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**IF YOU KILLED YOUR BEST FRIEND,
WHAT WOULD YOU SAY?**

Mysterious Bee Deaths Linked to Pesticides

By **Genaro C. Armas**, Associated Press
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LEWISBURG, Pa. (AP) — Scientists investigating a mysterious ailment that killed many of the nation's honeybees are concentrating on pesticides and a new pathogen as possible culprits, and some beekeepers are already trying to keep their colonies away from pesticide-exposed fields.

After months of study, researchers are finding it difficult to tie the die-off to any single factor, said Maryann Frazier, a senior extension associate in Penn State University's entomology department.

"Two things right now ... that are really keeping us focused are the pathogen and the role of pesticides," Frazier said.

Scientists from Penn State and the U.S. Department of Agriculture are leading the research into colony-collapse disorder, including study of the yet-to-be identified pathogen, a microorganism capable of causing disease.

But commercial beekeeper David Hackenberg isn't waiting to take action. He's asking growers whether they use pesticides on fields before bringing his bees for pollination.

Honeybees don't just make honey; they pollinate more than 90 tasty flowering crops, including apples, nuts and citrus fruit.

Hackenberg, 58, trucks his bees around the country for pollination — from oranges in Florida to blueberries in Maine. He was the first beekeeper to report the disorder to Penn State researchers last fall, having lost nearly 75 percent of his 3,200 colonies.

He said he is convinced pesticides, and in particular a kind of pesticide called neonicotinoids, were harming his bees.

"I'm quizzing every farmer around," Hackenberg said. "If you're going to use that stuff, then you're going to have to go to somebody else."

The beekeeper of 45 years is back up 2,400 colonies and doesn't want to lose his bees again.

He and his son, Davey Hackenberg, who operate Hackenberg Apiaries, are considering raising prices to cover the cost of replacing hives that may die off because of colony collapse. They charge about \$90 a hive now to "lease" their bees in fields; it costs \$120 to replace a hive with new bees, the Hackenbergs said.

Beekeeper Jim Aucker, of Millville, was left with just 240 of his 1,200 hives earlier this spring after the illness struck. He said he's back up to just under 600 now. He is convinced pesticides are playing a role.

"I have found spray materials in our dead hives. Whether it's 100 percent the cause, I'm not sure, but I'm positive it's not helping," Aucker said. He doesn't plan to return to fields where he thinks there might be a pesticide problem.

Daniel Weaver, president of the American Beekeeping Federation, said he wasn't surprised some beekeepers were staying away from fields with insecticides.

"I try to limit my association to growers that I know will be responsible bending over backward and to go out of their way to avoid pesticide application while the bees are flying," he said of his own



A colony of honeybees. An unknown pathogen is pushing the industrious honeybee to disaster as scientists scurry to figure out what the cause is. Early results of a key study by the USDA and Pennsylvania State University point towards some kind of disease or parasite. About one-third of the human diet comes from insect-pollinated plants and the honeybee is responsible for 80 percent of that pollination, according to the USDA. Credit: Haraz N. Ghanbari/AP

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Nerdiest Rap You'll Ever Hear

Physics may not be the most obvious subject of a rap song (in fact, it's probably the least), but that's exactly what inspired Katherine

colonies. "Of course, I can't escape it completely."

He also cautioned what other scientists have echoed — that bees' immune systems might be weakened and vulnerable for reasons besides pathogens and pesticides, such as mites.

Bayer Crop Science is one of the top producers of the neonicotinoid pesticides in the country, and the product has been on the market since 1994.

"We have done a significant amount of research on our products, and we are comfortable this it is not the cause," said company spokesman John Boyne, an entomologist by training.

"The current research indicates that a number of nonchemical causes may be to blame," Boyne said when asked beekeepers' concerns regarding pesticides. Bayer is cooperating with federal and university scientists.

Some of the neonicotinic pesticides are available in stores to homeowners, though some bottles may not have the same warning labels as those available commercially, researchers and beekeepers said. Bayer officials said they were not aware of the issue but were looking into it.

Some beekeepers worry fruit and vegetable growers may be spraying pesticides in ways other than the directions on labels, said University of Montana bee expert Jerry Bromenshenk. His survey of beekeepers found instances of colony collapse in about 35 states.

Reports are across the board as of mid-June, a time when bee colonies are supposed to be thriving. Some beekeepers have said they are losing bees, while others are holding steady or growing colonies again.

Hackenberg said he went to the extreme of trying to disinfect many of his hives with radiation.

But he fears what might happen if his bees get struck again. A call came in on his cell phone as he worked with a thriving hive of honeybees on a hill above his house — a caller was trying to line up bees for 2008.

"Yeah, we sell bees," Hackenberg said, "if we're still in business next year."

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