (greater than 5 gallons)

Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other side and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use and disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Container Handling (greater than 5 gallons)

Refillable container. Refill this container with pesticide only. Do not use this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the person refilling. To clean container before final disposal, empty the remaining

contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

Fortenza[®], Apron XL[®], Avicta[®], Bion[®], Cruiser[®], CruiserMaxx[®], Dynasty[®], Helix[®], Maxim[®], Mertect[®], Plenaris[®], Vibrance[®], the ALLIANCE FRAME, the SYNGENTA Logo, and the PURPOSE ICON are Trademarks of a Syngenta Group Company

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For non-emergency (e.g., current product information), call
Syngenta Crop Protection at 1-866-796-4368.

Manufactured for:
Syngenta Crop Protection, LLC
P.O. Box 18300
Greensboro, North Carolina 27419-8300

Attachment 15



Registration of the New Active Ingredient Cyantraniliprole

An Insecticide for Use on Multiple Commodities, Ornamentals, Turfgrass, and in Commercial or Residential Buildings

Approved by:

Steven P. Bradbury, Director
Office of Pesticide Programs

Date:

Registration of the New Active Ingredient Cyantraniliprole

Summary of the Regulatory Decision

The Agency is granting an unconditional registration under section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of the new active ingredient cyantraniliprole formulated as a technical product and fourteen end-use products. The registered uses for this new insecticide include agricultural crops (bushberry (subgroup 13-07B), citrus (group 10-10), pome fruit (group 11-10), stone fruit (group 12-12), tree nuts (group 14-12), oilseed (group 20), Brassica, Cole and leafy vegetables (group 5), bulb vegetables (group 3-07) cucurbits (group 9), fruiting vegetables (group 8-10), leafy vegetables (except Brassica) (group 4), and tuberous and corm vegetables (subgroup 1C)), ornamentals and turf (ornamental plants, shrubs, trees in and around greenhouses, nurseries, lath- and shade-houses, and interior plantscapes, landscape and recreational turfgrass (including golf courses), and sod farms), as well as structures and equipment (in and around agricultural, commercial, and residential structures (excluding food/feed handling establishments), and transportation equipment.

Product formulations include liquid, granular, and granular bait. Methods of application include broadcast sprays for aerial and ground applications, soil drench, chemigation, and seed treatment. Maximum single application rates are 0.4 lb. a.i./A for liquid, granular, or seed treatments. The maximum annual application rate is 0.4 lb. a.i./A/year for all application methods.

The Agency's Reduced Risk Committee approved cyantraniliprole as a "reduced risk" candidate for the proposed uses. Based on the committee's evaluation of the information provided, the mammalian toxicity and ecotoxicity risk profiles for cyantraniliprole are favorable compared to registered alternatives, which include organophosphates, pyrethroids, carbamates and neonicotinoids. The novel mode of action for cyantraniliprole fits in well with resistance management strategies.

The evaluation of cyantraniliprole was conducted as a "Global Joint Review" project. EPA scientists worked in collaboration with their colleagues in the Regulatory Authorities of France, the United Kingdom, Canada, and Australia. In the course of this analysis, the agencies considered a robust database that included over 800 studies. Scientists in each partnering authority conducted primary reviews, peer reviewed evaluations conducted by their counterparts and participated in technical committee meetings to coordinate and harmonize scientific conclusions.

After review and consideration of all of the data provided by the 800+ studies, the determinations made by the multiple scientists involved in the project, and the outcome of the human health and ecological risk assessments, the Agency supports the decision of its Reduced Risk Committee; cyantraniliprole is therefore classified as a Reduced Risk Pesticide.

Cyantraniliprole is a broad spectrum insecticide, with activity on a wide variety of target pests. While it is the third compound registered in the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification Group 28, ryanodine receptor modulators, it has a broader spectrum of activity than the other two compounds. It is expected to fit well in IPM programs.

I. Chemical Information

Chemical Name: cyantraniliprole, 3-bromo-1-(3-chloro-2-pyridinyl)-*N*-[4-cyano-2-methyl-6-[(methylamino)carbonyl]phenyl]-1*H*-pyrazole-5-carboxamide

EPA PC Code: 090098

Chemical Abstracts Service (CAS) Number: 736994-63-1

IRAC MoA Classification: Group 28 - Ryanodine receptor modulators

Mode of Action: Insecticide Resistance Action Committee (IRAC) Mode of Action Classification Group 28: ryanodine receptor modulators (RyR). The mode of action is through unregulated activation of insect RyR channels leading to internal calcium store depletion and impaired regulation of muscle contraction, causing paralysis and eventual death.

Registrants: E.I. du Pont de Nemours & Company and Syngenta Crop Protection

II. Human Health Risk

A summary of the human health effects and risk of cyantraniliprole as assessed in the Agency document entitled "Cyantraniliprole. Aggregate Human Health Risk Assessment for the Proposed New Uses of the New Active Insecticide, including Agricultural Uses on Brassica (Cole) Leafy Vegetables (Group 5), Bulb Vegetables (Group 3-07), Bushberries (Group 13-07B), Citrus Fruit (Group 10-10), Cotton, Cucurbit Vegetables (Group 9), Fruiting Vegetables (Group 8-10), Leafy Vegetables (non-Brassica) (Group 4), Oilseeds (Group 20), Pome Fruits (Group 11-10), Stone Fruits (Group 12), Tree Nuts (Group 14), Tuberous and Corm Vegetables (Subgroup 1C); Seed Treatment Uses on Canola (Rapeseed), Mustard Seed, Sunflowers, and Potatoes; and Residential, Commercial, and Agricultural Uses on Ornamentals, Turfgrass (including Sod Farms and Golf Courses), and Structural Buildings (including Indoor Crack/Crevice and Outdoor Broadcast)" is provided below.

