Illinois beekeepers face up to some troubling national trends.

Feeling the Sting?

Story By Susan Brackney
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Things haven't been so good for the hard-working honeybee lately. Just ask the folks from the Northern Illinois Beekeepers Association. At a recent meeting, its members were polled on the all-too-familiar "How many of you had hives die off this past winter?" and, according to treasurer Steve Wenzel, "Practically every hand went up."

He explained, "There's been an overall decline in beekeeping not just in Illinois but throughout the country over a 15- or 20-year period." As it stands, more than 200,000 beekeepers and 2.41 million colonies of honeybees produced in excess of 175 million pounds of honey last year nationwide. That may sound like a lot—until you consider that nearly five million colonies were kept by beekeepers in the United States from World War II to the 1950s.

Just why should we be concerned about our dwindling number of honeybees? Honeybee experts like Dewey Caron, a professor of entomology and wildlife ecology at the University of Delaware, contend that one of every three or four bites of food we eat is the result of the activity of managed and feral pollinators. "We say they're responsible for the color and the variety on your plate.... (Honeybees) are responsible for about 90 different things that we eat from nuts to fruits to the grasses that cattle eat," Caron said.

It is estimated that $15 billion of annual agricultural production in the U.S. is directly dependent on honeybees. Ecologists suggest that without managed and feral pollinators, some species of native flora might also be diminished—in turn affecting any wildlife populations which feed on their fruits or seeds.

There are several reasons for the steep decline of these valuable pollinators. Managed honeybee colonies and

Visible with the naked eye, the small hive beetle is thought to have entered Illinois in the late 1990s.

(Photo courtesy Scott Bauer, ARS/USDA.)

Throughout the 1990s, the number of wild populations and managed colonies of honeybees declined—partially due to the introduction of two types of parasites and from competition with Africanized bees. Recent production statistics indicate the trend has leveled off, and perhaps reversed.

wild bee populations alike were especially hard hit by two types of parasitic mite—the tracheal mite and the Varroa mite—during the 1990s. Thought to have come from Mexico in the mid 1980s, tracheal mites actually infest the airways of honeybees. The Varroa mite, first found in Southeast Asia in the early 1900s, is an external parasite that attaches itself to the back of a healthy bee and sucks out the invertebrate's haemolymph, a blood-like fluid. Worse yet, as the Varroa mite feeds, it can spread harmful bacteria and viral agents to the bee.

But competition from Africanized bees in the six southwestern states from Texas to California, declining interest in beekeeping and increasing loss of natural habitat are also partly to blame for the honeybee's national decline.

"It's not any single factor, but certainly habitat matters, including loss of available cavities and loss of forested patches—critical since our honeybees are native to this habitat," Caron noted.

But for honeybees living in the Prairie State, things may be looking up. Last year, 8,000 Illinois hives produced a total 680,000 pounds of honey commercially—up from 7,000 honey-producing colonies and just 385,000 pounds of honey the previous year according to the National Honey Board. And, keeping tabs on commercial and hobbyist beekeepers, the Illinois State Beekeepers Association reports there were nearly 19,000 registered honeybee colonies as recently as 2003—up from more than 17,000 colonies in the late '90s.

"We're seeing a slight rebound or at least a stabilization in the number of colonies," said Gene E. Robinson, a professor in the department of entomology at the University of Illinois at Urbana-Champaign. "There are some hints around the state of improved honeybee vitality perhaps due to the beginnings of the evolution of at least partial resistance to Varroa."

Lynn Osborn, regional apiary inspector for northwest Illinois, agreed: "As time goes on we're going to have more resistant bees and the return of wild or feral colonies again, which were pretty much nonexistent in the late 1990s."

Renewed support of the honeybee is manifested in other ways, too. For instance, in 2000, Mayor Richard Daley had Chicago's City Hall roof transformed into a lush garden, serving to absorb rainwater and provide habitat for migra-

Bee hives help complete Chicago roof-top garden habitats. Honey made available during a silent auction went into a job-training program for young artists.

(Photos courtesy City of Chicago.)

tory birds and butterflies, and in 2003 he added a couple of beehives to the mix.

"I thought that would be an added incentive to show nature can coexist in a downtown area like ours," Daley said. In the rooftop hives' first year, city officials were able to collect 150 jars of honey.

Such environmental concern also is fueling a renewed interest in beekeeping across the state. During the last seven years, Robinson has offered a beginning beekeeping course and has noticed an increasingly diverse group of students: "There are younger people and older people. People with interests in other aspects of agriculture. People with a strong interest in the environment."

What's more, there has been an increase in the number of registered beekeepers in the state, and membership in groups like the Northern Illinois Beekeepers Association also is up.

Still, the news isn't all good. The Illinois Department of Agriculture reports these new beekeepers and old hands alike will have to face at least one more threat to their hives—the small hive beetle. After infiltrating the state five years ago, the invasive African species is finally gaining ground in Henry, Kankakee, McLean, Will and Whiteside counties.

"The small hive beetle is getting a little worse all the time," Rita Taylor, secretary for the 500-member-strong Illinois Beekeepers' Association, noted. "More beekeepers are finding this little, square-shaped black beetle. You can see them with your naked eye, and, once you get them in your honey house, they can be a problem, possibly decimating the colony."

Scientists estimate that bees are responsible for one of every three or four bites of food we eat.

Both their body size and hairiness enable honeybees to pollinate flowers of many shapes and sizes, making them effective in plant pollination and the production of honey.

So what would happen if honeybees across the country were wiped out? Crops such as apples, peaches and almonds wouldn't disappear, but they would be affected. For example, farmers might lose apple crops on a wide scale, but Caron said, "They'd only lose about 5 percent of their peach crop since they are not dependent on honeybees."

That would likely drive up costs for honeybee-dependent crops and lead to our increased dependence on other countries for our food.

"Rising fruit costs means more imported foods because a lot of agriculture is high labor and labor in other parts of the world is cheaper than in our country," he added.

Nevertheless, he isn't ready to let the honeybees' latest adversary get him down. Nor, likely, will the state's other beekeepers.

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