



Colony Collapse Disorder/Honey Bee Decline FAQ's

Are honey bees and other pollinators declining? According to a 2007 report by the National Academies of Science, most North American pollinators are in decline. Colony collapse disorder (so named in 2007) is the most recent manifestation of an overall long-term decline in the managed honey bee population.

What is CCD? Colony Collapse Disorder (CCD) was the name given to the demise of honey bee colonies as a result of the rapid loss of the adult bee population. Typically these colonies have healthy looking brood and adequate food stores.

When was it first discovered and how long has it been going on? The first “report” of CCD was made in mid-November 2006 by a PA beekeeper overwintering in Florida. Soon after the initial report many migratory beekeepers reported heavy losses of colonies under similar circumstances. In subsequent conversations with beekeepers from across the country, it appears that a number of large beekeepers had higher than normal losses over the past few years. These losses may or may not be related to CCD, but it is likely that there is some relationship.

Do we know the cause of CCD? Although there has been considerable attention given to this situation since 2007, no one factor has been identified as the cause of CCD or the overall decline of North American pollinators. Scientists now feel that CCD and even the overall honey bee decline is likely the result of a number of factors working together that stress the bees to the point of weakening and often killing the colony. These factors include, but are not limited to, Varroa mites, pesticide exposure, poor nutrition and diseases like Nosema and viruses.

Is CCD something new?

Heavy honey bee colony losses have occurred at different times in the past and the condition has received different names over the years including autumn collapse, May disease, spring dwindle, disappearing disease, and fall dwindle disease. Whether or not the current die-off is being caused by the same factors that caused heavy losses in the past or if a new factor is involved is not yet clear. In addition, beekeepers have experienced unusually high losses associated with the introduction of tracheal and Varroa mites.

Why is it called Colony Collapse Disorder?

References to the season are inappropriate as there is increasing evidence that the condition manifests itself throughout the year. Dwindle implies a gradual decline of colony population. While the actual rate of adult bee loss in populations have not been recorded, it is clear that otherwise strong colonies can quickly lose their entire workforce in a matter of weeks. Disappearing has been used to refer to a host of other conditions that do not necessarily share the same symptoms as those presently being described.

The term “disease” is commonly associated with a pathogenic agent. While the definition of disease does have a broader meaning (i.e. coronary disease), until (or if) such an agent is found the use of the word disease would be misleading. Should a biological or other agent(s) be found the name of this condition will likely be reconsidered.

What impact has resulted from CCD? The loss of managed honey bee colonies during the winter has been about 30-35% each year for the past four years. It is unclear how much of this loss is due to CCD.

2007 = 31%
2008 = 35.8%
2009 = 29%
2010 = 33.8%

Other impacts include increased prices paid for honey bee pollination rentals (especially in almonds) and acreage of some crops being reduced due to fears that growers might not be able to rent honey bee colonies for pollination.

Is honey from CCD colonies safe to eat? To date there is no evidence that CCD affects honey. The impact of CCD appears to be limited to adult bees.

How would a beekeeper know if he/she has CCD?

Colonies impacted by CCD have the following characteristics:

- The complete absence of adult bees in colonies, with no or little buildup of dead bees in the colonies or in front of those colonies.
- The presence of capped brood in colonies.
- The presence of food stores, both honey and bee bread

Who is working on this problem? The decline of the honey bee population, as well as CCD, is being worked on by researchers at the USDA and many land-grant universities. The USDA bee labs are working together to address the problem under an “Area-Wide Project.” Fourteen grant Universities are working together under a CAP (Cooperative Agriculture Project) that is currently in its final year.

What are the current recommendations for beekeepers?

1) Monitor and control Varroa mites and Nosema

- To the extent possible use resistant stock and IPM techniques such as drone brood removal
- Use “soft” chemicals; formic acid, Apiguard®, and Apilife var®.
- Based on wide-spread resistance and these findings fluvalinate is not recommended.
- Use of off-label product should NOT be considered.
- If coumpos must be used, only the registered product, CheckMite+® should be considered.

2) Reduce pesticide (and pathogen) build-up by regularly culling old comb, recycling comb and/or irradiation of old comb, especially in the case of dead-out colonies.

3) Communicate with growers where bees are used for pollination to minimize colony exposure to agricultural-use pesticides.

- Minimize the use of fungicides during bloom
- Do not apply insecticides during bloom

4) “The dose makes the poison”---Dilute the effects of pesticides

- Allow colonies to “recover” after pollination.
- Continuous feeding of a protein substitute while bees are pollinating crops
- Encourage growers to establish pollinator conservation areas. Sources of funds include:
 - NRCS Wildlife Habitat Incentives Program
 - NRCS Environmental Quality Incentives Program
- Encourage homeowner to plant for pollinators
- Never apply pesticides to blooming plants

5) If a pesticide event does occur REPORT IT at this site: <http://pi.ace.orst.edu/erep/>