
After damning research, France proposes banning pesticide linked to bee collapse

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Following research linking neonicotinoid pesticides to the decline in bee populations, France has announced it plans to ban Cruiser OSR, an insecticide produced by Syngenta. Recent studies, including one in France, have shown that neonicotinoid pesticides likely hurt bees' ability to navigate, potentially devastating hives. France has said it will give Syngenta two weeks to prove the pesticide is not linked to the bee decline, known as Colony Collapse Disorder (CCD).

France's decision comes after its National Agency for Food, Safety, and the Environment (ANSES) confirmed the findings of two recent studies published in *Science*. The two studies found that neonicotinoid pesticides, although not immediately lethal, likely hurt bee colonies over a period of time.

In the French study, researchers glued tiny microchips to free-ranging honeybees and then administered small doses of thiamethoxam, a primary ingredient in Syngenta's Cruiser OSR to some of the bees. Bees exposed to the pesticide were two to three times more likely not to return from foraging trips, allowing researchers to hypothesize that the pesticide impairs the bee's ability to navigate its surroundings successfully.

Because neonicotinoid pesticides work by impacting insects' central nervous systems, they have long been a target for researchers trying to understand

Colony Collapse Disorder, but the difficulty has been proving that pesticides harm hives even though they don't kill bees outright.

However, Syngenta denies that their pesticides have played any role whatsoever in the bee collapse.

«All Syngenta's crop protection products are thoroughly tested to ensure that there are no unwanted effects on beneficial insects such as bees or excessive residues in food or risks to human health,» the company says on its website.

The French government disagrees and has stated it would also raise the question of a ban on the pesticide for the entire European Union (UN).

Evidence of harm piling up

Despite Syngenta's statements, studies continue to appear that find a link between neonicotinoid pesticides and Colony Collapse Disorder. Recently, researchers in the U.S. fed tiny doses of neonicotinoid pesticide-laced high-fructose corn syrup, which is commonly used to feed bees, to 16 hives in the field and left four hives untreated. For months all the hives remained healthy, but after around six months over 90 percent (15 out of 16) of the hives fed with the pesticidal corn syrup had collapsed, while the four control hives remained healthy.

«There is no question that neonicotinoids put a huge stress on the survival of honey bees in the environment,» lead author Chensheng (Alex) Lu, an associate professor at the HSPH, told mongabay.com.

Meanwhile another U.S. study published last month

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in the *Journal of Experimental Biology*, found that bees hit by neonicotinoid pesticides underwent behavioral changes. Exposed bees only fed on very sweet nectar, ultimately limiting their feeding choices. In addition the bees ability to communicate was injured.

Foraging bees communicate via 'waggle dances' whereby they show the hive where to find food sources. But says lead author Daren Eiri, «Remarkably, bees that fed on the pesticide reduced the number of their waggle dances between fourfold and tenfold. And in some cases, the affected bees stopped dancing completely.»

Scientists first started recording alarming declines in bees in North America in 2006. Shortly thereafter similar declines occurred throughout Europe, and have also been noted in Taiwan. While periodic colony collapses have been recorded since the 19th Century, the current crisis has proven much worse than past ones with some producers losing 90 percent of their hives. A number of theories for the collapse have been posited, including disease, parasitic mites, habitat loss, and, of course, pesticides. Many researchers have suggested a combination of these factors.

CITATIONS:

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(04/05/2012) Scientists with the Harvard School of Public Health (HSPH) have re-created the mysterious Colony Collapse Disorder in several honeybee hives simply by giving them small doses of a popular pesticide, imidacloprid. Bee populations have been dying mysteriously throughout North America and Europe since 2006, but the cause behind the decline, known as Colony Collapse Disorder, has eluded scientists. However, coming on the heels of two studies published last week in *Science* that linked bee declines to neonicotinoid pesticides, of which imidacloprid is one, the new study adds more evidence that the

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major player behind Colony Collapse Disorder is not disease, or mites, but pesticides that began to be widely used in the 1990s.

is unrestricted I can use it to carry out projects that have been difficult to fund.»

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(03/29/2012) Commonly used pesticides may be a primary driver of the collapsing bee populations, finds two new studies in *Science*. The studies, one focused on honey-

bees and the other on bumblebees, found that even small doses of these pesticides, which target insect's central nervous system, impact bee behavior and, ultimately, their survival. The studies may have far-reaching repercussions for the regulation of agricultural chemicals, known as neonicotinoid insecticides, that have been in use since the 1990s.

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[The value of the little guy, an interview with Tyler Prize-winning entomologist May Berenbaum](#)



(04/06/2011) May Berenbaum knows a thing or two about insects: in recognition of her lifelong work on the interactions between insects and plants, she has had a character on *The X-Files* named after her, received the Public Understanding of Science and Technology Award for her work in making science accessible to the public, and this year has been awarded the prestigious Tyler Environmental Prize. «Winning the Tyler Prize is an incredible honor—most of my scientific heroes have been Tyler Prize winners and I'm exceedingly grateful to be considered worthy of being included among their ranks,» Berenbaum told mongabay.com in an interview. «The Prize is also tremendously enabling—because the money

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