

## Pollinator Quick Guide: What You Can Do to Help Honey Bees

ENT-79

Agriculture and Natural Resources

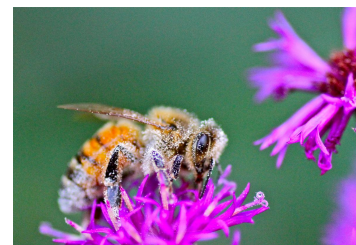
**Date:** 02/13/2017

**Denise Ellsworth, Department of Entomology**

### Threats to Honey Bees

Honey bees are key pollinators of many valuable Ohio crops, such as pumpkins, cucumbers, apples, raspberries and blueberries. Because they live together in hives, honey bees can be loaded onto trucks and transported from farm field to farm field to provide pollination services. Honey bees play an essential role in modern farming systems in the United States.

Honey bees are not native to North America. European settlers introduced them to the East Coast in 1610. For centuries after, feral honey bees were able to survive and thrive in tree cavities and in human-made structures, such as wall voids in houses and barns. The arrival of varroa mites in the 1980s has wiped out nearly all feral colonies and has had a large impact on managed colonies. Today, honey bees primarily survive in managed hives with the careful attention and tending of beekeepers. In addition to varroa mites, honey bees are threatened by a lack of forage (flowers for food), pathogens, pesticides and other pests, such as small hive beetles.



Honey bee dusted with pollen. *Photo by Karina Weatherby.*

### Honey Bee Biology



Beekeepers tending hives.



Adult bees feeding bee larvae.



An apiary, also called a "bee yard."

Honey bees are social bees that live together in a colony made up of one queen, thousands of female worker bees and male drones. As many as 50,000 to 90,000 bees can live together in one colony at the height of the season.

The queen's role in the honey bee colony is to lay eggs, as many as 2,000 eggs per day. The drones' role is to mate with new virgin queens. Workers forage for food and carry out all other tasks in the hive, including building the comb, cleaning the hive, converting nectar to honey, feeding immature bees, caring for the queen, and guarding the hive.

Like all bees, honey bees are vegetarians that survive on a diet of pollen and nectar. A special modification of the hind legs, called a corbicula, allows female worker bees to gather pollen and transport it back to the hive. To gather nectar, honey bees have a long tongue and a special honey stomach. As they travel from flower to flower, gathering food, honey bees inadvertently transfer pollen from flower to flower, allowing plants to make seeds and fruit.

## Gardening for Honey Bees

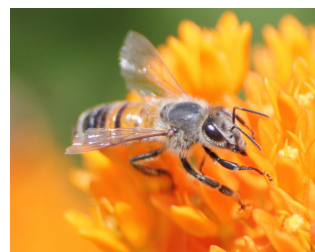
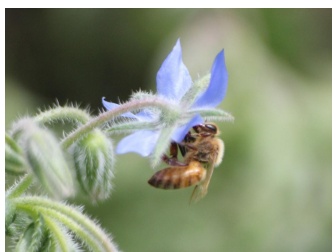
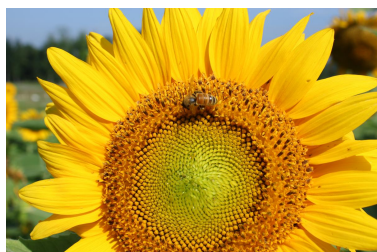
Gardeners can play an important role in honey bee conservation by providing forage plants and by adapting gardening practices to protect honey bees and other pollinators.

- Trees, shrubs and herbaceous plants can provide food for honey bees. Select an assortment of plants that bloom from early spring through fall.
- Grouping plants together in sunny locations helps bees find and feed on desirable flowers while expending less energy in the search for plants.
- By observing flowers in private and public gardens and taking note of flower visitors, gardeners can learn which plants are most attractive to honey bees.
- Weeds—including clover, dandelion and goldenrod—provide critical food resources for bees. Consider tolerating these weeds when appropriate.
- Provide a water source, such as a shallow dish or a birdbath filled with stones or sticks, to allow visitors to land without drowning.
- If space allows, consider planting a small meadow or prairie patch full of native wildflowers to provide food from spring through fall.
- In gardens and conservation areas, avoid the use of pesticides on plants visited by bees. Use an integrated pest management (IPM) approach to reduce pest pressure.
- Support local beekeepers by purchasing local honey, beeswax candles and other hive products.
- Learn more about bees and beekeeping by supporting local bee clubs and organizations.



Local honey supports local beekeepers. *Photo by Karina Weatherby.*

Sunflower, borage and butterfly weed: a few honey bee favorites in summer.



## Key Plants for Honey Bees

Trees: black locust, crabapple, linden, maple, tulip tree

Shrubs: diervilla, holly, raspberry, sumac, viburnum

Perennials: aster, bee balm, hyssop, milkweed, mountain mint

Annuals: cosmos, phacelia, pot marigold, sunflower, zinnia

Herbs: borage, catmint, lavender, oregano, thyme

Other honey bee favorites: buckwheat, goldenrod, mustard, sweet clover, white clover

## Resources to Learn More

- Bee Health: [articles.extension.org/bee\\_health](https://articles.extension.org/bee_health)
- Bee Informed Partnership: [beeinformed.org](https://beeinformed.org)
- Pollinator Partnership: [pollinator.org](https://pollinator.org)
- The Ohio State University Bee Lab: [beelab.osu.edu](https://beelab.osu.edu)

*Unless otherwise noted, photos are provided by Denise Ellsworth.*

Ohioline

<https://ohioline.osu.edu>

---

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit [cfaesdiversity.osu.edu](https://cfaesdiversity.osu.edu). For an accessible format of this publication, visit [cfaes.osu.edu/accessibility](https://cfaes.osu.edu/accessibility).

Copyright © 2017, The Ohio State University