



## **COMMENTARY: San Diego Union Tribune**

# **It's all the buzz: The bees are dying**

BY DR. REESE HALTER  
THURSDAY, JULY 22, 2010 AT MIDNIGHT

Each spring during my childhood, I planted trees with my dad and my brother and the bees always intrigued us. Last June, I finished my book, "The Incomparable Honeybee." I was cautiously optimistic that the overall death rate among honeybees was trending downward.

But just before the BP Deepwater Horizon blowout in the Gulf of Mexico on April 20, the winter and spring bee survey numbers from across the nation were released. The numbers were startling; our humble honeybees are sicker than ever.

Honeybee deaths from 2010 were much higher than those reported in 2009. In 2010, the death rate was 34 percent, up from last year's rate of 29 percent. On average, beekeepers in the U.S. lost 42 percent of their operational bees in 2009-10 compared with 23 percent in 2008-09. This loss is more than three times greater than what is considered acceptable.

Moreover, last year marked record-low honey production. Honey production dropped by about 20 million pounds, or 12 percent, to 144 million pounds.

More than 50 billion honeybees have perished within the last year in the United States. Scientists call it Colony Collapse Disorder. When honeybees get sick, they will not return to the colony. Nature designed these social creatures, like ants, not to infect one another when they get ill. The queen bee is the only insect left in the hive; helpless, she too dies, quickly.

Worldwide, honeybees account for at least \$250 billion of commerce annually. Every continent except Australia is suffering badly from the decline of bees.

As early as 2005, some of my colleagues were alarmed by the amounts of pesticides that were turning up in hives. One study found 66 different pesticides in one hive. Not only were three-quarters of these pesticides toxic to bees but the combined effects multiply the toxicity by as much as 1,000 times. Research conducted in 23 U.S. states and Canada recently found 121 different pesticides in 887 samples of bees, wax, pollen and hives. Scientists strongly believe that pesticides are a key component of Colony Collapse Disorder.

Even low-level pesticide exposure weakens bees' immune systems. Stressed bees are highly susceptible to mites that spread viruses and to fungal parasites that cause "bee diarrhea."

Of even more concern was that three out of five pollen and wax samples from the 23 states had at least one systemic pesticide – a chemical designed to spread throughout all parts of a plant.

Essentially, bees are harvesting pollen laced with lethal poison and feeding it to their young. In addition, many of these systemic pesticides are from a family of highly toxic chemicals called neonicotinoids. Bees exposed to these chemicals exhibit symptoms similar to humans afflicted with Parkinson's disease or Alzheimer's.

Although cellular phones and towers are not, thankfully, found in high concentrations on farmers fields or wild forests and meadows, recent studies have shown some disturbing results that impair any bees foraging near towns or cities around the globe.

A cellular phone placed in a bee hive, powered up twice daily for 15 minutes over a three-month period, caused honey production to cease during each 15-minute period. The queen laid only half as many eggs and the hive shrunk dramatically. Cellular phone radiation in the frequency range of 900 to 1,800 MHz also disrupts the bees' ability to navigate.

Happily, a unique population of honeybees, *Apis mellifera*, isolated for perhaps 10,000 years, has been found living at an oasis in the northern Sahara Desert. This pathogen-free population is currently being studied for possible genetic traits that enable these bees to fend off the *Varroa destructor* parasite mite and help

beekeepers worldwide.

A colony of bees requires the equivalent of 20 football fields, each full of flowers, to make a living for 30 days. In the wild, about 40 full-sized maples, basswoods, black locust, magnolias, eucalyptus, apple and tulip trees per acre have about 1 million blossoms that can also support one colony of bees for part of their harvesting season.

Support organic farming and local beekeepers. Eat locally and consider what Albert Einstein said: If bees disappeared from Earth, man would have no more than four years to live.

*Dr. Reese Halter is a conservation biologist at Cal Lutheran University in Thousand Oaks and public speaker. He is the author of "The Incomparable Honeybee and the Economics of Pollination." He can be reached through his web site: <http://www.DrReese.com>*

**Find this article at:**

<http://www.signonsandiego.com/news/2010/jul/22/its-all-buzz-bees-are-dying>