

The Guide to Beekeeping for Adults and Kids

Beekeeping is the term used to describe human maintenance of a colony of honeybees. A beekeeper usually keeps his bees in hives contained in a “bee yard.” The beekeeper maintains the beehives so that he can collect beeswax, honey, pollen and propolis. A beekeeper may also maintain the hives so that the bees will pollinate his crops. Finally, beekeepers may use the hives to produce new generations of bees for sale to other beekeepers.

[General Beekeeping Information](#)

[More Information](#)

History

More than 20,000 species of bees exist in the wild today, but many of these species live solitary. Most beekeepers raise honeybees, which are extremely social and live in large colonies. In Europe and America, the most common species of domesticated bee is the Western honeybee. There are three subspecies of Western honeybees including the Italian bee, European dark bee, and Camiolan honeybee.

[History of Beekeeping](#)

[History of the Honeybee](#)

Wild Honey Harvesting

The earliest evidence of honey gathering appears in rock paintings from the year 13,000 BCE. In ancient times, people collected honey from wild bees by using smoke to subdue the bees and then breaking the hive open. Unfortunately, this method usually ended in the destruction of the bees’ home. Today, more humane methods are used for collecting honey.

[Hunting for Wild Honey](#)

[History of Honey Hunting](#)

Domestication of Wild Bees

Humans eventually began to domesticate bees using artificial hives that they constructed out of straw baskets, pottery, wooden boxes, or hollow logs.

Domesticated bees were present in Egypt by 2422 BCE. Domesticated honeybees were also kept in ancient Greece and in Israel during the Bronze and Iron Age. Additionally, beekeeping was practiced in ancient China.

[Beekeeping in Egypt](#)

[Beekeeping in Ancient Israel](#)

[Study of Honey Bees](#)

[In the 18th century, European philosophers began studying bee colonies to better understand their behaviors and biology. They discovered that the queen bee lays eggs in open cells, but they did not understand how the queen's eggs were fertilized. Eventually, scientists discovered that the queen bee was inseminated by a drone far from the hive. They also learned that a colony of bees has only one queen who is mother to all of the other bees in the colony.](#)

[Honeybee Research](#)

Invention of Comb Hive

In the earliest methods of honey collection, the beehive was usually destroyed. However, the invention of a hive with removable combs allowed beekeepers to collect honey while still preserving the bees and their home. This hive was first developed in the 18th century and was perfected over the years. Its development is largely responsible for the growth of honey production in the United States and Europe.

[History of Hives](#)

Hive Designs

Throughout the years, inventors have designed domestic beehives in a variety of dimensions. However, all hives are rectangular or square and use a wooden frame. In the past, hives were made from cypress wood, pine, or cedar. More recently, hives constructed from polystyrene have become popular among beekeepers.

[Hive Designs](#)

[Building Beehives](#)

Traditional Beekeeping

Traditional Beekeeping involves the use of a fixed comb hive. This type of hive has combs that beekeepers can't harvest from without causing damage. Fixed comb hives are rarely used in modern beekeeping. In fact, these hives are illegal in some locations.

[Traditional Practices in Africa](#)

Modern Beekeeping

Movable Frame Hives

Movable frame hives are the most commonly used hives in the United States and the United Kingdom. Most US beekeepers use the Langstroth movable frame hive, which was the first successful hive of its kind. In the United Kingdom, the British National Hive is most common. Several other types of hives, such as unframed box hives, are now illegal in the United States.

[Professional Beekeeping Tips](#)

[Movable Comb Hives](#)

Top-Bar Hives

Some amateur beekeepers use top-bar hives, which have no frames. In a top-bar hive, the honeycombs aren't replaced after harvesting. For this reason, honey production is typically lower with a top-bar hive than with other designs. However, this type of hive is less expensive to purchase and maintain.

[Hobby Beekeeping](#)

[Beekeeping for Beginners](#)

Protective Clothing

Understanding the bees is the best way to protect oneself from stings. Nonetheless, most beekeepers wear protective garments when interacting with the hive. A beekeeper may wear a hooded suit and gloves. He may also wear a hat and veil. Bees are more likely to sting the face, so most beekeepers wear at least a veil. Protective garments are usually light colored. Venom left on the suit from previous stings may cause the bees to become defensive, so suits should be washed regularly.

