

Honeybee collapse worsens; one Minnesotan's losses run to 65%

By Ron Meador | 04/03/13



Losses in the 40 to 50 percent range would have been the good news this year for Steve Ellis, a honey producer and commercial pollinator from Barrett, Minn.

Commercial pollinating is in full sway in California's orchards, and the season has brought a spate of discouraging updates about the colony collapse disorder (CCD) afflicting honeybees.

Hive losses to CCD seem to have "expanded drastically in the last year," according to a [report in The New York Times](#), with 40 to 50 percent of hives turning up empty. That's significantly above the 25 to 30 percent rates that first set off alarms and stimulated intensive investigation during 2006 and 2007, which led to identification of CCD as a specific new plague on the bees.

In a show of concern, the Environmental Protection Agency recently sent its acting assistant administrator for chemical safety and two top chemical experts here, to the San Joaquin Valley of California, for discussions.

In the valley, where 1.6 million hives of bees just finished pollinating an endless expanse of almond groves, commercial beekeepers who only recently were losing a third of their bees to the disorder say the past year has brought far greater losses.

The federal Agriculture Department is to issue its own assessment in May. But in an interview, the research leader at its Beltsville, Md., bee research laboratory, Jeff Pettis, said he was confident that the death rate would be "much higher than it's ever been."

A Minnesotan's heavy losses

Losses in the 40 to 50 percent range would have been the *good* news this year for Steve Ellis, a honey producer and commercial pollinator from Barrett, Minn.

Ellis has become a public spokesman for honeybee health and a vocal critic of EPA's reluctance to address insecticide exposures he believes are driving CCD — a threat not only to his livelihood, he points out, but also to a wide range of food crops that constitute, by widely accepted estimates, fully one-third of the American diet.

I caught up with Ellis by phone on Tuesday in the California almond orchards, where he's supplying growers with the bees they need to produce a harvest.

In a normal year he rents out 2,300 hives, two hives per acre of almonds (and six semi-trailer loads overall, if you're curious). This year, he told me, he could supply only a little over 1,000 hives, the result of a 65 percent die-off among his bees. A few years ago, 30 percent was typical; before CCD, losses ran 5 or 10 percent a year.

He had to turn away some growers who have become regular customers and cut his service to the rest by 15 percent. He thinks the Times story actually understates the problem.

"The estimates aren't even really fully calculated yet, so people are just guessing, but we believe nationally the losses will be at least 50 percent. For sure it's the highest die-off we've ever seen."

50 truckloads of dead bees

His friend Bret Adee of South Dakota, the nation's largest commercial pollinator, typically provides 70,000 to 80,000 hives to California growers, or about 200 semi loads.

Adee's loss rates weren't as high as Ellis' this year, "but they sent back to South Dakota 50 semi loads of dead equipment. It looked good when they sent it out to California, but when they unloaded it, it was unrentable. So they packed it up and sent it back."

Ellis also told me about an aspect of CCD that hasn't received as much attention as the die-offs — diminished health among the surviving colonies:

"Not only are we losing half our bees year after year, the half that are alive are not as strong as they used to be. A survey of the bees that were placed into almonds this year found that their strength, which has been going down over these last several years, was at the lowest point yet."

In Ellis' view, CCD may be a complex problem, but it has a simple solution: Overhaul "the failed pesticide program we have in this country."

A convergence of causes

As I've [written here before](#), intensive research since 2006 has shown that, like many pandemics, CCD appears to rise from multiple factors.

Parasitic mites have caused smaller die-offs for decades — beekeepers commonly lost 10 percent of their bees in an ordinary year — and a new virus has seemed to be involved as well.

But two larger environmental changes appear to be the prime drivers of today's problems:

- Our continuing conversion of landscape that once featured flowering wild plants into weed-free lawns, row crops and pavement, dramatically reducing the nectar stream available to honeybees (and other, noncommercial pollinators as well).
- Industrial agriculture's wholesale treatment of corn crops with nicotine-derived insecticides — the neonicotinoids, or "neonics" — which started around the same time as CCD's emergence.

To Ellis and other beekeepers, the first factor is probably irreversible. But the second is within our power to correct— by recognizing the contributing role of neonicotinoid insecticides, as European regulators have done, and banning them, as

the European Union seemed to be preparing to do until mid-March, when those **efforts failed to win majority support in an EU vote.**

Seeking help from EPA

Ellis has been active in the beekeepers' campaign to ban neonics. Last year they petitioned EPA for an emergency ban, but were turned down.

Two weeks ago Ellis added his name to a **lawsuit asking that the courts order EPA to move more swiftly.** Organizational plaintiffs include the Center for Food Safety, Beyond Pesticides, the Sierra Club, the Pesticide Action Network North America and the Center for Environmental Health.

Indeed, a **recent report from the Congressional Research Service** estimates that honeybees are essential to U.S. food-production sectors with an estimated annual value of \$15 billion to \$20 billion:

Bee pollination of agricultural crops is said to contribute to the production of as many as 90 agricultural crops, including a wide range of high-value fruits, vegetables, tree nuts, forage crops, some field crops, and other specialty crops.

A number of agricultural crops are almost totally (90%-100%) dependent on animal pollination, including apples, avocados, blueberries, cranberries, cherries, kiwi fruit, macadamia nuts, asparagus, broccoli, carrots, cauliflower, celery, cucumbers, onions, legume seeds, pumpkins, squash, and sunflowers.

Other specialty crops also rely on pollination, but to a lesser degree. USDA reports that native bees also provide pollination services for a number of food crops. In addition to some of the aforementioned crops, these include alfalfa seeds, almonds, canola, chokecherries, grapefruit, pears, plums, prunes, soybeans (hybrid seed production), tomatoes, vegetable seeds, and watermelons.

Pressure for the status quo

Nevertheless, Ellis said, he still finds that most Americans seem to think the biggest risk of collapsing honeybee populations is that honey might get a little more expensive.

"People are just so disconnected from food, where it comes from," he said. "They don't think beyond the grocery store, and they just assume that because it's in the stores today, it will be there tomorrow, and next week, and forever."

As for the corn and soybean and cotton farmers who have made neonics one of the most widely used insecticides in U.S. history, he said most individual farmers understand the issues and are willing to tweak their own practices because they "want to do the right thing by the bees."

But there are strong pressures from manufacturers to keep American agriculture invested in business as usual, he said, and to keep regulators from doing their duty:

"We've got a chemical abuse situation going on here. We've got to get the relationship into counseling."