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HARD WINTER FOR HONEYBEES: LOCAL BEEKEEPERS ATTRIBUTE UNUSUAL LOSS OF HIVES TO STRANGE DISORDER, MANY OTHER FACTORS

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Sonoma County beekeepers are reporting significant losses among their honeybees this winter including what some describe as cases of colony collapse disorder, the mysterious scourge that has wiped out thousands of colonies around the nation.

Some local beekeepers have lost up to two-thirds of their inventory, though the reasons remain unclear.

“You can ask 100 beekeepers and get 100 different answers,” Sebastopol beekeeper Glen Murphy said.

The losses are critical because honeybees play an important role in crop production by pollinating about 130 different fruits, nuts, vegetables and berries, adding an estimated \$18 billion annually to national crop values, the U.S. Department of Agriculture reports.

About one in three mouthfuls consumed by the average American is the direct or indirect result of pollination, USDA Agricultural

Research Service spokeswoman Kim Kaplan said.

But honeybees are not native to North America. And while there are feral colonies, they do best when managed by beekeepers now desperate to discover what's killing the **bees**.

Many beekeepers cited poor nutrition due to inadequate rainfall and the early disappearance of nectar-abundant flowers last fall as a likely factor.

Mike Johnson, president of the Sonoma County Beekeepers Association, believes some of his **bees** succumbed to starvation, freezing temperatures or a combination of the two.

But four hives showed symptoms of colony collapse disorder, or CCD, a catch-all phrase developed in 2006 to describe massive colony die-offs around the United States and elsewhere.

``Basically, I had 12 hives, and now I'm down to one," Johnson said.

The classic sign of CCD, whose cause is still undetermined, is that affected hives are basically empty of adult **bees** or corpses, save for a live queen in most cases, and a small number of larvae or brood. There's also usually plenty of **honey**.

In the developing CCD research, that's about the only way to determine when it's hit, UC Davis entomologist and beekeeping expert Eric Mussen said.

Though scientists have mounted several research projects since reports of mass collapses began, examining potential links between parasites, viruses and other pathogens, they remain stumped.

``It would be real nice to make it simple and clear-cut and say, 'It's this,' but we're not there yet," Kaplan said.

Her agency, like many researchers, suggests a ``perfect storm" of stressors that have compromised **bees'** immune systems, making them more susceptible to existing or still-unidentified pathogens.

“Right now we're still thinking it's just a number of, I don't know, all the things that are stressful to **bees** sort of ganging up on them and hitting them at one time,” Mussan said.

Some level of hive loss is natural during the winter, when the **bees** cluster together with whatever stores of **honey** they can gather to try to stay warm and healthy.

The queen **bee**, meanwhile, lays some eggs in December and kicks into high gear producing eggs in January.

But the queen may fail to produce enough larvae to replace short-lived adults. There may be starvation, if stores are inadequate, or too small a population to maintain a high enough temperature.

An increasing variety of parasites, especially mites, along with viruses and diseases have contributed to a steady **decline** in **bee** populations, which are also affected by pesticides.

Managed **bee** colonies, estimated at 5 million in the 1940s, have been cut to about 2.5 million, according to the Department of Agriculture.

California almond growers alone require about 1.2 million colonies to pollinate the crop, the California Almond Board said.

Demand for **bees** increasingly means large commercial beekeepers truck their hives around the state and country, for a price.

Some beekeepers blame the species' fragility in part on the stress of being trucked and the intermixing of species from different regions.

Sonoma County -- what Sebastopol beekeeper Doug Vincent described as “very close to **bee** heaven” -- boasts a number of commercial **honey** producers.

But few are part of the migrating pollination force.

One who is, Fulton beekeeper Hector Alvarez, has hundreds of hives at work in the Central Valley for the almond season.

He said he lost about 100 of his 700 or so colonies over the winter, but said he thinks the problem affecting most area hives is Varroa mite, a widespread pest that disables developing **bees** before they hatch.

Kathy Cox, who owns Bloomfield **Bees Honey**, attributed her losses of more than a third since July to everything from predatory yellowjackets, a bacterial disease called American foulbrood and harsh weather conditions to genetically engineered plants and the pesticides in flea-control products.

Vincent, who with his wife owns beekind **honey** shop in Sebastopol, said he's down to about 65 hives from 120 last season.

But he said he escaped CCD, instead losing weaker hives to normal attrition.

What marks CCD is rapid destruction of a colony that appears to be thriving weeks or days before.

That is what's so frustrating, said Ettamarie Peterson of Peterson Farms in Petaluma.

``You always lose some, maybe because they weren't all that great a hive to begin with," said Peterson, who lost six of her 11 hives this winter.

Several of them, she said, were weak going into the season, but two were so strong and healthy she hoped to split them into separate hives soon.

``Before, I was reading all this stuff (about CCD) and patting myself on the back and saying, `Well, my hives are OK.' And now it's hit home," she said. ``All of a sudden malaria has come to town."

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com.

PHOTO: 3 by JOHN BURGESS / The Press Democrat\

1: [**honey bees** in hive]

2: Beekeeper Kathy Cox, right, burns the empty hive boxes to sterilize against viruses while Jackie Whitford cleans and scrapes the comb after the **honey** has been removed at Bloomfield **Bees Honey** on Friday. The hives will be reconstructed and **bees** reintroduced in the spring. At top, an Italian colony works to build a hive in the cool winter weather.

3: Pollen mold from the wet winter will be hosed off the comb so the comb can be used again in the spring.

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