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### Honeybee Intrigue

The mystery began in November of 2006. Beekeepers began reporting a decrease in the number of honeybees, which was far below the standard amount for the winter season. On average, 50,000 bees live in a single hive and beekeepers were losing 80-100% of their bees. The bees had flown away and never returned, leaving the queen and immature bees, or brood, behind. About 90% of plants rely on pollination for fertilization and reproduction, and as bees are the world's primary pollinators, their disappearance could prove to be disastrous. If the bees disappear, plants that rely on their pollination will die out, and if plants die out, it is pretty clear that we are next. Experts were called in to investigate the phenomenon, and the panic began. We have yet to find an affirmative cause of what is now dubbed Colony Collapse Disorder, though researchers are working tirelessly to find one. The generally accepted theory is that it is not solely a virus, an environmental issue, or stress, but that it is some combination of these effects. Many are willing to sit back and let scientists take care of the issue, yet it is the average person who has the power to help save the bees. Eating locally grown, organic food is the best way an average person can help stop Colony Collapse Disorder in the world's honeybees.

A prominent theory as to the cause of CCD argues that a virus has been transmitted through mites to the honeybees. The two viruses that seem to be most likely have been traced back to bees imported from Australia and Israel. In 1922, congress passed the Honeybee Act, which prohibited the importation of bees from other countries to the United States in order to prevent the spread of diseases. Yet, in 2005 Congress exempted the law under pressure from America's almond growers, which require 1.2 million bee colonies. While the viruses from Australia and Israel are not the sole cause of CCD, many scientists believe them to be at least a

partial source of the problem. The average American consumer may not be able to help find a cure for these viruses, and therefore may believe that there is nothing s/he can do. However, these viruses are connected to a much deeper issue concerning how the honeybees react to certain chemicals in our environment.

Many tactics used to perpetuate our reliance on mass produced food in relation to bees have backfired. The in-hive chemicals that beekeepers use contribute to the stress and sickness of honeybees. For instance, beekeepers have been using a product called royal jelly that has been imported from China and is used to increase queen production in hives. By increasing the number of queens, they are able to increase the number of hives they can create. Unfortunately, royal jelly has been found to lead to a bacterial infection in the honeybees. The honeybees are also given in-hive antibiotics, which led Erik Stokstad to create the term, “feedlot bees.”

Considering just how critical honeybees are to our life on earth, the idea of them being treated as many massive corporations treat cows, pigs, and chickens is extremely unsettling. A chemical known as Apistan was used in-hive to control parasitic mites. After the mites built up a resistance to Apistan, a stronger chemical was used, followed by another then another.

Beekeepers have now resorted to increasing the dosage and mixing chemicals together. A review of six scholarly articles shows that there is a serious lack of regulation of the beekeepers’ use of chemicals.

Chemicals used outside of the beehives impact the bees as well. Bees can travel up to three kilometers in order to gather nectar and pollen needed to produce honey. While commonly used insecticides must be tested as not harmful to bees, it is possible that these chemicals have unforeseen consequences. France banned a chemical called neonicotinoid in 2005 when it was found to be harmful to bees. No other country has banned this chemical even though it has been

tested and shown to interfere with bees' ability to find their way back to the hive. While the inside and outside chemicals alone have the potential to gravely harm the bees, there is another factor that is just as significant.

The overall treatment of today's honeybees contributes to their stress and researchers believe that this may be a cause of Colony Collapse Disorder. Honeybees deposit a substance known as propolis in their hives in order to fend off infection. However, beekeepers in the United States have begun choosing strains of bees that do not use propolis, possibly contributing to CCD. This behavior falls under the umbrella of what is being called "modern beekeeping." As previously stated, honeybees are critical for pollination and are in constant demand; therefore they are being trucked from state to state incredibly often. Benjamin P. Oldroyd stated: "Anecdotal evidence suggests that CCD is more common in businesses in which bees are trucked large distances and rented for pollination." Hundreds of thousands of hives are moved all around the United States in order to help massive corporations produce massive amounts of food. This "modern beekeeping" should not even be labeled beekeeping at all. The term itself implies an enforced and enclosed living situation for the bees, and one that is not particularly decent. Honeybees are shipped to California for the winter where a particularly dry season means much less nectar. Shipping the honeybees around the country offsets their natural cycle, leaving them malnourished.

Organic beekeepers are prohibited from using Apistan or any other chemical. The honeybees' wings are not clipped and they are allowed to fly free whenever they desire. The hives are isolated from any sort of contamination from the outside world and are made from natural products. Healthy, disease-free hives are maintained by selecting healthy queens and replacement bees. Organic honey also offers health benefits, as it is an excellent source of

vitamins, minerals, and antioxidants. Honey can also be used to manage wounds, lose weight, and improve athletic performance. Buying locally and organic means that the bees that produced the honey were not in Florida or California yesterday and they were not exposed to harmful chemicals.

When faced with an enormous problem such as the disappearance of honeybees, it is easy to stand by and wait for it to be fixed. However, in this situation, we as consumers are able to help fix this problem. We may not be able to do research in a lab, finding causes and cures, but we are able to control what we buy and whom we buy from. Currently, scientists are using genetic selection in order to increase colony size, honeybees' lifespan, and improve controls for mites. Yet, this kind of tampering with nature is exactly what researchers are claiming started the problem. Buying local and organic honey is a way to send a clear message to the "modern beekeepers" to stop utilizing harmful chemicals and practices on our honeybees.

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