

Colony collapse disorder



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The Buzz on Colony Collapse Disorder Denise Collins According to the National Geographic News website, the domestic honey bee population has decreased 50% in as many years (Roach, 2004). Many reasons are blamed for the decrease in honey bee numbers including diseases and pesticides. Scientists have given the decline in honey bee population phenomenon a name, Colony Collapse Disorder. While some experts maintain that Colony Collapse Disorder is a nuisance and not a catastrophe, it is a serious problem affecting domestic honey bees worldwide. Colony Collapse Disorder is a phenomenon affecting domestic and wild honey bee colonies worldwide.

Basically what is happening is worker bees are leaving the hive and not coming back but disappearing. There are warning signs of a hive on the verge of collapse. Queen bees are seen outside of the hive is one warning sign of impending collapse. Another is juvenile bees making up the workforce. The juvenile bees are not capable of caring for the larvae. Bees also will not eat their own stores. Once a hive has collapsed, the hive appears to be abandoned by adult bees with young still in the hive. After a hive has collapsed, some of the bees predators, like wax worms, will not invade the hive (Eccleston, 2007). pic] The New York Times, 2007 One believed cause of this disorder is bees being infected with micro-organisms. These micro-organisms might be affecting the bee's immune system (Barrionuevo, April, 2007). Most researchers are blaming a parasite for the heavy decline in the bee population. The parasite, varroa mites, is a blood-sucking mite that hitches rides on worker bees backs. Once the mites are in the hive, the female mites bury themselves into the bottom of brood cells. The female mites then feed on the larvae and lay their own eggs (Bejamin,

2008). Once a colony is infected with this mite the colony can collapse within a few days (Latham, 2008). This still does not explain why the bees leave and do not return or why there are few dead bees in the collapsed hive. Some researchers believe that since almost all the cases of Colony Collapse Disorder have occurred among commercial bee keepers that the problem must be with the beekeeping practices (Eccleston, 2007). One possible cause is the use of pesticides on commercial crops. This could be a reason it appears that most of the commercial bee keepers are showing problems with Colony Collapse Disorder. The effects to our everyday life would reach into all areas.

First, the shrinking bee population would affect our grocery lists. We would lose honey followed by most fruits and vegetables. We would no longer have cotton. Animals that are dependent on grain would come next. With the loss of cows, goats, and other milk giving live stock, cheese, milk, ice cream, and other dairy products would be eliminated from our diets. One would also have to take into consideration of the life saving medicines that are made from botanicals (Barrionuevo, April, 2007). Presently there is research being done all over the United States and the world looking for a solution to this problem.

A researcher with the state of Pennsylvania is looking at the possibility of an “immune suppression” type of disease that is affecting the honey bees. This disease is being compared to the AIDS disease in humans (Barrionuevo, February, 2007). Pesticides have been considered for controlling the mites believed to be afflicting the honey bees. There are risks with using these pesticides. Keeping this in mind, researchers are looking for alternatives to <https://assignbuster.com/colony-collapse-disorder/>

using pesticides. One possibility is a fungus that only attacks the mites and not the bees. The problem researchers are faced with is how to introduce the fungus into the hives (Roach, 2004).

Robbin Thorp, an emeritus professor at UC Davis, has suggested using other bee species to do the work of the honey bees (Nielsen, 2006). Still others say that commercial farming has destroyed the honey bees' natural habitat through weed free farming and pesticides. To rectify that, new habitats need to be created and protected (Nielsen, 2006). Spanish researchers have recently announced they have found the cause of Colony Collapse Disorder. The scientists are suggesting that the honey bees are being attacked by a fungus called *Nosema ceranae*. Through further testing of infected hives, the researchers may have also found a cure.

Simply enough, an antibiotic has been found to be effective in curing the colony (Ford, 2009). I believe that more research needs to be done to further evaluate the Colony Collapse Disorder. We need to make sure that all possible causes have been checked and rechecked. There could be more than one cause to the devastating disorder. There could also be more than one remedy to the problem. The first item that needs to be completed is do extensive study of the both the wild and domesticated honey bee. This study of both types is to be done to see why commercial honey bee colonies are affected more often than wild hives.