A. Summary of Toxicological Effects

Cyantraniliprole is a second-generation ryanodine receptor (RyR) insecticide belonging to the diamide class of chemistry whose pesticidal mode of action (MOA) is through unregulated activation of insect RyR channels. This leads to internal calcium store depletion and impaired regulation of muscle contraction, causing paralysis and eventual death of the insect. Mammalian RyR are shown to be 350 to >2500 times less sensitive than those of insects. In general, cyantraniliprole administration in mammals produces both adverse and adaptive changes in the liver, thyroid gland, and adrenal cortex. With repeated dosing, consistent findings of mild to moderate increases in liver weights across multiple species (rats, mice, dogs) are observed. Dogs appear to be more sensitive than rats and mice; cyantraniliprole produces adverse liver effects (increases in alkaline phosphatase, decreases in cholesterol, and decreases in albumin) in dogs at lower dose levels than in rats. In addition, the liver effects in the dog show progressive severity with increased duration of exposure. The available data also show thyroid hormone homeostasis is altered in rats following exposure to cyantraniliprole after 28 or 90 days due to enhanced metabolism of the thyroid hormones by the liver. However, cyantraniliprole is not a direct thyroid toxicant. Cyantraniliprole is classified as "Not Likely to be Carcinogenic to Humans" based on the absence of increased tumor incidence in acceptable/guideline carcinogenicity studies in rats and mice. In addition, there are no genotoxicity,

mutagenicity, neurotoxicity, or immunotoxicity concerns. There are also no developmental or reproductive toxicity concerns. There is no evidence of an adverse effect attributable to a single dose.

B. Food Quality Protection Act Safety Factor (FQPA SF)

EPA has determined that reliable data show the safety of infants and children would be adequately protected. EPA believes that the appropriate Food Quality Protection Act Safety Factor (FQPA SF) for cyantraniliprole should be reduced to 1X for the following reasons:

- The toxicity database for cyantraniliprole is complete.
- There are no indications in any of the available studies that the nervous system is a target for cyantraniliprole. Effects indicative of neurotoxicity are not seen in the neurotoxicity screening battery at or above the limit dose levels in acute (2,000 mg/kg) and 90-day (1,000 mg/kg) neurotoxicity studies.
- There is no evidence of susceptibility in developmental toxicity studies in rats and rabbits. The developmental toxicity study in rats is tested up to the limit dose (1,000 mg/kg/day). In the rabbit developmental toxicity study decrease in fetal body weight is seen at a dose higher than that resulting in maternal effects. In the reproductive toxicity study, increased incidence of thyroid follicular epithelium hypertrophy/hyperplasia occurs in fetal 1 (F₁) parental animals at a dose lower than that for the parental (P) generation. A clear No-Observed Adverse Effect Level (NOAEL) (1.4 mg/kg/day) is established for F₁ parental animals, and the Point of Departures (PODs) selected for risk assessment from the dog studies (1 or 3 mg/kg/day) are protective of the effect (thyroid effect) seen in the F₁ parental animals. In addition the submitted data support the conclusion that the effects on the thyroid are secondary to effects on the liver.
- The exposure databases are complete or are estimated based on data that reasonably account for potential exposures. The chronic dietary food exposure assessment was conservatively based on 100% crop treated (CT) assumptions, average residue levels from field trials, and conservative ground and surface drinking water modeling estimates. New 2012 Residential Standard Operating Procedures (SOPs) are used to assess post-application exposure to children including incidental oral exposure. The residential post-application assessment assumes that maximum application rates are applied and that hand-to-mouth activities occur on the day of application. All of the exposure estimates are based on conservative, health-protective assumptions and are not likely to underestimate risk.

C. Toxicological End Points and Doses Used in the Human Health Risk Assessment

1. Acute

No acute dietary toxicity endpoint was selected as an effect because no effect attributed to a single dose was identified in the mammalian toxicology database.

2. Chronic Dietary (all populations)

EPA established a chronic reference dose (cRfD) and a Chronic Population Adjusted Dose (cPAD) for cyantraniliprole of 0.01 mg/kg body wt/day, based on the NOAEL of 1 mg/kg body wt/day from a 1-year oral study in dogs and an FQPA Safety Factor of 1X. In this study, effects indicative of liver toxicity (increased liver weights and alkaline phosphatase activity), and significant decreases in albumin level were observed at the Lowest Observed Adverse Effect Level (LOAEL) of 6 mg/kg body wt/day.

3. Short- and Intermediate-Term Oral

EPA selected the NOAEL of 3 mg/kg body wt/day from the 90-day oral study in dogs, based on effects observed in the co-critical 28-day and 90-day toxicity studies in dogs. In the 90-day study, a collection of treatment-related effects indicative of liver toxicity were observed at the LOAEL = 32 mg/kg body wt/day. The effects included decreases in total protein, albumin, and cholesterol in males and females; increases in alkaline phosphatase in males and females; increases in alanine aminotransferase in females; and increases in liver weights in males and females. In the co-critical 28-day study, decreases in body weight, food consumption, food efficiency, and changes in clinical chemistry (increased ALP, decreased cholesterol, and decreased albumin) were observed at the LOAEL = 35 mg/kg body wt/day (lowest dose tested). The level of concern for assessing short- and intermediate-term occupational exposure to cyantraniliprole is a margin of exposure (MOE) that is less than 100.

4. Short-Term Dermal

No short-term dermal toxicity endpoint was selected because systemic toxicity was not seen in 28-day dermal toxicity in rats at the limit dose (1,000 mg/kg/day). There are no concerns for developmental or reproductive toxicity or neurotoxicity.

5. Short-Term Inhalation

EPA selected the NOAEL of 0.1 mg/L from the 28-day inhalation study in rats. A LOAEL was not established because the highest concentration tested (0.1 mg/L) did not demonstrate any adverse effects.

6. Cancer

EPA has classified cyantraniliprole as “Not likely to be Carcinogenic to Humans” based on data showing lack of treatment-related increase in tumor incidence in the rat and mouse carcinogenicity studies. Mutagenic concern was not reported in the mutagenicity studies.

D. Cumulative Effects

Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, EPA has not found cyantraniliprole to share a common mechanism of toxicity with any other substances, and cyantraniliprole does not appear to produce a toxic metabolite produced by other substances. For the purposes of this action, therefore, EPA has assumed that cyantraniliprole does not have a common mechanism of toxicity with other substances.

E. Aggregate Risk Assessment

1. Acute Dietary Risk

An acute aggregate risk assessment takes into account acute exposure estimates from dietary consumption of food and drinking water. No adverse effect resulting from a single oral exposure was identified and therefore no acute dietary endpoint was selected. Cyantraniliprole is not expected to pose an acute risk.

