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## Un-busy bees a disaster for almost everyone

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**(06-27) 04:00 PDT Washington** -- Could strawberry ice cream disappear from our lives? What about vanilla Swiss almond?

The folks at Haagen-Dazs are worried enough that they and others have mounted a campaign to halt the shocking decline of honeybees and other pollinators of strawberry plants, almond trees and the rest of the roughly 90 percent of terrestrial plant life that needs pollination.

Officials of the Oakland company told Congress on Thursday that more than 40 percent of its product's flavors, derived from fruits and nuts, depend on honeybees. Without bees, fruits and nuts cannot exist.

As for whether strawberry, raspberry or almond ice cream could disappear, Haagen-Dazs brand director Katty Pien said, "We hope not, but that's why there is such a sense of urgency, so that the millions of people who love our strawberry ice cream can have it forever."

Honeybees mysteriously began to abandon their colonies in 2006, destroying about a third of U.S. hives. The rate of decline is accelerating, reaching 36 percent last winter.

"How would our federal government respond if 1 out of every 3 cows was dying?" Maryann Frazier, a bee expert at the University of Pennsylvania, asked during testimony to the House subcommittee on Horticulture and Organic Agriculture.

Fruits, nuts, seeds and many vegetables are the foundation of California's \$34 billion agricultural industry, the nation's largest, and the basis of a healthy human diet. About a third of human food requires pollination. The plants cannot grow without it.

"Our business is simple: No bees, no blueberries," agreed Edward Flanagan, chief executive of Jasper Wyman & Son, a wild-blueberry grower in Maine. "Wild blueberries can't be planted. Not here, not in Chile, not in China. ...We are very scared at the prospect of no pollinating bees for our fields. There is no alternative."

### **Baffled about the cause**

Federal research dollars are beginning to flow and will jump dramatically with the newly passed

farm bill, but scientists remain baffled about the cause of pollinator decline. The problem extends not just to the commercialized honeybee imported from Europe 400 years ago but, etymologists say, to other native pollinators.

Those include native bees such as bumblebees that are also showing rapid declines, plus butterflies, moths, beetles, flies, hummingbirds and bats. Lack of data on these species hinders measurement.

Scientists suspect multiple villains: loss of habitat, pesticides that disrupt insect neurology, combinations of sublethal pesticides, and viruses and parasites. Frazier said one study of 108 pollen samples revealed 46 pesticides, as many as 17 different pesticides in a single sample. Only three of the samples showed no pesticide residue.

Another suspect is large farm monocultures of single crops that create "floral deserts." The most obvious of these are the 660,000 acres of almond trees blanketing the San Joaquin Valley. Miles of almond trees offer pollinators a single-source diet during one gigantic burst of bloom, akin to eating nothing but strawberry ice cream for a few weeks, followed by starvation the rest of the year. Such environments are deadly for native pollinators and require farmers to import honeybees for pollination.

### **Hostile environments**

Pollinators face an increasingly hostile environment elsewhere too, on golf courses, parks, corporate grounds, school grounds, suburban yards and city parks, where native plants, bare dirt, deadwood and other pollinator habitat is ill-tolerated. Pesticide and herbicide use on farms is tightly regulated, but homeowners and groundskeepers use them with abandon.

Visalia beekeeper Steve Godlin said 1.3 million honeybee hives are trucked in each spring from around the country to pollinate the California almond crop, which is fast replacing cotton in the Central Valley. The collapse of honeybee hives and the enormous demand for almond pollination has sent its price soaring.

That will show up soon in grocery store prices, said committee Chairman Rep. Dennis Cardoza, D-Fresno. Haagen-Dazs' Pien said the company is bracing for not just higher costs but a reduction in the supply of pollinated ingredients.

After a survey showed half the public is not even aware of the bee decline, the company awarded a \$250,000 research grant to UC Davis and the University of Pennsylvania. It also opened a public education campaign, starting with a limited edition flavor called Vanilla Honey Bee and a goal to distribute 1 million flower seeds to consumers and community groups to aid native pollinators. A Web site, [www.helpthehoneybees.com](http://www.helpthehoneybees.com), provides information.

The idea is to educate consumers about things they can do to help now, such as creating habitat

and avoiding pesticide use.

"All Americans can help now with pollinator-friendly practices in their own backyards," said Laurie Davis Adams, executive director of the San Francisco nonprofit Pollinator Partnership, established a decade ago to promote biodiversity.

Planting native salvias rather than hybrid tea roses, providing water and shelter or devoting a patch of yard can help. "Plant, and they will come," she said. Such practices save money, too, by reducing the need for mowing, watering and chemical fertilizers. If one person sets aside 15 percent of a lawn, it might not help much, she said, but if a million people do, "what kind of change is that?"

The group, at [www.pollinator.org](http://www.pollinator.org), is issuing guides for each of 35 eco-regions of the country that can be used by farmers, public-land managers, corporations and consumers for choosing pollinator-friendly plants and practices.

"People who were afraid when they saw a bee are now afraid when they don't see one," Adams said.

### How to help pollinators

Honeybee populations are in drastic and accelerating decline, and bumblebees could be close behind. Other pollinators are bats, moths, butterflies, hummingbirds, beetles and flies. Here are some ways homeowners can help:

**Provide food:** Native flowers provide nectar (carbohydrates) and pollen (protein). Butterfly larvae eat host plants. Fermented fallen fruits provide food. Plant in groups. Stagger bloom seasons from early spring to late fall. Use flowers of different colors and fragrances on plants of different heights. Native perennials such as salvias, as well as herbs such as mint, oregano, lavender, garlic, parsley and chives, and annuals all support bees and butterflies.

**Provide shelter:** Incorporate canopy layers by planting trees, shrubs and different-size perennials. Leave dead wood for nesting and dead plants and leaf litter for shelter. Leave some areas of soil uncovered for ground-nesting insects. Group plantings to help pollinators move through the landscape to avoid predators.

**Provide water:** Running water, ponds and small containers provide drinking and bathing water. Water sources should have a sloping side so pollinators can approach easily without drowning.

**Don't poison:** Avoid using pesticides and herbicides.

Source: Pollinator Partnership and North American Pollinator Protection Campaign

### How you can help

**Create a habitat** Providing habitat is one way to help bees and other pollinators. Pollinator Partnership, at [www.pollinator.org](http://www.pollinator.org), is creating guides to good practices for each eco-region of the country. Eco-regions can be searched by ZIP code. Guides for the California coastal region and other areas will be available in the coming months.

**Learn more** UC Berkeley bee expert Gordon Frankie provides tips for urbanites at [nature.berkeley.edu/urbanbeegardens](http://nature.berkeley.edu/urbanbeegardens).

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