

PROTECTING BEES from pesticides

Newly revised Extension publication about bees and pesticide poisoning indicates toxicity of new pesticides to bees.

by Melissa Hansen

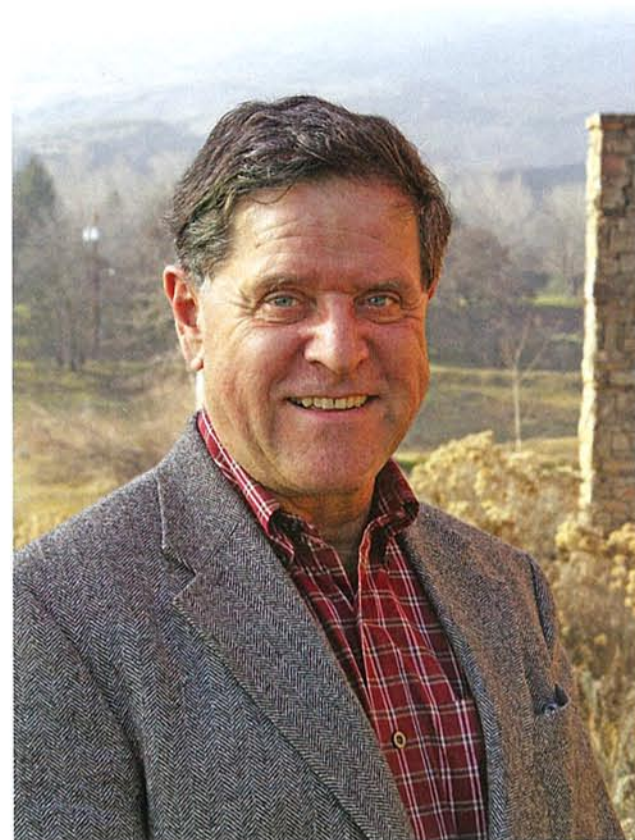
As researchers are learning that some of the new, reduced-risk pesticides are not always friendly to natural enemies important in integrated pest management, the same concept also applies to honeybees, says an Oregon State University entomologist.

Honeybees are often forgotten when it comes to thinking of beneficials, said Dr. Helmut Riedl, OSU entomologist at the Mid-Columbia Agricultural Research and Extension Center in Hood River. "We know there is a lot of impact from pesticides that affect honeybees, and that includes some of the newer, more selective pesticides."

In the past, research focus was primarily placed on the efficacy of pesticides, he said. But as the industry has shifted from broad-spectrum to more selective pesticides

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and to using integrated pest management practices like biological control, pesticide registrants are now working with researchers to look at the pesticide effects on natural enemies. "The registrants want to be able to claim that the pesticide is 'IPM friendly.'"

Toxicity

To help growers assess the impact on honeybees from new pesticides, researchers revised a Pacific Northwest guide on bee pesticide poisoning. It includes honeybee toxicity of insecticides, miticides, and blossom- and fruit-thinning agents and provides recommendations on application timing to minimize bee toxicity.

Red flags stand out on the bee pesticide toxicity list, and these products should not be applied to blooming crops or weeds, Riedl said. Warrior (lambda-cyhalothrin), Actara (thiamethoxam), and Envidor (spiroticlofen) fall in the dangerous category.

A few pesticides that are moderately toxic and should only be applied during late evening, night, or early morning include Provado (imidacloprid), Assail, and Success/Entrust.

He added that there are several insect growth regulators that can be applied at any time with reasonable safety to bees, including Apollo (clofentezine), Centaur (buprofezin), Esteem, Intrepid, and others.

Protecting bees

There are a number of things that growers can do to protect honeybees and minimize pesticide poisonings, he said, outlining the following steps:

- Follow pesticide label restrictions.
- Use insecticides that pose the least bee hazard.
- Choose the least hazardous formulation (order given is from least to most toxic): granular, EC (emulsified or liquid concentration), WP (wetttable powder), dust, microencapsulated.
- Apply insecticides under good drying conditions.
- Control blooming weeds in orchard.
- Avoid spray drift to adjacent blooming crops or weeds.
- Remove beehives prior to spraying.
- Protect beehives with wet burlap prior to spraying. ●

To purchase the publication *How to Reduce Bee Poisoning from Pesticides, PNW 591*, go to the Web site: <http://extension.oregonstate.edu/catalog>. To download the publication free of charge in a PDF file, go to: <http://extension.oregonstate.edu/catalog/pdf/pnw/pnw591.pdf>.

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