

Backyard Beekeeping

Providing pollinator habitat one yard at a time



By Nichelle Harriott

A Beyond Pesticides Factsheet

In light of growing concern over the recent loss and disappearance of bees and bee colonies across the country, many backyard enthusiasts are rediscovering a relatively simple and fun way to assist these essential pollinators. Attracting and keeping bees in your backyard can be easy, especially if you already enjoy gardening. By providing bee habitat in your yard, you can increase the quality and quantity of your garden fruits and vegetables.

The United States is home to a variety of bees species. Bumblebees, carpenter bees, sweat bees, leafcutter bees, digger bees are just some of thousands of bees in the U.S. Most of them are solitary, friendly bees that nest in holes in the ground or burrows in twigs and dead tree limbs.

While many may prefer butterflies and birds to pay a visit to their gardens and backyards, bees should also be welcomed since they are such important pollinators of many crops in our food supply. Most bees are not aggressive and rarely sting, and once this fear is

overcome, many find bees a welcome addition to their backyards. If you are interested in encouraging bees to visit your yard, the following tips will ensure that you and your bees live happily together.

Create a Bee Garden

■ Bee Colorful!

Bees are attracted to most flowering plants, and are especially fond of blue and yellow flowers. Other colors such as purple, white and pink also serve to attract bees. Make sure there are plants that will flower during different parts of the season to keep your garden flourishing throughout the summer and well into fall. This serves to provide a steady supply of nectar and pollen for bees. A diversity of flowers planted in close proximity to each other strongly attract bees. Gardens with 10 or more species of flowering plants attract the greatest number of bees. The best plants are those native annual and perennial wildflowers which naturally grow in your region.

■ **Provide Housing and Water**

Bees also need sources of water. Water can be provided in very shallow birdbaths or by adding a quarter inch of sand to a large saucer, such as those designed to fit beneath clay flower pots. Fill the saucer so that the water rises about a quarter inch above the sand. Add a few flat stones, some should rise above the water and some should just touch the surface. These stones will allow bees and other insects to drink without drowning. To avoid creating a mosquito breeding site, be sure to change the water at least twice a week.



Many bees do not live in hives or colonies. By creating an ideal nesting site, you can attract species to nest and hibernate in your garden.

Bumblebees, for example, hibernate and nest in abandoned rodent nests, birdhouses, snags and logs. They also are attracted to piles of cut vegetation, compost heaps, and mounds of earth and rubble. Leaving some areas in your garden bare, preferably in a sunny location, provides other ground-nesting bee species

areas to dig tunnels into the soil to create nests. Brush piles, dead trees, and some dead branches or dried pithy stems attract stem-nesting bees such as leafcutter bees, while others such as the blue orchard bee prefer to use mud to build their nests.

Honeybee Keeping

For bees that live in hives, such as the honeybee, you can set up artificial beehives to shelter bees, as well as harvest their tasty honey! Aspiring beekeepers must decide which subspecies of honeybee to acquire and purchase protective equipment. If you are interested in keeping honeybees, the American Beekeeping Federation recommends that you find a local bee club in your area. Most clubs either offer courses in basic beekeeping or can direct you to such courses. These are often given at the beginning of the year, in order to prepare people to start their hives in the spring. Look for those offering organic beekeeping.

With recent losses of bee hives across the nation and the pesticide

Bee Houses

Bee Houses are a convenient way to attract and provide shelter for certain bee species. Find out which bees are native to your area.

Materials:

Block of untreated wood

Construction:

1. Drill holes in the block, spaced 3/4" apart. For leafcutter bees, the holes should be 1/4" wide and 2 1/2 -4" deep. For mason bees, drill 6" deep, 5/16" wide holes. Do not drill completely through the block.
2. Place block on the side of a house or shed, beneath the eave, or mount it securely on a fence post or pole at the edge of the yard. Attach an overhanging roof piece to the block if placed away from an overhang or building eave.
3. Block should be erected in early spring and placed at least three feet above the ground. Position block to face southeast, allowing it to get morning sun. Hang your bee house under the eaves of your house or garden shed, protected from direct sun and rain.



For more information, visit the Maryland Department of Natural Resources, www.dnr.state.md.us/wildlife/wabees.asp.

Beeware!

While most bees will sting if their nests are threatened, the Africanized honeybee (aka African Bee, Killer bee) is more aggressive and will attack with little provocation. Regardless of myths to the contrary, Africanized honeybees do not fly out in angry swarms to randomly attack unlucky victims. The Africanized honeybee is considered an invasive species and has been detected in the West, South and Southwest regions of the U.S.

It is important to note that hives kept by beekeepers help to dilute Africanized honeybee populations and prevent the spread of less desirable subspecies. The Africanized honeybees are also less attracted to areas where other foragers already exist. However, care must always be taken, since the Africanized honeybee and other honeybees are nearly identical in appearance.



