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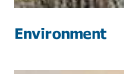
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Transcript



JESSICA DESVARIEUX, TRNN PRODUCER: Welcome to The Real News Network. I'm Jessica Desvarieux in Baltimore.

Interesting fact for you: bee pollination actually accounts for approximately one-third of all of our food supply and is worth over \$14 billion to U.S. crop production. In fact, many of the country's crops would not even exist without bees. According to the U.S. Department of Agriculture, the total number of managed honeybee colonies has decreased from 5 million in the 1940s to only 2.5 million today.

Now joining us to discuss all this is professor Dennis van Engelsdorp. Dennis is a research scientist at the University of Maryland, College Park, and he's a honeybee expert that recently released a new study all about bees.

So, Dennis, my first question is: why are the bees dying? What has happened?

DENNIS VAN ENGELSDORP, RESEARCH SCIENTIST, UNIV. OF MARYLAND: Well, that's the million-dollar question. And, of course, just like you said, honeybees have been in decline for the last 60 years or better. We've lost 50 percent of the honeybees.

But over the last six years, we've become really concerned, because one in three colonies has died every winter over the last three years. And this, of course, is [snip] for the beekeepers and the farmers that rely on those beekeepers to pollinate their crops.

We really hoped that the beginning of this to find one cause for these declines, but it's pretty clear that there are many factors coming together. And so we suspect honeybee diseases, especially the varroa mite, which is this large parasitic vampire mite that sucks the blood of bees and also passes viruses from bees to bee. We also suspect pesticides, both the pesticides beekeepers apply to the colonies to control the varroa mite, but also pesticides that are sprayed to fields and bees bring back to the colony. The third one is lack of good nutrition. And increasingly we've seen a lot of area that used to grow meadows of flowering plants that provided good nutrition for bees getting plowed under with corn and soybean. So we think it's a combination of these factors.

DESVARIEUX: So, is it pesticide exposure interacting with pathogens that make--causes negative effect on bees? Essentially, is there a way that we could have safe levels of pesticides so that we don't kill bees?

VAN ENGELSDORP: That's a really good question, because back 20 years ago, a pesticide kill was easy to see. You would find a lot of dead bees in front of your colony. However, pesticides have become much more advanced. And so they're not killing bees directly as pronounced as they have before. Still you'll see mortality that's clearly pesticide kill, but we think pesticides are having a sublethal effect. So they're weakening the bees' immune system or they're changing the bees' behavior. And certainly that was one of the major findings of the study that we're talking about today.

DESVARIEUX: Are there ways of to find out if there are safe levels of use of pesticides? What do we

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gather from all this information? What should we do?

VAN ENGELSDORP: Right. So before a chemical company can use a chemical in the country, they have to make sure it's safe for pollinators, because we all know pollinators are essential for our food supply. And so it's called the LD-50 rate. And so that means that's the lethal dose for 50 percent of the population. And so usually when pesticides are permitted for use, they have to make sure that it's not going to be applied at lethal doses when you expect bees to forage on a crop. And so there's a lot of regulations. However, these regulations assume that the bees are going to get sprayed with that pesticide. Now it's clear that some of those pesticides are coming in in different ways into the hive, onto the pollen, and they have this sublethal effect. And so I think that there's a real conversation about re-looking at how we register pesticides to make sure that they're really safe for bees.

DESVARIEUX: Is your study conclusive? Can you explain for our viewers your methodology and your process?

VAN ENGELSDORP: So what we wanted to do was we wanted to know first of all what was the exposure that bees were having in real-world situations to pesticides. And so what we did was we put colonies or we followed colonies that were pollinating seven different crops in the country, and we had nine colonies in each crop, and we collected the pollen. So when bees fly, they actually build up a static electric charge, and when they land on the flower, the pollen jumps on them, and then they're able to carry some of that pollen to another flower, pollinate that. But they're getting more pollen than they need to pollinate these different flowers. But then they're able to bring the rest of that pollen home, and that becomes their only protein source. So bees are real vegetarians in the fact that the only protein they get is from plant material.

Well, they carry that on their legs. And so we took that pollen off of the bees, and then we analyzed that pollen for pesticides. And, in fact, we found an average of nine different pesticides on each pollen load, which is a tremendous amount. In some cases, the pesticides were above the LD-50 rate that we were talking about earlier, and as many as 21 different pesticides in some pollen. So there was a large pesticide exposure.