2. Chronic dietary risk

EPA has concluded that chronic exposure to cyantraniliprole from food and water will utilize 50% of the cPAD for children 1-2 years old (the population group receiving the greatest exposure) and 22% of the general U.S. population.

3. Short-term risk

Short-term aggregate exposure takes into account short-term residential exposure plus chronic exposure to food and water (considered to be a background exposure level). Cyantraniliprole is proposed for uses that could result in short-term residential exposure, and the Agency has determined that it is appropriate to aggregate chronic exposure through food and water with short-term residential exposures to cyantraniliprole. Residential exposure estimates of all possible scenarios are not of concern. Short-term inhalation MOEs range from 22,000 to 220,000,000. Furthermore, these calculated risk estimates are highly conservative because the inhalation exposure POD is based on an exposure duration of 24 hours per day.

Using the exposure assumptions described in this unit for short-term exposures, EPA has concluded the combined short-term food, water, and residential exposures result in aggregate MOEs of 290 for children 1-2 years old (the population group receiving the greatest exposure) and 22,000 for adults. Because EPA's level of concern for cyantraniliprole is a MOE of 100 or below, these MOEs are not of concern.

4. Intermediate-term risk

Intermediate-term aggregate exposure takes into account intermediate-term residential exposure plus chronic exposure to food and water (considered to be a background exposure level). For adults, intermediate-term exposure is not expected for the residential exposure pathway. The intermediate-term aggregate risk would be equivalent to the chronic dietary exposure estimate. For children 1 to <2 years old, the short-term aggregate risk is protective of the intermediate-term duration.

5. Aggregate cancer risk for U.S. population

Based on the lack of evidence of carcinogenicity in two adequate rodent carcinogenicity studies, cyantraniliprole is not expected to pose a cancer risk to humans.

F. Occupational Risk Assessment

1. Handler Exposure and Risk

Occupational handler and post-application exposure may occur by the dermal and inhalation routes of exposure only. Since there is no dermal hazard from cyantraniliprole, only inhalation exposures were quantitatively assessed. Also, since no acute toxicity effects were found for cyantraniliprole, only short- and intermediate-term inhalation risk estimates were calculated.

a. Agricultural Field Uses

The results of the occupational handler exposure and risk assessment indicate that short- and intermediate-term inhalation risks do not exceed EPA's Level of Concern (LOC) (i.e. an MOE < 30 for short-term exposures and an MOE < 100 for intermediate-term exposures) at baseline mitigation (no PPE). Since the short- and intermediate-term PODs are the same, the inhalation MOEs are also the same, ranging from 1,200 to 3,900,000.

EPA has no data to assess exposures to pilots using open cockpits. The only data available is for exposure to pilots in enclosed cockpits. Therefore, risks to pilots are assessed using the engineering control (enclosed cockpits) and baseline attire (long-sleeve shirt, long pants, shoes, and socks); per the Agency's Worker Protection Standard stipulations for engineering controls, pilots are not required to wear protective gloves for the duration of the application. There are no risk estimates of concern for aerial applicators.

b. Agricultural Seed Treatment Uses

Based on the anticipated use patterns and current labeling, types of equipment and techniques that can potentially be used, some occupational handler exposure is expected from the proposed seed treatment uses. The quantitative exposure/risk assessment developed for occupational handlers is based on the following scenarios:

- Mixing/loading liquids for potato seed piece treatment,
- Planting potato seed pieces,
- Mixing/loading liquids for commercial seed treatment, and
- Planting treated seed.

The results of the occupational handler exposure and risk assessment indicate that short-term inhalation risk estimates do not exceed EPA's LOC (i.e. an MOE < 30 for short-term exposures) at baseline, without mitigation from PPE. Short-term exposure risk estimates are protective of intermediate-term exposure risk estimates because the throughput (amount of seed treated) is greater than, or equal to, the throughput of intermediate-term exposure. The calculated inhalation risk estimates do not exceed EPA's LOC for intermediate-term exposures (i.e. an MOE < 100) at baseline, without mitigation from PPE. The inhalation MOEs range from 370 to 4,000 for primary handlers (treaters) and 2,200 to 190,000 for secondary handlers (planters).

2. Occupational Postapplication Exposure and Risk

An occupational post-application exposure and risk assessment was not conducted because a dermal hazard was not identified for cyantraniliprole.

III. Environmental Risk

A summary of the environmental fate and ecological effects and risks of cyantraniliprole as assessed in the Agency document entitled "Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole on Bushberries, Citrus, Cotton, Oil Seeds, Pome Fruit, Stone Fruit, Tree Nuts, Vegetables (Bulb, Corm and Tuberos, Cucurbit, Fruiting, Leafy Brassica, and Leafy-Non-Brassica), and Professional Products (Fly Bait, Indoor and Outdoor Insect Control for Public Health Pests Such as Cockroaches, Ants, Flies, Termites, Nuisance Insect Pests, Turfgrass and Ornamentals, Tree Injection, and Production Greenhouse and Nursery Ornamentals)" is provided below. Additional information and points of clarification not included in the risk assessment are included in the document, dated January 24, 2014, entitled "ADDENDUM – EFED Environmental Risk Assessment of Proposed New Global Chemical Cyantraniliprole on Bushberries, Citrus, Cotton, Oil Seeds, Pome Fruit, Stone Fruit, Tree Nuts, Vegetables (Bulb, Corm and Tuberos, Cucurbit, Fruiting, Leafy Brassica, and Leafy-Non-Brassica), and Professional Products (Fly Bait, Indoor and Outdoor Insect Control for Public Health Pests Such as Cockroaches, Ants, Flies, Termites, Nuisance Insect Pests, Turfgrass and Ornamentals, Tree Injection, and Production Greenhouse and Nursery Ornamentals)." This addendum includes a revision of the chronic mammalian

endpoint, characterization of potential risk concerns to monocots, and presents a comparison of acute honey bee toxicity data for cyantraniliprole and other insecticides.

