

Concerns increasing over dying bees

From the East Coast to California, commercial beekeepers are encountering unprecedented die-offs of their honeybee colonies, in a crisis claiming losses of between 50% and 90%. With potentially monumental effects on human food supplies, researchers are looking at possible causes of the disappearing bees, including viruses and parasites, pesticides, and genetically modified crops.

The phenomenon, known to scientists as "colony collapse disorder" (CCD), has shown up in 24 states after first surfacing last fall in Florida. The US House of Representatives' Committee on

Agriculture met recently to discuss the crisis, which may force a reevaluation of the US's total reliance on commercial bees for pollination. Although corn and wheat crops are pollinated by wind,

about 90 cultivated flowering crops – such as apples, almonds, avocados, blueberries, watermelons and cranberries – are in debt to honeybee pollinators that are trucked in to do the job.

"Approximately 40% of my 2,000 colonies are currently dead and this is the greatest winter colony mortality I have ever experienced in my 30 years of beekeeping," apiarist Gene Brandi, from the California State Beekeepers Association, told Congress recently.

It is estimated that honeybees have pollinated every third bite that Americans eat, and add to crop yields by close to \$15 billion each year.

When the colony collapses, adult bees disappear, leaving only the queen and a few worker bees. Nearby "raider"

bees do not appear, as beekeepers would expect. The juvenile worker bees show signs of disease.

Pesticides have been implicated as a cause of the die-offs, and others, notably the Sierra Club, have suggested a link to genetically modified crops, particularly those containing a gene for a bacterial toxin called Bt. Although early studies concluded that Bt was not harmful to bees, apiarists feel the study was too short to ascertain long-term effects.

A letter from the Sierra Club to members of Congress stresses the need for independent scientists to explore the link between GM foods and CCD. "If genetically engineered crops are killing honeybees, a moratorium on their planting should be strongly considered," the letter states.

The vanishing bees have also stirred entomologists to investigate diverse, alternate pollinators, such as wasps, butterflies or other bees. Unfortunately, the US has seen a decline in these species due to pesticides, habitat loss, or imported disease. Relying on wild pollinators instead of trucked-in bees would safeguard crops and protect farmers.

(SOURCE: *The Christian Science Monitor*) ■