EPA's Pesticide Registration Notices (PRNs) on Resistance Management
PPDC Meeting, May 3, 2017, Session 4c

Background

Many pesticides have gradually lost their effectiveness over time because pests have developed resistance (a significant decrease in sensitivity to a pesticide), which reduces the field performance of these pesticides. The agency is concerned about resistance issues and believes that managing the development of pesticide resistance, in conjunction with alternative pest-management strategies and Integrated Pest Management (IPM) programs, is an important part of sustainable pest management. To address the growing issue of resistance and prolong the useful life of pesticides, the agency has initiated a more widespread effort that is aimed at combating and slowing the development of pesticide resistance. On June 3, 2016, the agency concurrently released and requested public comment on two draft Pesticide Registration Notices (PRNs) related to pesticide resistance. The public comment closed on September 1, 2016. The two PRNs include:

1. PRN 2016-X: Draft Guidance for Pesticide Registrants on Pesticide Resistance Management Labeling. PRN 2016-X revises and updates PRN 2001-5, which is the agency's current guidance for pesticide resistance management labeling. This PRN applies to all agricultural pesticides except plant-incorporated protectants (PIPs), which are covered by separate guidance. The updates in PRN 2016-X focus on pesticide labels and are aimed at improving information about how pesticide users can minimize and manage pest resistance.

2. PRN 2016-XX: Draft Guidance for Pesticide Registrants on Herbicide Resistance Management Labeling, Education, Training, and Stewardship. PRN 2016-XX applies only to herbicides. This PRN communicates the Agency's current thinking and proposes an approach to address herbicide-resistant weeds by providing guidance on labeling, education, training, and stewardship for herbicides undergoing registration review or registration. It is part of a holistic, proactive approach to slow the development and spread of herbicide-resistant weeds, and to prolong the useful lifespan of herbicides and related technology. The Agency is focusing on guidance for herbicides first because they are the most widely used agricultural chemicals, no new herbicide mechanism of action has been developed in the last 30 years, and the number of herbicide-resistant weed species and acres infested with resistant weeds have increased rapidly in recent years.

Current Status and Next Steps

The agency has revised both PRNs to incorporate stakeholder comments and expects to finalize and release both PRNs in Summer 2017.

Insecticide resistance/seed coatings:

A few PPDC members asked for information on insect resistance in regards to neonicotinoid seed coatings. OPP is aware of some public/anecdotal concerns regarding insecticide resistance for some pests targeted by neonicotinoid seed coatings. From a biological/IPM perspective, it is likely that foliar neonicotinoid applications applied to crops that are also treated with

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neonicotinoids as seeds (or treated via soil applications at planting or later) could potentially contribute to problematic levels of persistent selection pressure for neonicotinoid resistance for some pests. However, based on a search of the Arthropod Pesticide Resistance Database (April, 2017), there were no clear cases of neonicotinoid resistance that could be directly tied to usage of neonicotinoid seed treatments. OPP is also not aware of any documented neonicotinoid resistance cases that are directly correlated with seed treatment usage.

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