

In a fight between environmentalists and farmers, the bees lose. And that stings.



By [Tamar Haspel](#) Columnist, Washington Post Food August 26



Honeybees are under attack by a variety of factors. Colony deaths totaled 44 percent in the past year. (Linda Davidson/The Washington Post)

Bees have it rough. It's not enough that they have to deal with bloodsucking varroa mites, a host of diseases and pathogens, disappearing habitat and a variety of agricultural chemicals designed to kill insects. They have also become pawns in the ag wars, the subject of dueling bee-death narratives.

In one of those story lines, pesticides are the culprit. That's the story from Greenpeace, Friends of the Earth and the Center for Food Safety, all of which urge supporters to call for bans on a particular class of pesticides — neonicotinoids, also called neonics — that have been identified as culprits in the health problems honeybees face. Whenever new research shows a link between bees and pesticides, the headlines are predictable.

The other story is that the bees are fine, thank you very much. No need to panic. A fixture of that story is the fact that the number of U.S. honeybee colonies hasn't decreased since 2006, when the mysterious deaths from what came to be known as Colony Collapse Disorder (CCD) began.

The pesticide side cites research showing that neonicotinoids kill bees. And that's true. They do. But it ignores the fact that the risk to bees depends on the crop, the timing, the method of planting and the dose (which is why the Environmental Protection Agency evaluates that risk for every crop and application method). The bees-are-fine side shows that CCD is on the wane and that the number of colonies has held steady. And that's true. It has. But it ignores the fact that colony deaths, at 44 percent in the past year (including increasing deaths during the summer), are at very high levels, and that the total colony number is stable only because beekeepers are replacing colonies at that increased rate.

All of this matters. Together, honeybees (which are not native to North America but were brought here by early beekeeper settlers) and wild bees pollinate nearly a third of the world's crops and nearly all of our wild plants. Some crops, such as almonds, probably couldn't exist without insect pollinators.

The problem poses a genuine threat to both biodiversity and dinner menus, and the two dueling bee-death narratives — each a simple distillation of a complex problem — get mainstream media traction. Unfortunately, a story headlined “Bee Deaths Complicated, Enigmatic, Imperfectly Understood” doesn't exactly scream, “Read me!”

So I'll write that one! Besides, my husband and I have been keeping bees for six years, and bee deaths are something I have much more personal experience with than I'd like.



Bees pollinate almond trees in an orchard near Bakersfield, Calif. In 2014, the most recent year for which statistics are available, almonds were the state's second-most-valuable agricultural commodity, behind milk; bees are crucial to the crop's success. (Gosia Wozniacka/Associated Press)

Talk to bee people, and they say that the factors affecting bees are indeed complicated, enigmatic and imperfectly understood. We are, however, making progress, according to Jay Evans, who leads the U.S. Department of Agriculture's bee research. "We don't see definitive CCD anymore," he says. "By the metric of colony losses, things aren't getting any better," but we have a better idea of what's causing those deaths. "Pesticide stress, nutritional stress, mites and diseases; there's evidence that there have been losses from all three of those causes," says Evans. Of that last one — mites and diseases — he says, "those, collectively, explain the larger share of the challenges of beekeeping."

Randy Oliver, a commercial beekeeper, biologist and author of the website *Scientific Beekeeping*, is less circumspect. I asked him what the top three priorities for bee health were, and he said, "varroa, varroa and varroa."

But pesticides matter, too. May Berenbaum, head of the entomology department at the University of Illinois at Champaign-Urbana, points out that insecticides are designed to kill insects, so it's not surprising that they have an impact on bees. The problem, though, isn't limited to one class of insecticides. "The media has focused on neonicotinoids," which have been the subject of more than 100 papers in scientific literature in 2015 and 2016, she says. "The light is shining most brightly, and people are looking where the light is bright."

By contrast, "varroa is a horrible nightmare. It has not been captured by the media just how disastrous it has been." Varroa mites are nobody's fault; they came here from Asia in the 1980s and have spread to just about every honeybee hive in the country. Pesticides are created and sold by large companies. "People like a bad guy-good guy scenario," Berenbaum says.