A. Environmental Fate

Cyantraniliprole is a systemic insecticide. It is soluble at neutral pH and given its low vapor pressure (3.85 x 10⁻¹⁷ mm Hg) and Henry's Law constants (1.70 x 10⁻¹⁸ atm*m³/mol), is not considered volatile and is not likely prone to atmospheric transport. While cyantraniliprole is subject to both abiotic alkaline hydrolysis (half-life = 21 hrs) and photodegradation in aqueous (half-life = 8 hrs) and moist soil environments and biotic (aerobic and anaerobic biotransformation in terrestrial and aquatic environments, half-lives range from 2 days to 3 months) degradation, the chemical degrades into a total of 13 degradation products. Of these degradates, eight are major and five are minor. Based on degradate aerobic soil metabolism and mobility studies, six of the eight major degradates had longer dissipation half-life (DT₅₀) values (more persistent) and three of the eight degradates were more mobile than the parent cyantraniliprole. According to the Food and Agriculture Organization (FAO) classification system, based on organic carbon partitioning coefficients, cyantraniliprole is characterized as moderately mobile. Bioconcentration factor data (BCF value <1 in whole fish) indicate that cyantraniliprole is not likely to bioaccumulate.

Given the uncertainty of the behavior and toxicity of these degradates, their toxicity is assumed to be equivalent to the parent compound, cyantraniliprole. For the aquatic exposure modeling, a total toxic residue approach (considers the parent compound and eight major degradates including two degradates from terrestrial field studies) was utilized. For surface water, peak estimated environmental concentrations (EECs) ranged from 0.23 µg/L from cyantraniliprole use on trees using the Oregon Christmas tree scenario to 38 µg/L from cyantraniliprole use on cotton using the North Carolina cotton scenario. For pore water, peak EECs ranged from 0.22 µg/L from cyantraniliprole use on trees using the Oregon Christmas tree scenario to 37 µg/L from cyantraniliprole use on rapeseed using the North Dakota wheat scenario.

B. Ecological Risk

Ecological risk characterization integrates the results of the exposure and ecotoxicity data to evaluate the likelihood of adverse ecological effects. The means of integrating the results of exposure and ecotoxicity data is called the risk quotient method. For this method, risk quotients (RQs) are calculated by dividing exposure estimates by ecotoxicity values, both acute and chronic (RQ = Exposure/Toxicity). RQs are then compared to EPA's levels of concern (LOCs). The LOCs are criteria used by the Agency to indicate potential risk to non-target organisms. The criteria indicate whether a pesticide, when used as directed, has the potential to cause adverse effects to non-target organisms. The ecological risk profile is described in detail below.

Risks to Aquatic Organisms

Fish

Cyantraniliprole is classified as "slightly to moderately toxic" to freshwater fish on an acute exposure basis. A conservative calculation using the peak aquatic EEC (37.97 µg ai/L) and the typical end product LC₅₀ (2,400 µg ai/L) resulted in an RQ of 0.016. This is well below the acute risk to listed species LOC of 0.05. Consequently, direct acute risks to freshwater fish and aquatic-phase amphibians, for which fish serve as surrogates, from the proposed uses of cyantraniliprole are not considered likely.

Risk quotients calculated for chronic exposures to cyantraniliprole ranged from <0.001 to 0.003 and were all well below the chronic risk to listed and non-listed species LOC of 1. The risk quotient analysis indicated

that direct chronic effects to freshwater fish are not expected; none of the risk quotients exceeded the chronic risk LOC of 1.

Risk quotients could not be calculated for direct acute effects to estuarine/marine fish because the toxicity value was non-definitive. In lieu of this, the most sensitive toxicity value can be compared with the peak EEC. The most sensitive LC₅₀ (>12,000 µg total ai/L), although non-definitive, is much larger than the peak aquatic EEC of 37.97 µg ai/L. There was precipitate in this toxicity test and measured concentrations were not centrifuged or filtered; therefore, the amount of dissolved cyantraniliprole is uncertain, lending uncertainty to the study's results. No mortality or sub-lethal effects were observed in any treatment group in the test. Furthermore, the LC₅₀ would need to be 16 times more sensitive (759 µg ai/L) to even reach the acute risk to listed species LOC of 0.05. Thus, the likelihood of adverse effects on estuarine/marine fish from direct acute exposure from the proposed uses of cyantraniliprole is considered low.

Risk quotients could not be calculated for chronic effects to estuarine/marine fish because only non-definitive toxicity data were available. Given that the No Observed Adverse Effect Concentration (NOAEC) was a less than value (NOAEC <750 µg ai/L), it is not possible to preclude the possibility of direct chronic risks to estuarine/marine fish. Growth parameters (length and weight) were affected at the lowest concentration tested. Although the absolute value of the NOAEC (750 µg total ai/L) is one order of magnitude higher than the highest 60-day aquatic EEC of 37.42 µg ai/L, risk concerns cannot be eliminated on this alone. Risk mitigation language is included on the labels (refer to section IV. E.).

Invertebrates

Cyantraniliprole ranged in toxicity from slightly to very highly toxic to freshwater invertebrates on an acute exposure basis. Risk quotients for acute exposures to freshwater invertebrates ranged from 0.011 to 1.9. Most uses exceeded the acute risk to listed species LOC of 0.05 and some exceeded the acute risk to non-listed species LOC of 0.5.

Risk quotients for chronic exposures to freshwater invertebrates ranged from 0.035 to 5.8 with some uses exceeding the listed and non-listed species chronic risk LOC of 1.

Cyantraniliprole is moderately to highly toxic to estuarine/marine invertebrates on an acute exposure basis. Acute risk quotients for estuarine/marine invertebrates ranged from <0.001 to 0.073 showing a slight exceedance of the acute risk to listed species LOC of 0.05. Chronic risk quotients ranged from 0.001 to 0.23 (oyster) and < 0.001 to 0.12 (mysid shrimp). No scenarios exceeded the listed and non-listed species chronic risk LOC of 1. Thus, while mortality (direct) of estuarine/marine invertebrates is possible following acute exposure for eight of the proposed uses, the likelihood of (direct) adverse effects from chronic exposure is considered low.