Well, then we took that same pollen and we fed it to young bees, and we exposed those bees to a common bee disease called nosema, and we found that for fungicides—and that was the big surprise—for certain fungicides, bees that ate pollen that had fungicides were two times or more likely to get diseased than those who hadn't. And that was a real surprise, because fungicides, of course, aren't designed to kill honeybees.

DESVARIEUX: When you got back all the results, what was your initial response?

VAN ENGELSDORP: Well, I think that the idea that fungicides have a sublethal effect confirms what a lot of beekeepers have been saying. They've been saying that fungicides may be having a negative effect on bees. And so it confirmed sort of what beekeepers believed. And I think it really does provide us with a tool that beekeepers can use to help save or stem losses, because they can work now with farmers and say, hey, when I have my hives here, avoid using these fungicides on those flowering crops. Meanwhile, I think that we have to reconsider how we label fungicides for application to flowering plants.

DESVARIEUX: Speaking of labeling, you actually partnered with the Department of Agriculture, although they're not responsible for labeling. Do you think that this study will have an effect on labeling or any future policies?

VAN ENGELSDORP: So the department that's responsible for labeling law is the EPA, the Environmental Protection Agency. And I certainly think that they'll be looking at this and they'll be looking at other studies that are looking at fungicides to figure out how to make sure that it's safe for honeybees.

DESVARIEUX: Okay. And how can the everyday person just help with rejuvenating the bee population? What can we do?

VAN ENGELSDORP: I think there's a lot that people can do, whether you live in the city or in the country. The first thing you can do is think about becoming a beekeeper. And beekeeping is the most enjoyable hobby you can ever have.



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Debate on Obama's Climate Change Strategy Part II

DESVARIEUX: Enjoyable?

VAN ENGELSDORP: It really is, because you have to get into that zen of beekeeping. You have to-- you're connected with this group of 40,000 sisters who aren't going to be aggressive if you're doing things right. And they're making this liquid gold. So it's a really calming, amazing experience, and everyone should have it at least once.

The other thing you can do is plant a pollinator garden, so have flowers that flower at different times of the year in your back yard that provide food for bees. And make sure you're not applying pesticides to these gardens. It's an amazing fact is that backyard gardeners use many more times the amount of pesticides when compared to farmers per acre. And so don't use pesticides in your back yard. Also think about growing a meadow rather than a lawn. Why do we have these perfectly green lawns that are sterile? They're green deserts. So having different flowering plants in these lawns helps bees and the environment in general.

And the third thing you can do is buy local honey and support the local honeybee industry.

DESVARIEUX: Okay. All really good advice. Thank you for joining us, Dennis.

VAN ENGELSDORP: Thank you for having me.

DESVARIEUX: And thank you for joining us on The Real News Network.

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Norah G Fon · 6 minutes ago

Bee-keepers are falsely blaming bee deaths on neonicotinoid insecticides. Sadly, bee-keepers are the least credible and the least qualified to provide any advice concerning neonicotinoid insecticides. There are a growing number of reports that bee-keepers all over North America are violating federal law by using illegal and unregistered pest control products. Recently, in Alberta, bee-keepers were fined for using unregistered pest control products to combat mite infestations, resulting hefty fines from Health Canada. Bee-keepers violate federal law by using products like amitraz, which are known to cause cancer, and are known to kill people. In 2006, the United States Environmental Protection Agency (USEPA) classified amitraz as a group C, a possible human carcinogen. Furthermore, exposure of men to greater amounts of amitraz can lead to death due to respiratory failure, mainly after oral uptake or inhalation. In Turkey during 1989, 41 cases of deadly amitraz intoxications were detected. Other frequently occurring symptoms after massive amitraz intoxication are bradycardia, depression, hyperglycemia, hypothermia, loss of consciousness, miosis, respiratory depression, and vomiting. In other words, bee-keepers are illegally using products that are known to cause cancer, and are known to kill people. It has been concluded that bee-keepers are producing potentially dangerous honey. And yet, these same bee-keepers complain about neonicotinoid insecticides, which, in fact, do not cause cancer, are scientifically-safe, and cause no harm. If bee-keepers are lying and cheating by using illegal products, then, are they also lying and cheating with their public statements about bee deaths and neonicotinoid insecticides !?! For more information regarding bees, go to The Pesticide Truths Web-Site ... <http://wp.me/p1jq40-2ba> <http://wp.me/p1jq40-6WJ> <http://wp.me/p1jq40-6H8> WILLIAM H. GATHERCOLE AND NORAH G <http://pesticidetruths.com/> <http://wp.me/P1jq40-2rr>

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