Africanized honeybee (top), European honeybee (bottom).
Photo: Scott Bauer, USDA Agricultural Research Service.

association with the declining health of bees, many beekeepers are rethinking the management of their hives and turning to natural and organic methods.

Organic Beekeeping

Colony Collapse Disorder, or CCD, has devastated many beehives across North America and Europe. However, beehives treated to organic cultivation methods have been mostly spared a similar fate. While exposures to pesticides will adversely impact the health of bees, other aspects of beekeeping can also contribute to the decline of honeybees.

These include:

- The location of bee colonies and high rates of hive mobility (intensive agriculture, industry, traffic areas);
- Breeding methods (including instrumental insemination that minimizes the strength and health of honeybees, and wing clipping);
- The use of plastic hives, and materials used for painting hives;
- Sugar feeding (eg high fructose corn syrup), pollen substitutes which contain antibiotics;
- Allopathic disease control (medicines against American foulbrood, Varroa);
- Honey harvest methods (harvesting unripe honey, combs containing brood, the use of chemical repellents);
- The effects of synthetic fertilizers on the quality of nectar and pollen of plants;
- The constantly dwindling variety and quantity of wild flowers; and,
- The effect of genetically modified (GM) pollen (rapeseed, maize, soya and others).

Beekeepers looking to organic beekeeping, without the reliance on the above-mentioned practices, manage their hives sustainably and successfully. By practicing organic beekeeping, and thus minimizing stress on the bees, organic beekeepers have been able to maintain their hives.

Before Beekeeping

Here are some important points to think about:

1. *Zoning.* Do your zoning regulations permit bees where you live? Check before you start beekeeping because you may be violating a local ordinance.
2. *Neighbors.* Many people may not be comfortable living with bees in close proximity. Having a high fence or hedge will help to contain bees in your yard.
3. *Which type of bee is right for you?* There are several varieties of bees of European origin that you can choose from: Italian, Carniolans, Russians, Caucasian.

Resources

- American Beekeeping Federation: www.abfnet.org
- American Apitherapy Society: www.apitherapy.org
- National Honey Board: www.honey.com
- Bush Farms: www.bushfarms.com/bees.htm
- The Melissa Garden: www.themelissagarden.com
- *The Backyard Beekeeper: An Absolute Beginner's Guide to Keeping Bees in Your Yard and Garden.* A book by Kim Flottum.



Vanishing of the Bees

A film directed by George Langworthy and Maryam Henein, 95 minutes. *Vanishing of the Bees* explores the mysterious collapse of the bee population across the planet and its greater meaning about mankind's relationship with the natural world. In addition to studying our reliance on the honeybee as the cornerstone of modern agriculture, the documentary celebrates the ancient relationship between humans and bees.

Shot over two years, the film traces the story across the globe from the West Coast of America to the Australian outback, from Paris to the South Coast of England. As scientists and beekeepers struggle to understand what is happening to their bees, the film explores the various hypotheses – is it a virus at the heart of this ecological disaster? Is it parasites? Is it pesticides? Or equally worryingly, is it down to a symptom of changes in agricultural practice? Following several beekeepers, we learn about beekeeping as a way of life, and the role of bees in our environment.

Bees provide one-third of everything we eat. Without them farming would be thrown into chaos. 80% of insect pollinated plants rely on the honey bee to bring them to life. Without the honey bee, crops of over 90 fruits and vegetables would be seriously diminished, if not completely lost – that's apples, pears, blueberries, almonds, cranberries, even cotton would be affected.

The focus of the film is unraveling the mystery of Colony Collapse Disorder, the specific affliction that emerged in 2004-2005 in the U.S. and has spread across the globe since being discovered by Pennsylvania beekeeper David Hackenberg.

Conflicting opinions and heated controversy abounds surrounding the cause behind the phenomenon known as Colony Collapse Disorder. The film examines this issue with the help of scientists, beekeepers and policymakers, providing the audience with a comprehensive look at a complex and vital story that merits more than a sound bite.

The film opens in the Australian outback; a scene is unfolding beneath the eucalyptus trees, as several men dressed in bee suits blast bees out of their hives and into small boxes. The bees are measured out like oats, and packed on to a truck before being taken to the airport. Tens of thousands of live bees are placed on the hold of a 747 and flown to San Francisco where they are taken to work in the fields pollinating almonds for the rest of their short lives. They will never return home.

For thousands of years bees have served as symbols of unity, industriousness and what it means to work for the greater good. In keeping with this historic connection, the aim of the film is to provide tangible solutions and inspire audiences to make the changes we want to see in the world for the good of humankind, honeybees and all life on Earth.

Filmmakers George Langworthy and Maryam Henein say, "We were drawn to make this documentary because it encapsulates grand issues about our ecology, agriculture, economy and politics in a mystery about the amazing little honey bee. Having started production right as the story broke, we've been allowed an in-depth and chronicled look at the lives and hearts of our characters. Beekeepers and scientists are fascinating people and we really have been blessed with such generous access to their homes, their travels, their laboratories and their innermost thoughts and feelings."