Cyantraniliprole is highly toxic to benthic invertebrates on an acute exposure basis. Acute risk quotients for benthic invertebrates ranged from <0.001 to 0.051 but only one use exceeded the acute risk to listed species LOC of 0.05. Chronic risk quotients ranged from 0.022 to 3.7 with some uses exceeding the listed and non-listed species chronic risk LOC of 1.

To reduce the potential risk to aquatic invertebrates, risk mitigation language is included on the labels (refer to section IV.D.).

Aquatic Plants

Toxicity data for technical-grade cyantraniliprole was non-definitive for aquatic vascular and non-vascular plants. Thus, risk quotients were not calculated. Given the lines of evidence, it is unlikely that there will be direct adverse effects to aquatic plants based on exposure from the proposed uses of cyantraniliprole.

Risks to Terrestrial Organisms

Birds

Cyantraniliprole is classified as ‘practically nontoxic’ to birds on an acute oral and sub-acute dietary exposure basis. Since all of the endpoints from the acute oral and sub-acute dietary toxicity studies with birds are non-definitive (*i.e.*, they are ‘greater than’ values), they were not used to calculate RQs. Instead, the non-definitive toxicity values were directly compared to the EECs. The most sensitive TGAI studies were selected (in two cases, there were more sensitive results for the typical end-use product (TEP) studies, but these were also non-definitive and the lower toxicity value is probably an artifact of the largest dose of product that was given to the bird rather than the active ingredient itself). In all cases, none of the EECs were larger than the non-definitive toxicity values for the most sensitive avian species. No sub-lethal effects were observed in either the acute oral or sub-acute dietary studies for any of the species tested. Acute effects to listed and non-listed bird species are not expected.

The chronic dietary-based RQs range from <0.01 to 0.45, and are below the LOC of 1.0. Therefore, the likelihood of chronic adverse effects for listed and non-listed birds, reptiles, and terrestrial-phase amphibians from exposure to residues from the proposed cyantraniliprole uses is expected to be low.

Mammals

Cyantraniliprole is classified as ‘practically nontoxic’ to mammals on an acute oral exposure basis. Non-definitive toxicity values were directly compared to the EECs. In all cases, none of the EECs were larger than the non-definitive toxicity values. Furthermore, no sub-lethal effects were observed in the acute oral toxicity study. Therefore, acute effects on listed and non-listed mammalian species are not expected.

There were no LOC exceedances of the listed and non-listed species chronic risk LOC (1), except for the following uses/application types: soil injection/drench for hardwood trees (RQ of 1.3), soil drench for citrus (RQ of 1.2), and drip irrigation applications for cucurbits (RQ of 3.2). These risk quotients were conservatively calculated by estimating the concentration of cyantraniliprole in the leaf biomass of the plant, where for the screening-level risk assessment the risk quotients above were calculated assuming 100% of the animal’s diet comes from the treated site (*e.g.*, citrus leaves). It is important to note that it is unlikely that these use sites make up 100% of a non-target mammalian diet; therefore the actual potential for risk is low considering the variability of non-target mammalian diets.

Terrestrial Invertebrates

Toxicity data for parasitic wasps, beetles, spiders, lacewings, predatory mites, and collembola indicated that cyantraniliprole is toxic to some terrestrial invertebrates at very low application rates (48-hr LR₅₀ = 0.00008 lb ai/A – parasitic wasp), consistent with its insecticidal mode of action. Conversely, collembola, which are exposed to cyantraniliprole through direct contact with the soil, were insensitive to applications of cyantraniliprole (EC₅₀ > 1,200 mg ai/kg-soil). Likewise, earthworms demonstrated a low toxic effect to cyantraniliprole (EC₅₀ > 102.6 mg ai/kg-soil – based on the TEP).

While there is some uncertainty in honeybee toxicity data for cyantraniliprole, due to some non-definitive endpoints, it is highly toxic on an acute oral and contact basis; however, this compound is generally less toxic to honey bees than organophosphate, pyrethroid, neonicotinoid, and carbamate insecticides (Table 1). Refined acute oral RQs for adult honeybees using empirically-based maximum reported concentrations in nectar and pollen were determined as the ratio of cyantraniliprole consumed in pollen/nectar (*i.e.*, dose) to the acute LD₅₀ for cyantraniliprole-only TEP (0.116 µg ai/bee) and ranged from 0.017 to 0.066 and are below the LOC of 0.4. The LOC of 0.4 was established for acute risks to honeybees. If an RQ is less than LOC, the chemical being assessed does not pose a risk concern to insect pollinators on an acute exposure basis and

higher tier studies are not required. The registration packet included semi-field and field data for honeybees, which were used to confirm this conclusion. The LOC of 0.4, and framework for assessing risk to pollinators – used in the cyantraniliprole ecological risk assessment – is outlined in the Agency’s White Paper for assessing potential risks to pollinators and was evaluated by the FIFRA Scientific Advisory Panel¹.

Table 1 below is a comparison of the relative honeybee acute toxicity for cyantraniliprole to organophosphates, carbamates, pyrethroids and neonicotinoids, which have similar uses to cyantraniliprole. The table below includes honeybee acute contact and acute oral toxicity ranges for organophosphates, carbamates, pyrethroids, and neonicotinoids, as well as the toxicity values for cyantraniliprole and cyantraniliprole/thiamethoxam TEP. The comparatively low toxicity of the dual a.i. product containing cyantraniliprole/thiamethoxam is largely reflective of the toxicity of thiamethoxam, although less toxic than thiamethoxam alone. This table illustrates that cyantraniliprole is typically less toxic to honeybees compared to these chemical classes.

Table 1. Comparison of relative honeybee acute toxicity*

Chemical	Honeybee acute contact LC₅₀ (µg ai/bee)	Honeybee acute oral LD₅₀ (µg ai/bee)
Carbamates	0.1600 to 35	0.094 to 3.01
Neonics	0.024 to <12.5	0.0037 to >10.21
Organophosphates	0.059 to 58.9	0.056 to 0.44
Pyrethroids	0.0015 to 0.52	0.172 to 0.909
Cyantraniliprole	0.55	0.116
Cyantraniliprole/thiamethoxam TEP	0.058	0.0062

*Additional comparisons to individual chemicals are included in the Addendum to the Ecological Risk Assessment.

