

PPDC Resistance Management Workgroup 2.0 – an Update

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For PPDC Meeting May
31-June 1 2023

Outline

- ❖ Background from the first Resistance Management Workgroup (RMWG)
- ❖ Description of the new RMWG and its Charge Questions (CQs)
- ❖ Initial views of the new RMWG on the CQs
- ❖ Next steps

Background: PPDC Resistance Management Workgroup 1.0

- ❖ In 2021, the first PPDC resistance management workgroup generally recommended EPA take a more proactive role in resistance management;
 - The full PPDC voted to forward the RM WG 1.0 recommendations to OPP in October 2021.

Background: PPDC Resistance Management Workgroup 1.0 Final Recommendations

The RMWG's report to the PPDC in 2021 made 5 major 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 resistance management 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 resistance management, remove contradictions, and situations that hinder effective resistance management to the maximum extent possible.
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 resistance management.

Background: PPDC Resistance Management Workgroup 1.0 Final Recommendations

The RMWG's report to the PPDC makes 5 major recommendations:

4. EPA should explore how it can encourage proactive pesticide resistance management 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 resistance management, in particular incentives to researchers, users and suppliers for accurate early detection and timely adoption of regionally specific resistance management actions between the time of detection of potential resistance and confirmation of resistance.

Background: PPDC Resistance Management Workgroup 1.0

- ❖ OPP's initial response (from PPDC presentation May 2022):
 - Full implementation would be lengthy and require extensive resources;
 - Specific challenges include:
 - Competing priorities (e.g., ESA) and constrained resources, and
 - RM measures need to be specific to pesticides and target pests.
 - Leverage existing Federal IPM Coordinating Committee (FIPMCC) to improve interagency governmental coordination.
- ❖ All of these issues remain in play and will have to be taken into account by the current RMWG

Workgroup 2.0 Charge Questions

The following charge questions were approved by PPDC at the May 2022 PPDC meeting:

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; and
3. Explore leveraging IPM strategies for resistance management.

Workgroup 2.0 Members

Last Name	First Name	Affiliation	Represents
Dentzman	Katie	Iowa State Univ.	Academia
Frisvold	George	Univ. of Arizona	
Gouge [#]	Dawn	Univ. of Arizona	
Lame [#]	Marc	Indiana Univ.	
Schroeder	Jill	New Mexico State Univ.	
Shaw	David	Mississippi State Univ.	
McAllister	Janet	CDC	Government
Clark [#]	Ian	Clark Farms	Grower
Dallas	Larry	Illinois Farm Bureau	
Wade [#]	Layne	GrowWest	
Aradhya	Chandra	Bayer	Industry
Eskelson	Steve	Adama	
Prasifka	Patricia	Corteva	
Savinelli	Caydee	Syngenta	
Asmus	Amy	Asmus Farm Supply, Inc.	Retailers
Advisors (*Leads):			
<ul style="list-style-type: none"> • USEPA/OPP/BEAD – Derek Berwald*, Elizabeth “Libby” Karn*, and Nikhil Mallampalli* • USDA/OCE/OPMP – Elyssa Arnold, Cameron Douglass* 			

Charge Question 1: Implementation

Initial views of RM WG 2.0 members on prioritization of RM WG

1.0's recommendations are that EPA should consider the following:

1. Label changes ... **high priority** (*but there may be a separate PPDC workgroup focusing on this topic*);
2. Review of EPA policies and regulations ... low priority
3. Expand collaboration and outreach efforts ... **high priority** (*need to identify stakeholders and partners*)
4. Explore opportunities for funding and training ... **high priority**
5. Explore incentive programs ... low priority (*programs need to be science-based and “pre-competitive”*)

Charge Question 2: Risk/Benefit Framework

- ❖ The RM WG 2.0 thinks that lessons from EPA's resistance management strategy for *Bt* PIPs could inform the development of a risk/benefit framework for a resistance management strategy in conventional pesticides:
 - Because resistance lowers long-run benefits, resistance management actions or policies can increase those long-run benefits;
 - Proactive RM often entails additional short-run costs; and,
 - Economic tools can provide a framework for assessing the short-run / long-run trade-offs of RM.

Charge Question 3: Leveraging IPM to Better Manage RM

- ❖ Potential Opportunities:
 - Pesticide Environmental Stewardship Program
 - IPM Center for Excellence in EPA Region 6
 - Collaboration with the Regional IPM Centers (USDA funded)
 - Quantifying benefits of IPM practices
- ❖ Challenges:
 - Limited Government resources
 - Labor availability in agriculture for IPM implementation
 - Technical barriers to IPM implementation
 - Consumer acceptance of unconventional approaches to pest management

Next Steps

- Recurring monthly meetings moving forward, with additional meetings for the CQ sub-groups
- Aiming to develop formal recommendations for the Spring 2024 PPDC meeting, which would include:
 - Plans for implementing the highest priorities,
 - Quantitative risk/benefit framework proposal; and
 - Recommendations for better leveraging IPM strategies to assist in resistance management.
- Consider challenges to EPA implementation from Workgroup 1.0