A healthy hive needs to be quarantined for the control. When a colony is suspected of being on the verge of collapsing, miniature transponders will be attached to worker bees to track its movements. Every aspect of the honey

bees' life needs to be studied and documented. The first sign of a colony in danger of collapse needs to be documented. When a remedy is found it can be treated as soon as possible. This step needs to be completed as quickly as possible before it becomes critical. I am estimating a time frame of 12 to 18 months to gather data, analyze the data, and distribute the findings.

The next step is to interview commercial and hobbyist bee keepers and to record their observations. Since they are working with their bees on an everyday basis, they would be more apt to see subtle changes to their hives. This would be like a mother's relationship with her child. This step can be done in conjunction with the first step. This step should take three to six months to complete this part of the plan. The third step is to educate bee keepers on what to look for in their hives. The bee keepers need to be able to recognize the initial signs that one of the hives is beginning to collapse.

Education will be the key in solving this problem. Education should be an ongoing process. There will need to be not only pamphlets and manuals to distribute, but the county agriculture extension offices need to provide training to both commercial bee keepers and hobby bee keepers. This way the keepers can identify symptoms in the early stages. Flyers need to be distributed into the communities. The public can be aware of the bees that have transponders. The flyers will contain information on where to report bees that are found with the transponders.

If this plan is followed as laid out, a solution should be found within two years. The benefits for following this plan would be to find a solution and implement it to save the honey bees. To save the honey bees would be to

save our way of life. Educating the bee keepers will help to keep track of the progress being made. Communication with the bee keepers will allow researchers to track any new symptoms or outbreaks of Colony Collapse Disorder. Challenges for my plan will consist of not being able to control the accuracy of the data collection from the bee keepers.

I would have to trust that the keepers are keeping accurate records. Another challenge would be to secure the necessary funding to keep research going for two years. The federal government will need to provide the funding for the research through grants. I will also need a moderate sized lab to perform the necessary testing of bees and hives. Funding can provide for the lab or the government can provide us with a lab in a central location. The commercial growers need to commit to helping the commercial bee keepers with observations of the bees.

When transponders are attached, commercial growers need to help with locating the bees that leave the hive and do not return. The general public should become actively involved in reporting found transponder bees.

Private citizens could be contracted to create habitats that are conducive to improving the numbers of honey bees. Flower gardens planted with plants that are favored by the honey bees and not treated with any pesticides can be created by both the public and the local governments. Colony Collapse Disorder is everyone's concern not just commercial bee keepers or commercial growers.

The global community should be aware of any and all evidence of potential outbreaks of Colony Collapse Disorder. Information on the research being

done is to be shared with other countries that are dependent on honey bees. While some experts maintain that Colony Collapse Disorder is a nuisance and not a catastrophe, it is a serious problem affecting domestic honey bees worldwide. The occurrences of Colony Collapse Disorder are quickly spreading worldwide at epidemic rates. This disorder affects honey bees and the hives. Honey bees are important for more than just food.

In order to control or even stop this epidemic there needs to be research done on the causes of the disorder. There then needs to be education for the keepers, growers and general public. In the end, it is the world's responsibility to solve this issue or hunger will affect more than third world countries. Botanical compounds used in medicines will disappear. At some point, the human race will have to face extinction. Let's not let it happen without a fight. Barrionuevo, Alexi (February 27, 2007). Honeybees Vanish, Leaving Keepers in Peril. The New York Times, Retrieved from <http://www.nytimes.com/2007/02/27/business/27bees.html?pagewanted=1&ei=5088&en=3aaa0148837b8977&ex=1330232400&adxnlnl=1&adxnlnx=1245258136-9BkLxjVu7rXII15p1S/g> Barrionuevo, Alexei (April 24, 2007) Bees Vanish and Scientists Race for Reasons. The New York Times, Retrieved from <http://www.nytimes.com/2007/04/24/science/24bees.html> Benjamin, Alison and McCullum, Brian (June 25, 2008). As mystery plague threaten to wipe out bees, scientists reveal: our survival depends on them. Mail Online, Retrieved June 10, 2009 from <http://www.dailymail.co.uk/sciencetech/article-1028560/As-mystery-plague-threatens-wipe-bees-scientist-reveal-survival-depends-them.html>

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