The semi-field studies indicated transient effects on behavior, foraging activity and mortality. Observations of brood health and colony strength (up to 28 days) suggested no significant lethal or sub-lethal adverse effects on larvae or colony strength from cyantraniliprole applications. The field studies provide *in situ* information about the effects of cyantraniliprole applications to brood development and longer-term colony health. If the larvae in a hive are undergoing adverse toxicological effects to a significant degree, a decrease in hive population or other colony-level effects will be seen over time – especially during the overwintering period; which was not observed in the cyantraniliprole studies.

Non-target Terrestrial and Semi-Aquatic Plants

Based on the risk quotient analysis, the LOC for risk to listed terrestrial plants was not exceeded for monocots or dicots. There is some uncertainty regarding the analysis for monocots because seedling emergence data were available for only one monocot species. However, available data indicate that onion was the most sensitive monocot using a vegetative vigor study, where it is approximately 2X more sensitive than the available monocot (corn) species data. Therefore it would be reasonable to expect the seedling emergence endpoint for onion to be lower than the monocot and dicot observed endpoints. Taking into account this uncertainty, the analysis suggests risks are not of concern for non-listed monocot or dicot plant species, nor for listed animal species that do not possess an obligate relationship with a particular monocot. Risk was identified for listed monocot species within a short distance of the treated field and for listed animal species with an obligate relationship with a particular monocot plant. Further, the registration package includes uses on monocots (specifically bulb vegetables, onion); therefore it is unlikely that the potential impact on onions is significant. Additionally, exceedance of the Agency’s LOC is lowered

¹Regulations.gov docket for the FIFRA SAP: <http://www.regulations.gov/#!docketBrowser:rpp=25:po=0:dct=SR:D=EPA-HQ-OPP-2012-0543>; and the Agency’s White paper: <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2012-0543-0004>

significantly as distance increases from the treated field; therefore the implemented buffers on the labels are intended to mitigate this potential risk.

IV. Regulatory Decision

The Agency is unconditionally granting the registration of the new active ingredient, cyantraniliprole, formulated as a technical product and fourteen end use products, under section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act for the following uses (a complete list of all registered products is included in the attachment):

Agricultural crops

bushberry (crop subgroup 13-07B); fruit, citrus (crop group 10-10); fruit, pome (crop group 11-10); fruit, stone (crop group 12-12); nut, tree (crop group 14-12); oilseed (crop group 20); vegetable, Brassica (Cole) leafy (crop group 5); vegetable, bulb (crop group 3-07); vegetable, cucurbit (crop group 9); vegetable, fruiting (crop group 8-10); vegetable, leafy (except Brassica) (crop group 4); and vegetable, tuberous and corm (crop subgroup 1C).

Ornamentals and turf

ornamental plants, shrubs, trees in and around greenhouses, nurseries, lath- and shade-houses, and interior plantscapes; landscape and recreational turfgrass (including golf courses); sod farms.

Structures and equipment

in and around agricultural, commercial, and residential structures (excluding food/feed handling establishments); and transportation equipment.

For the food uses, Canadian Maximum Residue Levels (MRLs) and U.S. tolerances are harmonized for primary crop commodities and livestock commodities. A few items are not harmonized: a) Canada will establish import tolerances for grapes and olives; the US does not have this request. b) Canada does not establish MRLs for livestock only commodities whereas the US does. c) Canada is setting MRLs for poultry commodities at the level of quantification (LOQ) of the analytical method (0.01 ppm) in accord with Canadian policy for situations of no residues anticipated in the livestock commodities where there are feed items with residues. The US is not establishing tolerances for poultry commodities as no significant accumulation in poultry tissues or eggs is expected, i.e., category 40CFR §180.6(a)(3).

U.S. and Canadian tolerances are not entirely harmonized with European Union (EU) MRLs. This is due both to differences in regional use patterns and climate as well as how the maximum levels are calculated. Examples of different maximum levels include: citrus (0.70 ppm US/CA vs. 0.9 ppm EU); leafy vegetables (20 ppm US/CA vs. 15 ppm EU); pome fruit (1.5 ppm US/CA vs. 0.8 ppm EU); plums (0.5 ppm US/CA vs. 1.5 ppm EU); tree nuts (0.04 ppm US/CA vs. 0.03 ppm EU). Fruiting vegetables (including peppers) are harmonized at 2 ppm except tomatoes (2 ppm US/CA vs. 1.5 ppm EU) and eggplant (2 ppm US/CA vs. 0.4 ppm EU).

Codex maximum residue levels (MRLs) for cyantraniliprole were proposed in September, 2013 but have not been adopted to date.

A. Public Comments

Notice of Receipt

On April 26, 2012, EPA published a Notice of Receipt in the Federal Register of an application for registration of cyantraniliprole and announced a public comment period of 30 days. Only two comments were received, one from the San Francisco Bay Regional Water Quality Control Board and the other from the California Stormwater Quality Association. The comments were similar in that they requested that EPA consider adverse impacts to aquatic systems from urban use sites.

EPA addressed these comments during the risk assessment process by employing the Total Toxic Residue approach (i.e. including parent chemical and all potential degradates) in its evaluation of cyantraniliprole and its degradates in aquatic systems. The Total Toxic Residue approach essentially extends the duration of the predicted EECs to account for the time it would take for both the parent and degradates of concern to dissipate in the environment. It assumes that the degradates have equivalent fate and ecotoxicity properties as the parent which is a conservative assumption.

Notice of Filing

On May 23, 2012, EPA published a Notice of Filing in the Federal Register; no comments were received.

Proposed Registration Decision

On June 6, 2013 EPA posted a Proposed Registration of Cyantraniliprole to the public docket (EPA-HQ-OPP-2011-0668). Twenty three public comments were received. A detailed review of the public comments can be found in Cyantraniliprole - Response to Public Comments on EPA's "Proposed Registration of the New Active Ingredient Cyantraniliprole: An Insecticide for Use on Multiple Commodities, Ornamentals, Turfgrass, and in Commercial or Residential Buildings" posted to the docket.

