

Update: PPDC Resistance Management Workgroup (RMWG) 2.0

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Background – Existing OPP Resistance Management (RM) Activities

- EPA has implemented PR Notices 2017-1 and 2017-2 for registration and registration review
- New active ingredient (AI) labels for agricultural use now routinely have RM text added using the PRN guidance that includes:
 - Mode of action labeling,
 - Required scouting before/after treatment, and
 - Reporting confirmed resistance cases
- Since 2017, nearly 200 registration review chemical cases have adopted resistance management (RM) labeling under the PR Notices (out of a total of about 230 chemical decisions issued).
- EPA's evaluation of the benefits of a new or existing AI includes the value it brings to RM programs. Benefits assessments are part of registration and registration review for FIFRA mandated risk assessment and mitigation.

Background

- In 2021, the first PPDC resistance management (RM) workgroup (WG “1.0”) recommended that EPA take a more proactive role in RM,
- *The RMWG’s report to the PPDC made five detailed recommendations:*
 1. EPA should explore **changes in pesticide labels** to make them more uniform across manufacturers. Labels need to contain clear and concise language so all needed information to implement RM is easily found and understood by end users such as crop consultants, pesticide decision makers, and commercial and private pesticide applicators.
 2. EPA should conduct a thorough **review of EPA policies and regulations** that impact RM, remove contradictions, and situations that hinder effective RM to the maximum extent possible.

Background

3. EPA should **expand collaboration and outreach efforts** with other federal agencies (USDA, CDC, FWS, etc.) and convene panels (SAP) of relevant stakeholders to address specific priority issues and questions associated with resistance and RM.
4. EPA should explore how it can encourage proactive pesticide RM and prevention programs in cooperation with industries and universities through **cooperative agreements, updated training materials, and grant programs**.
5. EPA should explore the creation of **incentive programs** for assistance in overcoming the hurdles associated with RM, in particular incentives to researchers, users and suppliers for accurate early detection and timely adoption of regionally specific RM actions between the time of detection of potential resistance and confirmation of resistance.

RMWG 2.0 Charge Questions

The following charge questions were approved by PPDC at the May 2022 PPDC meeting, and are presently being evaluated by the second version of the RMWG:

1. Assist EPA in developing implementation strategies from the first workgroup recommendations;
2. Develop a framework for the quantification of risks and benefits from resistance to conventional active ingredients;
3. Explore leveraging IPM strategies for RM.

Preliminary suggestions from the second resistance management workgroup (“RMWG 2.0”) are described on the following slides presented by Cameron Douglass (USDA).

RMWG 2.0 - Overview

- Note that the following preliminary suggestions only represent the current state of discussions within the 3 charge question sub-groups.
- There is considerable overlap and agreement between these charge question sub-groups working on slightly different technical issues.
- Moving forward, the workgroup will increasingly focus on collaborative deliberations with the goal of converging towards a consensus set of recommendations to be presented at the May 2024 PPDC meeting.

** Effective resistance management can extend the useful lives of pesticides that are needed by growers and other users*

RMWG 2.0 Suggestions – CQ 1: Implementation

1a. Improve partnerships and coordination within the federal government

- EPA could improve internal coordination on RM issues, including with EPA regional offices
- EPA could strengthen relationships with US government collaborators on RM activities, including BLM, CDC, DOD, DOI etc., via participation in standing federal workgroups such as the Federal IPM Coordinating Committee.
- EPA could commit to working with USDA and other federal partners to develop a federal ‘Roadmap’ to promote the adoption and use of resistance management practices by pesticide users.

In all of its resistance management efforts, EPA should recognize that resistance management is a complex problem that requires input and buy-in from a wide variety of stakeholders.

RMWG 2.0 Suggestions – CQ 1 : Implementation (con.)

1b. Improve partnerships and coordination outside of the federal government

- EPA could better leverage existing relationships with professional society liaisons (including from the Weed Science Society of America (WSSA), the Entomological Society of America (ESA) and the American Phytopathological Society (APS)) and with Resistance Action Committees (RACs) on RM issues
- EPA could continue to proactively work with registrants, grower groups, agricultural chemical retailers and other end-users of pesticides on RM issues
- EPA and these non-Federal partners could develop an inventory of existing programs and activities that can be used to incentivize or promote sound RM practices

RMWG 2.0 Suggestions – CQ 1 : Implementation (con.)

2. EPA could review its policies, assessments and decisions to ensure that RM is a priority and is routinely factored into policy and decision-making

- The importance of resistance management should be emphasized to EPA staff and decision-makers
- When relevant, resistance concerns and RM should be addressed in risk/benefit assessments and in regulatory decisions
- When relevant, resistance management could be factored into terms of registration for pesticides to facilitate early identification and possible remediation of resistance; and EPA could review existing registrations for over-the-top herbicide products whose terms include RM-related requirements
- EPA could more fully account for RM tradeoffs in its ESA-related strategies and efforts

RMWG 2.0 Suggestions – CQ 2: Cost/Benefit Framework

- George Frisvold (University of Arizona) will present separately to address workgroup thoughts and background information relevant to this charge question.

RMWG 2.0 Suggestions – CQ 3: IPM

1. Explore leveraging IPM strategies for resistance management

- EPA could use any IPM-relevant grant programs and public webinars to include efforts to foster the use of RM tactics by growers and non-agricultural professional pest control operators
- EPA could continue to expand its communication and collaboration with other federal agencies who can influence the adoption of RM strategies by pest managers in agriculture and non-crop settings
- EPA could invest, or re-invest, in comprehensive IPM programs that include effective diffusion of IPM practices and go beyond just dissemination of information

RMWG 2.0 Suggestions – CQ 3: IPM

2. Removal of Barriers to Using Alternatives to Conventional Pesticides:

- EPA could create an incentive program, working with registrants and other stakeholders (e.g., IPM Centers, USDA, SLAs), to encourage the development and dissemination of non-conventional pesticides and novel pest control methods (e.g., physical, cultural, biological)
- EPA could consider how to make registration or 25(b) exemption of FIFRA-regulated biocontrol agents more efficient, or at least clarify requirements for biological control agents that qualify for a 25(b) exemption

Next Steps

- RMWG 2.0 will discuss feedback from PPDC received at this meeting at its future meetings
 - CQ sub-groups will discuss specific feedback on suggestions
- The workgroup will submit its final recommendations and report at the May 2024 PPDC meeting

*** Moving forward the workgroup will increasingly focus on collaborative deliberations with the goal of converging towards a consensus set of recommendations to be presented at the May 2024 PPDC meeting.**