[Becoming a Beekeeper](#)

Bee Smoker

Many beekeepers use a smoker, which is a device that generates smoke to calm the bees. The smoke causes the bees to feed on honey, which inhibits their ability to sting. It also disguises the guard bee's alarm pheromones, which in turn prevents the other bees from panicking. Smoke is not always useful for swarms of bees because they have no honey to feed on.

[Beginning Beekeeping](#)

Natural Beekeeping

Some beekeepers believe that the use of chemicals is too harmful to the bees and should be discontinued. They also believe that human interventions such as sugar water feeding, artificial insemination, and crop spraying are weakening the species of honeybees. Beekeepers who subscribe to this philosophy practice natural beekeeping, which utilizes a top-bar hive with movable combs. Natural beekeepers interfere with the bees' lives as little as possible and collect honey only after meeting the needs of the bees.

[About Natural Beekeeping](#)

Urban Beekeeping

Similar to natural beekeepers, urban beekeepers try to simulate natural conditions for their bees. Urban beekeepers usually have small colonies that pollinate a garden. Currently, urban beekeeping is practiced in Tokyo, London, Paris, Washington, D.C., and Berlin. This type of beekeeping is common in areas where pesticides aren't legal.

[Backyard Beekeeping](#)

Beekeeping for Kids

Children can begin beekeeping as early as age five. Children should always wear protective clothing when handling bees, and adults should keep liquid antihistamines on hand in case of emergency. With proper instruction, children can learn to be calm around the bees. After learning all of the parts and functions of the beehive, kids can help harvest honey and care for the bees. They can also recognize the queen bee, determine when the bees may swarm, and decide whether or not the bees need more combs.

[Beekeeping and Children](#)

[Honeybees for Kids](#)

[Everything Honey Bee](#)

[Helpful Answers about Beekeeping](#)

Bee Colonies

Bee colonies are composed of one queen bee, 30,000 to 50,000 worker bees, and any number of drones. The queen bee is the only female that breeds in the colony. She lives for three or more years and may lay more than 500,000 eggs during her life. Queens begin as worker bees, but they receive more royal jelly, which causes them to become sexually mature. The colony's queen produces a pheromone that suppresses sexual maturity in all other females living in the hive.

[Beekeeping Tips](#)

Worker Bees

Most of the bees living in a hive are worker bees. A worker bee can live from 6 weeks to 16 weeks, depending on how much she works. Worker bees perform different functions based on their age. Typical jobs for worker bees include cleaning cells, feeding larvae, receiving pollen and honey from other bees, looking for pollen, making cells and wax, and guarding the entrance to the hive.

[About Worker Bees](#)

Male Bees

Drones are larger than worker bees, but smaller than the queen. Their only job is to mate with new queens. When drones are no longer needed, other bees may drive them outside of the hive to die. However, this practice is more common in cold climates.

[The Drone Bee](#)

Colony Structure

Domesticated bee colonies reside in rectangular hive bodies with parallel frames that contain honeycombs. The honeycombs hold food for the colony, pupae, larvae, and eggs. Nurse bees feed the larvae royal jelly. The amount of royal jelly a larva receives determines whether it will become a queen or a worker. Bee colonies typically store extra honey in combs located above the main part of the hive.

[Beekeeping Basics](#)

Annual Cycle

In the spring, breeding accelerates as new pollen becomes available to feed the larvae. Beekeepers must learn to predict when the bees will be producing the most honey in order to obtain the maximum harvest. If the bees swarm unexpectedly and the beekeeper doesn't capture the bees involved, his harvest will decrease significantly. As beekeepers gain more experience, they will be able to better predict the bees' behaviors.

[Predicting Swarms with Soil Moisture](#)

New Colonies

Colonies rely on their queen. Each time she encounters an empty cell in the hive, she can choose to lay an unfertilized egg, which becomes a drone, or she can lay a fertilized worker bee egg. However, when the queen runs out of sperm, the colony will replace her with a bee from a worker egg. They may also replace her if she is physically damaged. When a hive decides to replace the queen, a new queen may take over the hive or the bees may divide and swarm. Beekeepers prefer that a new queen replace the existing one because swarming can result in lost bees.

[Bees and Beekeeping](#)

Causes of Swarming

Most colonies don't swarm until they use all of their available space for eggs and larvae, and hives with young queens are unlikely to swarm. Beekeepers watch for swarming carefully by looking for queen cells in the hive. If the bees do swarm, the beekeeper may attempt to capture them. If he is able to capture them, he can introduce them into a new hive.

[When Honeybees Swarm](#)