B. Regulatory Rationale

Cyantraniliprole is a broad spectrum insecticide, with activity on a wide variety of target pests. While it is the third compound registered in the Insecticide Resistance Action Committee (IRAC) Mode of Action Classification Group 28; ryanodine receptor modulators, it has a broader spectrum of activity than the other two compounds. It is expected to fit well in IPM programs.

As an efficacious insecticide, cyantraniliprole is expected to have invertebrate biological activity and therefore it may pose a risk to pollinators, as is the base for insecticides in general. Cyantraniliprole was granted classification as a Reduced Risk pesticide. This means that compared to existing conventional pesticides such as the organophosphates, carbamates and pyrethroids, it presents characteristics that include lower impact on human health, lower toxicity to non-target organisms, low potential for groundwater contamination, and compatibility with IPM practices. Based on the committee's evaluation of the information provided, the mammalian toxicity and ecotoxicity risk profiles for cyantraniliprole are favorable compared to registered alternatives, which include organophosphates, pyrethroids and abamectin. The novel mode of action for cyantraniliprole fits in well with resistance management strategies. After review and consideration of all of the data provided by the 800+ studies, the determinations made by the multiple scientists and international partners involved in the project, and the outcome of the human health and ecological risk assessments, the Agency supports the decision to register cyantraniliprole as a reduced risk compound.

In light of this determination, the Agency considered the potential risks posed by cyantraniliprole. The risks were found not to be unreasonable when weighed against the benefits it provides. Cyantraniliprole controls lepidoptera, whiteflies, leafminers, psyllids, leaf-feeding beetles, fruit flies, and sawflies. Cyantraniliprole is effective at controlling the establishment and population growth of aphids, weevils and thrips. In a comparative qualitative analysis of efficacy, cyantraniliprole is considered to be more efficacious than current registrations of more toxic compounds for control of citrus psylla, citrus leafminer, citrus aphid, beet

armyworm, cotton bollworm, Silverleaf whitefly, cotton thrips, oriental fruit moth, and obliquebanded leafroller.

Cyantraniliprole is expected to be an essential tool to citrus growers and blueberry growers. The citrus industry is under serious threat from citrus greening disease (HLB). Once a tree becomes infected, there is no cure and it will die. The only way to protect citrus trees from HLB is through prevention by control of the Asian Citrus Psyllid and there are very few effective alternatives; cyantraniliprole is one of the least toxic alternatives that would be available for citrus growers. Florida and California growers need cyantraniliprole to provide an additional mode of action to combat this psyllid. Deaths of trees resulting in serious losses to the citrus industry will also affect beekeepers that rely on citrus for honey production and as a resource for their bees.

The Agency is also aware of the threat to numerous crops from the invasive fruit fly, the spotted wing *Drosophila* (SWD). This pest has already seriously injured the US blueberry crop. On July 29, 2013, the Washington Post wrote an article about the concern that Maine's wild blueberry growers have for the threat posed by SWD. There is a zero tolerance standard for SWD in blueberries, a load of harvested blueberries will be rejected no matter the level of infestation. Extension agents in blueberry growing states have recommended carbaryl, diazinon, malathion, methomyl, phosmet, bifenthrin, esfenvalerate and other conventional chemicals, however pre-harvest intervals for these compounds are long and SWD infestations occur when fruit is ripe therefore growers are in need of tools with short PHIs. Michigan and New Jersey State Lead Agencies have made crisis declarations under FIFRA Section 18 Emergency Exemption provisions on behalf of blueberry growers for the use of malathion to combat SWD. Registration of cyantraniliprole will provide the growers with an effective tool that has a short PHI and a more favorable toxicological profile compared to currently registered alternatives.

Cyantraniliprole is expected to be an alternative to a number of insecticide classes (organophosphates, carbamates, pyrethroids and some neonicotinoids). Compared to these alternatives cyantraniliprole generally presented a more favorable environmental fate profile including its low volatility, low accumulation and leaching potential in addition to microbial-mediated and abiotic dissipation pathways. Additionally, it is generally less toxic towards mammals, birds and fish than the leading alternatives, and also honey bees (see Section III.B., Table 1). In critical pest situations, cyantraniliprole may also replace multiple or repeated applications of these other compounds, which expose non-target organisms many times and present greater risks to a wider range of non-target species. Registration of cyantraniliprole should therefore serve to reduce overall risks to such species, including listed species, when users substitute this product for the majority of the available registered alternatives.

C. Data Requirements

No additional studies required, the cyantraniliprole database is complete for the proposed uses.

D. Labeling Requirements

As noted in section III. B., aquatic invertebrates may be affected by cyantraniliprole. To mitigate the potential risk, cyantraniliprole labels will state:

“Do not make ground applications within 25’ or aerial applications within 50’ of lakes, rivers, reservoirs, permanent streams, marshes, natural ponds, estuaries or coastal areas. Do not cultivate within 25’ of these aquatic areas to allow growth of a vegetative filter strip.”

Additionally, an extensive “Spray Drift Management” section is included on the labels, which provides applicators with information intended to decrease drift potential. The information addresses droplet size, boom length, application height, wind speed and other weather conditions.

While a potential chronic risk to mammals was identified for three specific application/use scenarios (soil injection/drench for hardwood trees, soil drench for citrus, and drip irrigation applications for cucurbits), it was based on a screening-level risk assessment that assumes that 100% of the animal’s diet has been treated with cyantraniliprole from these three specific application sites. Thus, the potential risk is based on conservative assumptions where it is unlikely that these sites make up 100% of a non-target mammalian diet; therefore the actual potential for risk is low considering the variability of non-target mammalian diets. Additionally, cyantraniliprole is expected to be an alternative to compounds in the organophosphate and carbamate chemical classes, which adversely affect mammals.

Since cyantraniliprole is an insecticide, and as with other insecticides (see Table 1) it was not unexpected that the data indicate that it is highly toxic on an acute oral and contact basis to honeybees and other insect pollinators. However, it is ranked lower compared to neonicotinoids, carbamates and pyrethroids. In order to reduce exposure to these organisms, and to alert applicators, cyantraniliprole labels must include pollinator protective labeling, as follows:

1. A “Pollinator Protection Box” that contains information regarding routes of exposure, a web site resource for Best Management Practices, and contacts for reporting beekills.
2. Use of a “Bee Icon” to call attention to the protective text
3. Prohibition of applications to crops during bloom, except under certain specific conditions
4. Restrictions for ornamentals that prohibit application during bloom.

