United States Department of Agriculture

NRCS Natural Resources Conservation Service

Michigan Fact Sheet

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Honey Bee

What is the honey bee and beekeeping?
The European honey bee (*Apis mellifera*) is one of the most familiar insects in North America. This iconic insect is unlike any other bee in the U.S., with its queen, thousands of workers, and perennial colonies that can persist in a hive year after year.

Introduced to the U.S. in the early 1600s, today over 2 million honey bee colonies are managed by commercial beekeepers who earn their living producing honey or renting their hives to farmers for crop pollination. To meet the pollination needs of farmers, beekeepers move hives all across the country following the bloom of citrus, almonds, tree fruit, berries, vegetable seed, squash and melons. At the end of pollination season, each beekeeper returns to a home base where the hives are rested and – if all goes well – a honey crop is produced. Michigan has a significant honey bee industry and leads the nation in many crops that are dependent on honey bees for pollination.

Where are honey bees in Michigan?
While many beekeepers in Michigan are year-round residents, thousands of colonies are transported to places where they can recuperate after being shipped to other states for pollination services. Beekeepers maintain apiaries (groups of 20 to 32 hives) across the state from late spring thru the fall. Generally, migratory beekeepers return to Michigan in May or June and depart for overwintering their colonies in warmer regions in the fall.

The ideal honey bee apiary is located near high-quality "bee pastures." A bee pasture is any planting containing suitable flowering plants that provide abundant nectar and pollen for honey bees to collect. The nectar is made into honey and the pollen provides protein and nutrients to raise new bees. Beekeepers prefer to locate their apiaries less than 2 miles from high quality bee pasture and/or an agriculture crop such as sunflower or canola if they know their bees will be protected from insecticide use.


Photo by NRCS

What is happening to honey bees?
Over the past 25 years, a variety of pests and diseases that attack honey bees have been introduced into the U.S. Honey bees are also exposed to pesticides across wide landscapes, and they are facing a dramatic loss of the wildflowers from which they gather nectar and pollen to strengthen and grow their colonies. As a result of these increasing stresses, beekeepers are now losing an unprecedented and unsustainable 30% to 34% of their hives each year. Beekeepers need our help to reverse this trend.

What are the threats you can help fix?
With help from the NRCS, private landowners in Michigan can help address several key threats to honey bees, including:

- Loss of foraging habitat (bee pastures) to cultivated agriculture or development.
- Loss of foraging plants within bee pastures from the indiscriminate use of broadleaf herbicides.
- Loss of foraging plants within bee pastures when inappropriate management allows grasses to take over and outcompete wildflowers.

- Honey bee mortality due to indiscriminate use of insecticides or a lack of bee-safe Integrated Pest Management.

What are the opportunities?
Through a special pool of funding set aside in 2014, the NRCS can provide financial and technical assistance to help landowners address these threats to honey bees.

Wild Forage Establishment/Enhancement:
Working with the NRCS, private landowners can convert cropland to prairies of bee-friendly wildflowers, or they can inter-seed bee-friendly wildflowers into existing grassy cover to provide abundant flowers for honey bee forage.

They can also collaborate with the NRCS to develop pasture management plans that encourage blooming wildflowers, while also supplying valuable forage for livestock or habitat for birds.

Cover Cropping:
To help honey bees, the NRCS can help landowners develop a cover cropping system designed to provide honey bee forage. A cover crop species that supports bees can also increase soil nutrients, organic matter and help prevent erosion. To qualify for this special bee effort, the cover crop must be allowed to flower for its full bloom period. However, after the bloom, the crop may be harvested for livestock forage.

Integrated Pest Management (IPM):
Since pesticide use on crops, rights of way, or parkland may drift onto adjacent habitat or nearby apiaries, all landowners can play an important role in honey bee protection, not just growers of fruits, berries, seeds, and nuts.

IPM is a decision-making framework that uses the least hazardous pest management options only when there is a demonstrated need, and takes special precautions to reduce the hazards of pest management activities to people, other living organisms, and the environment. It employs a four-phase strategy: (1) reduce conditions that favor pest populations, (2) establish an economic threshold of how much damage can be tolerated before pest control must occur, (3) monitor pest populations, and (4) control pests with the most specific pest control option when the pre-established damage threshold is reached.

The NRCS, in collaboration with IPM specialists, can help you identify potential pesticide hazards to honey bees, incorporate honey bee protections into IPM plans, and help you prevent or mitigate identified hazards to honey bees.

Maintain and Improve Healthy Grazing Lands:
Grazing maintains grassland habitat. However, to benefit honey bees, grazing needs to be managed in a manner that encourages bee-friendly forage plants. The NRCS can help develop a grazing system that maintains or increases plant health and livestock forage production while also providing abundant flowers for bees.

NRCS support for honey bee forage and protection.
The NRCS is offering this technical and financial support for honey bee forage and pesticide protection through the Environmental Quality Incentives Program. Through this program, NRCS conservation planners can help landowners design and pay for forage plantings and pesticide risk reduction measures.

For a list of preferred wildflowers, shrubs, forage legumes, and cover crops for honey bees, see the plants listed in EFOTG Section 1, Michigan Biology Technical Note No. 20 – Pollinator Biology and Habitat.

Michigan NRCS has partnered with the Xerces Society's Pollinator Conservation Program to develop the best guidance available for supporting honey bees, as well as native bees and other pollinators. For more information on the technical support provided by Xerces, visit www.xerces.org.

To learn more about this special effort, contact your local NRCS office. To find the office nearest you, visit http://www.mi.nrcs.usda.gov/