EPA says pesticide harms bees in some cases

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Credit: Lilla Frerichs/public domain

A major pesticide harms honeybees when used on cotton and citrus but not on other big crops like corn, berries and tobacco, the Environmental Protection Agency found.

It's the first scientific risk assessment of the much-debated class of pesticides called neonicotinoids and how they affect bees on a chronic long-term basis. The EPA found in some cases the chemical didn't harm bees or their hives but in other cases it posed a significant risk. It mostly

depended on the crop, a nuanced answer that neither clears the way for an outright ban nor is a blanket go-ahead for continued use. Both the pesticide maker and anti-pesticide advocates were unhappy with report.

The issue is important because honeybees are in trouble and they do more than make honey. They are crucial to our food supply: About one-third of the human diet comes from insect-pollinated plants, and the honeybee is responsible for 80 percent of that pollination.

Some advocacy groups target neonicotinoids—the chemical works on insects' central nervous systems and are often called "neonics"—and call for bans on the chemicals. Recent scientific studies have pointed to problems and pesticide makers dispute those studies and this one from the EPA. Europe banned the pesticide class, and then lifted the ban.

In this July 16, 2014, file photo, a bee works on a honeycomb the Gene Brandi

Apiary in Los Banos, Calif. The Environmental Protection Agency has found that a major pesticide harms honeybees when used on cotton and citrus but not on other big crops like corn, berries and tobacco. (AP Photo/Marcio Jose Sanchez, File)

Don't expect any future action on this pesticide to solve the dwindling bee problem because it's not just this pesticide alone, but a complicated puzzle that includes lack of food for bees, parasites, disease and the way different pesticides and fungicides interact, said bee expert May Berenbaum at the University of Illinois.

"Anything to reduce stress on bees is helpful," said University of Maryland entomologist Dennis vanEngelsdorp. "I am not convinced that neonics are a major driver of colony loss."

Before it acts on a pesticide, EPA wanted more specific and targeted research. The risk report released Wednesday is the first of four on this class of chemicals. The study was done by the EPA and California's environmental agency, with a similar one done by Canada.

EPA analysis of detailed tests found a clear level of concentration of the pesticide imidacloprid, the most common neonicotinoid, in which things start to go awry. If nectar brought back to the hive from worker bees had more than 25 parts per billion of the chemical, "there's a significant effect," namely fewer bees, less honey and "a less robust hive," said Jim Jones, EPA's assistant administrator for chemical safety and pollution prevention.

But if the nectar chemical level was below 25 parts per billion, it was as if there were no imidacloprid at all, with no ill effects, Jones said. It was a clear line of harm or no harm, he said.

Levels depended on the crop, Jones said. While nectar of cotton and citrus fruits were above the harmful concentrations, the levels were not harmful for corn—the nation's top crop by far— most vegetables, berries and tobacco. Other crops weren't conclusive and need more testing, including legumes, melons, tree nuts and herbs.

Also, the controversial practice of treating seeds with the chemical seemed not to harm bees, Jones said.

The problem crops of cotton and citrus are No. 7 and 9 in U.S. production value in 2014, according to Agriculture Department statistics.

The study looked just at commercial honeybees because they are a good surrogate for all pollinators, Jones said. But Lori Ann Burd, environmental health director of the advocacy group Center for Biological Diversity, criticized the agency for ignoring wild bees, like bumblebees, which studies show are much more sensitive to the pesticides, calling the report "weak."

Jones said this is a draft of a scientific report, not a regulation. After public comments and the report is finalized, then EPA may act.

Imidacloprid-maker Bayer Crop Sciences said EPA "appears to overestimate the potential for harmful exposures in certain crops" and ignore its benefits.

"With hundreds of studies conducted and their demonstrated safe use on farmland across the country, we know more about the safe use of neonics to honeybees than any other pesticide," Bayer Vice President Dana Sargent said in a statement.

University of Maryland's vanEngelsdorp said in email that all too often farmers use the pesticide to protect "against pests that are simply very

scarce or not found in the landscape. There are studies (including EPA's) that show no benefit to production when these products are used."

Last year the EPA proposed banning use of many pesticides that harm bees when crops are in bloom and bees are being used as commercial pollinators and the federal government is also trying to increase wild flower planting to give bees more food.

Honeybees pollinate more than 90 flowering crops, including citrus, peaches, berries, melons, apples, nuts, avocados, soybeans, asparagus and cucumbers.