ATTACHMENT A

Complete List of Registered Products:

EPA Registration #	product name	formulation	use sites (with crop group #)
352-856	DuPont Cyazypyr Technical	96.7% technical	<ul style="list-style-type: none"> - Agricultural crops <ul style="list-style-type: none"> bushberry (subgroup 13-07B); fruit, citrus (group 10-10); fruit, pome (group 11-10); fruit, stone (group 12-12); nut, tree (group 14-12); oilseed (group 20); vegetable, Brassica (Cole) leafy (group 5); vegetable, bulb (group 3-07); vegetable, cucurbit (group 9); vegetable, fruiting (group 8-10); vegetable, leafy (except Brassica), (group 4) vegetable, tuberous and corm (subgroup 1C) - industrial, public, & residential: turf, ornamentals - commercial production: ornamentals, sod farms - in & around residential, public, commercial, agricultural structures; transportation vehicles (excluding food/feed handling establishments): <ul style="list-style-type: none"> indoors - spot or crack & crevice only outdoors - spot; crack & crevice; band - in & around residential, commercial, agricultural structures: scatterbait and bait stations
352-857	DuPont Benevia Insect Control	10.26% OD 0.83 lb ai/gal	<ul style="list-style-type: none"> - nut, tree 14-12 - oilseed 20 (includes cotton) - vegetable, bulb 3-07 - vegetable, tuberous & corm 1C
352-858	DuPont Lumiderm Insecticide Seed Treatment	50% FS 5.21 lb ai/gal	<ul style="list-style-type: none"> - rapeseed (canola) - mustard seed

EPA Registration #	product name	formulation	use sites (with crop group #)
352-859	DuPont Exirel Insect Control	10.20% SE 0.83 lb ai/gal	- bushberry 13-07B - fruit, citrus 10-10 - fruit, pome 11-10 - fruit, stone 12-12 - nut, tree 14-12 - vegetable Brassica (Cole) leafy 5 - vegetable, bulb 3-07 - vegetable, cucurbit 9 - vegetable, fruiting 8-10 including eggplant, pepper, tomato in commercial greenhouses - vegetable, leafy except Brassica 4
352-860	DuPont Verimark Insect Control	18.66% SC 1.67 lb ai/gal	- fruit, citrus 10-10 - vegetable Brassica (Cole) leafy 5 - vegetable, cucurbit 9 - vegetable, fruiting 8-10 - vegetable, leafy except Brassica 4 - vegetable, tuberous & corm 1C
352-862	HGW86 Fly Control Bait	0.5% RB	- in & around residential, commercial, agricultural structures: scatterbait and bait stations
352-863	HGW86 GH & N Insect Control	18.66% SC 1.67 lb ai/gal	- ornamentals and "grassy, weedy, mulched, or bare soil areas" in & around greenhouses, nurseries, shadehouses, lathhouses - ornamentals in interior plantscapes
352-865	HGW86 T & O Insect Control	18.66% SC 1.67 lb ai/gal	- outdoor turfgrass & ornamentals (residential & public incl. golf courses) - interior plantscapes - sod farms
352-868	HGW86 SC Insect Control	18.66% SC 1.67 lb ai/gal	- in & around residential, public, commercial, agricultural structures; transportation vehicles (excluding food/feed handling establishments): indoors - spot or crack & crevice only' outdoors - spot; crack & crevice; band
100-1418	Fortenza Red Insecticide [seed treatment]	48.8% FS 600 g/l	- potato - sunflower

EPA Registration #	product name	formulation	use sites (with crop group #)
100-1420	Fortenza Insecticide [seed treatment]	48.8% FS 600 g/l	- potato - sunflower
100-1421	Minecto Duo Insecticide	20% + 20% WG	vegetable Brassica (Cole) leafy 5 vegetable, cucurbit 9 vegetable, fruiting 8-10 vegetable, leafy except Brassica 4 vegetable, tuberous & corm 1C
100-1422	A16901B Ornamental Insecticide	20% + 20% WG	- ornamentals, non-bearing fruit and nut trees, and forest seedlings in commercial greenhouse, nurseries, and interiorscapes - certain crop plants grown for sale as transplants to consumers (only): .vegetable, Brassica leafy 5 .vegetable, cucurbit 9 .vegetable, fruiting 8-10
100-1423	A16901B Residential Insecticide	20% + 20% WG	- outdoor residential ornamentals
100-1424	Spinner Insecticide	20% + 20% WG	- turfgrass (residential & public including golf courses) - sod farms - ornamentals, non-bearing fruit and nut trees, and forest seedlings in commercial greenhouse, nurseries, and interiorscapes - certain crop plants grown for sale as transplants to consumers (only): .vegetable, Brassica leafy 5 .vegetable, cucurbit 9 .vegetable, fruiting 8-10

CERTIFICATE OF SERVICE

I hereby certify that on November 22, 2023, the foregoing **Petition for Review, Rule 26.1 Disclosure Statement, Attachments 1 through 15**, and this **Certificate of Service** was filed with the Clerk of Court for the United States Court of Appeals for the District of Columbia Circuit by using the CM/ECF system. I caused to be served one true and correct copy of the foregoing via Federal Express on the following persons:

<p>Michael S. Regan, Administrator U.S. Environmental Protection Agency EPA Headquarters 1101A William Jefferson Clinton Fed. Building 1200 Pennsylvania Avenue, NW Washington, DC 20004 Tel: (202) 564-4700</p> <p>Correspondence Control Unit Office of General Counsel (2310A) U.S. Environmental Protection Agency William Jefferson Clinton Fed. Building 1200 Pennsylvania Avenue, NW Washington, DC 20004 Tel: (202) 564-7153</p>	<p>Monty Wilkinson, Acting Attorney General U.S. Attorney General 950 Pennsylvania Avenue, NW Washington, DC 20530-0001 Tel: (202) 514-2001</p> <p>Matthew Graves, U.S. Attorney for the District of Columbia 601 D Street, NW Washington, DC 20579 Tel: (202) 252-7566</p>
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/s/Jonathan Evans

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