Demonstrators congregate near Britain's Parliament in April 2013 urging the government to support proposed European Union restrictions on the use of pesticides containing neonicotinoids. Britain voted against the restrictions, but they were enacted through a majority vote of E.U. members. (Andrew Winning/Reuters)

Berenbaum says she is concerned about pesticides (which, she points out, may indeed be the top threat to wild bees, which is not as susceptible to the varroa mite). She says that although many pesticides, including those used in organic farming, are toxic to bees, the way neonics are applied is a big part the problem. They're used to coat seeds, so the plant has a systemic pesticide incorporated in all its parts, including pollen and nectar.

There's disagreement about the extent of the risk of the systemic pesticide levels, but the cloud of pesticides sometimes released into the air as those seeds are planted is unequivocally a problem — although one that farmers are solving with planting equipment that minimizes drift.

Planting pesticide-coated seeds is “a cheap insurance policy,” according to Terry Daynard, a farmer in Ontario, Canada, who grows corn and soy. At the seed coating's cost of \$6 per acre, it makes economic sense for him to guard against pests that he may or may not have. Ontario recently enacted restrictions on the use of neonicotinoids, requiring that pests be found in the field before neonic seed coatings are permitted, a practice that Daynard says is great “in principle.” The question, he says, is whether you can test reliably. The pest you miss could cost you a lot of money. (Daynard is concerned about drift from planting, and he uses equipment that prevents it.)

“Farmers are very angry” about the pesticide restrictions, he says. And he points out that a ban on one particular pesticide won't make pesticides go away; it'll only make farmers use a different one.

Prophylactic use of pesticides is high on the list of practices Beranbaum would like to see changed, and it's one of the many ag-related issues that pit the interests of farmers against the interests of environmental health.

What do we do about situations in which farmers are expected — or required — to take a risk, or forgo profit, in order to protect the environment?

For Mark Floegal, research director for Greenpeace (and a beekeeper), the priority is clear. “I have a lot of sympathy for farmers,” he says, “but Greenpeace starts in a place where we ask what the environment needs to be healthy.” His group urges a neonics ban not because he believes that’s the only threat to bees but because that’s where he can instigate regulatory change. “In terms of public policy, we can protect habitat and we can control what chemicals are used in our agriculture. If there were some way that our supporters could take some action that could lead to the demise of the varroa mite, we would.”



A commercial beekeeper uses a lift to stack hives onto a truck near Columbia Falls, Maine. Having finished pollinating blueberry plants there, the insects will be transported to pollinate another crop. (Adrees Latif/Reuters)

Floegal wants more testing of chemicals before approval. About risk to pollinators, he says, “I would need data that shows no effect” before a pesticide got the green light. He also wants “regulators not captured by the industries they regulate”: Corporate influence, he says, plays too large a role in the pesticide approval process.

I asked him whether the kind of adversarial approach his group takes might further polarize the conversation and make compromise more difficult. “If we could find someone to collaborate with, we would,” he says. “We haven’t found anyone willing to partner with us on the approach to chemicals we feel is warranted.”

Another environmental organization, the World Wildlife Fund, takes a different approach. “Instead of going to the press and trying to make headlines,” says Jason Clay, a senior vice president of the group, the WWF approaches the stakeholders and tries to bring everyone together to identify common ground. Then, he says, they ask the hard questions: “What has to be done to reduce impact? Who’s going to pay for it? What kind of business model would allow this to happen?”



Biology professor Hartmut Doebel holds a cage of bees that will populate hives recently established at George Washington University. Doebel and his students are researching why bee colonies are failing and what role insecticides play in their collapse. (Linda Davidson/The Washington Post)

The WWF did that with salmon farming, another issue that pits environmentalists against farmers. It took 10 years and, undoubtedly, a whole lot of aggravation, but that effort resulted in a set of standards, released in 2013, that all the major salmon producers signed off on. As of today, according to Clay, about 25 percent of global salmon farming meets them, with more on the way.

Although the WWF doesn't work on bees, its methodology could apply to almost any issue with multiple groups that have conflicting interests.

I've been accused of having an unrealistically kumbaya vision of how to fix problems in the food supply, but I've gotta think that beekeepers, farmers, environmentalists and regulators can find enough common ground to hammer out pesticide guidelines that minimize risk to pollinators. Is there a way to restrict pesticides more carefully on crops (such as fruits and vegetables) that bees pollinate but allow more latitude on crops (such as corn and soy) that they don't? The EPA report shows a wide range of risks; could we tailor guidelines to match?

Clay says that when issues like this play out in the media, nothing much good happens. "It will be a shouting match from here to eternity. Meanwhile, the bee populations aren't doing any better."

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