



THE BUZZ ABOUT ABANDONED BEEHIVES

Vanishing bees could soon lead to honey disappearing off the shelves of local grocery stores. Since November 2006, beekeepers have reported hundreds of millions of honey bees missing from their hives across the United States. They have simply disappeared without a trace. No one has been able to pinpoint an exact cause. This phenomenon is called colony collapse disorder or CCD.

David Hackenberg is a commercial beekeeper in the United States and was the first beekeeper to notice that some of his hives were empty. All of the honey bees had vanished, but the young remained behind. This was very odd because honey bees normally never leave their offspring. According to the journal *Science*, the bees were not found dead around the hives, as had been seen in the past. They had vanished.

Hackenberg is not alone. Honey bee losses have been reported in 24 states. On the West Coast losses have been as high as 60 per cent. On the East Coast and Texas, losses have exceeded 70 per cent. *BioScience* also stated that Europe and the Middle East are experiencing devastation similar to the colony collapse disorder phenomenon in the United States.

Many possibilities exist for the cause of the disappearance, but so far no single culprit has been found. According to Penn State entomologist, Diana Cox-Foster, a virus, a toxin, or even stressful bee-keeping methods could be to blame. Researchers believe a combination of factors is responsible. One important culprit in this mystery is a virus known as Israeli acute paralysis virus or IAPV. Cox-Foster conducted a study that found this virus was present in all cases of colony collapse disorder. By itself, however, Israeli acute paralysis virus may not account for the dramatic loss of the honey bees. More research is ongoing.

Cox-Foster is now conducting research on bees from Hawaii that are free of the Israeli acute paralysis virus as well as varroa mites. Varroa mites are a primary cause of honey bee mortality in normal hives. The test colonies are being given preparations from colonies with

colony collapse disorder. Some losses have been seen, but testing is continuing. Other researchers have at least been able to rule out pollen from genetically modified plants and cell phone radiation as possible contributors to colony collapse disorder.

Although this devastation has not yet hit Canadian bees, it may not be far off. Alberta bee-keepers are now concerned that this disaster will spread north. The director of the Alberta Beekeepers' Association, Kevin Nixon, says "History shows that any pest or disease that affects bees in the U.S. is usually seen here four or five years later. It could be absolutely devastating for us". Also of immediate concern is the current inability of Alberta to handle this problem. According to Nixon, "There's definitely a lack of resources in Alberta". More money and man-power are needed. The honey bee situation must be given a higher priority.

As pollinators, honey bees are a vital part of the food chain, and are essential in getting food to our table. In Alberta, they play a crucial role in our province's agricultural industry. Every year, more than 13.5 million kilograms of honey are produced from Alberta hives. At an ever increasing rate, honey bees are also being used to pollinate our canola crops. The loss of these bees would have severe economic implications for Albertans.

Alberta bee keepers and citizens alike anxiously await further research on this mystery.

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