

Basic Honeybee Facts

Pollination: Agriculture depends greatly on the honeybee for pollination. Honeybees account for 80% of all insect pollination. Without such pollination, we would see a significant decrease in the yield of fruits and vegetables.

Pollen: Bees collect 66 lbs of pollen per year, per hive. Pollen is the male germ cells produced by all flowering plants for fertilization and plant embryo formation. The Honeybee uses pollen as a food. Pollen is one of the richest and purest natural foods, consisting of up to 35% protein, 10% sugars, carbohydrates, enzymes, minerals, and vitamins A (carotenes), B1 (thiamin), B2 (riboflavin), B3 (nicotinic acid), B5 (panothenic acid), C (ascorbic acid), H (biotin), and R (rutine).

Honey: Honey is used by the bees for food all year round. There are many types, colors and flavors of honey, depending upon it's nectar source. The bees make honey from the nectar they collect from flowering trees and plants. Honey is an easily digestible, pure food. Honey is hydroscopic and has antibacterial qualities. Eating local honey can fend off allergies.

Beeswax: Secreted from glands, beeswax is used by the honeybee to build honey comb. It is used by humans in drugs, cosmetics, artists' materials, furniture polish and candles.

Propolis: Collected by honeybees from trees, the sticky resin is mixed with wax to make a sticky glue. The bees use this to seal cracks and repair their hive. It is used by humans as a health aid, and as the basis for fine wood varnishes.

Royal Jelly: The powerful, milky substance that turns an ordinary bee into a Queen Bee. It is made of digested pollen and honey or nectar mixed with a chemical secreted from a gland in a nursing bee's head. It commands premium prices rivaling imported caviar, and is used by some as a dietary supplement and fertility stimulant. It is loaded with all of the B vitamins.

Bee Venom: The "ouch" part of the honeybee. Although sharp pain and some swelling and itching are natural reactions to a honeybee sting or most, a small percentage of individuals are highly allergic to bee venom. "Bee venom therapy" is widely practiced overseas and by some in the USA to address health problems such as arthritis, neuralgia, high blood pressure, high cholesterol and even Multiple Sclerosis.

Honeybee Castes

Queen Bee: There is only one queen per hive. The queen is the only bee with fully developed ovaries. A queen bee can live for 3-5 years. The queen mates only once with several male (drone) bees, and will remain fertile for life. She lays up to 2000 eggs per day. Fertilized eggs become female (worker bees) and unfertilized eggs become male (drone bees). When she dies or becomes unproductive, the other bees will "make" a new queen by selecting a young larva and feeding it a diet of "royal jelly". For queen bees, it takes 16 days from egg to emergence.

Worker Bee: All worker bees are female, but they are not able to reproduce. Worker bees live for 4-9 months during the winter season, but only 6 weeks during the busy summer months (they literally work themselves to death). Nearly all of the bees in a hive are worker bees. A hive consists of 20,000 - 30,000 bees in the winter, and over 60,000 - 80,000 bees in the summer. The worker bees sequentially take on a series of specific chores during their lifetime: housekeeper; nursemaid; construction worker; grocer; undertaker; guard; and finally, after 21 days they become a forager collecting pollen and nectar. For worker bees, it takes 21 days from egg to emergence. The worker bee has a barbed stinger that results in her death following stinging, therefore, she can only sting once.

Drone Bee: These male bees are kept on standby during the summer for mating with a virgin queen. Because the drone has a barbed sex organ, mating is followed by death of the drone. There are only 300-3000 drone in a hive. The drone does not have a stinger. Because they are of no use in the winter, drones are expelled from the hive in the autumn.

Honeybee Races

Italian Bees

- Probably the most common race of honeybees in this area.
- Colonies are usually large and winter well.
- Very good honey producers.
- Usually gentle and non-aggressive.
- Swarming instinct is not especially strong.
- Minimum propolis.
- Keep a clean hive and are quick to get rid of the wax moth.
- Queens lay all through the summer, so a large amount of stores are used for brood rearing.
- Italian bees have a strong tendency to rob.
- Yellow coloring with bands on the abdomen.

Caucasian Bees

- Very gentle bees.
- Do not swarm excessively.
- Brood buildup is later in the spring.
- A good honey producer, not exceptional.
- Caucasians produce and use a good deal of propolis.
- Brown in color.

Carniolan Bees

- A very gentle race of bees.
- Probably the best wintering bees.
- Little use of propolis.
- Builds up very rapidly in the spring.
- Summer brood rearing depends on pollen and nectar flow.
- Usually not inclined to rob.
- These bees tend to swarm more. Probably due to rapid spring build up.
- Not as productive as Italians.

Buckfast Bees

- Developed by brother Adam at Buckfast Abbey, Devon, England.
- Very rapid spring build up.
- Very gentle bees.
- Low tendency to swarm.
- Low consumption of winter stores.
- Well adapted to areas with damp cold winters.
- Excellent honey producers.
- Inclined to rob.

Honeybee Trivia

Honey has been delighting humans for over 40 centuries. In ancient Egypt taxes were paid with honey. In early Greece and Rome honey symbolized fertility, love, and beauty. In the Bible this sublime nectar is called "the heavenly food".

The practice of honey collection and beekeeping dates back to the stone-age, as evidenced by cave paintings.

Honeybees are not native to the USA. They are European in origin, and were brought to North America by the early settlers.

North American Indians called honeybees "white man flies" because Colonists brought them from Europe.

An estimated 211,600 beekeepers maintain apiaries in the U.S.

An estimated 3.2 million colonies are in the U.S.

South Dakota, North Dakota, Florida, and California are the biggest honey producers.

Utah is known as the Beehive State.

The average honeybee can fly at a speed of 15 miles per hour.

A hive of bees must fly 55,000 miles to produce a pound of honey.

It would take approximately one ounce of honey to fuel a bee's flight around the earth.

An average worker bee makes about 1/12th of a teaspoon of honey in her lifetime.

To make honey, bees drop the collected nectar into the honeycomb and then evaporate it by fanning their wings.

Honeybees dance to communicate the direction and distance of nectar sources.

The fructose in honey makes it sweeter than sugar. At 21 calories a teaspoon it is one and a half times sweeter than sugar.

Honey makes baked goods brown faster, and improves their shelf life.

Honey varies in color from almost clear to very dark, depending on the floral source and it's location, as well as the climate.

Honeybees are not aggressive by nature, and will not sting unless protecting their hive from an intruder or are unduly provoked.

Honeybees represent a highly organized society, with various bees having very specific roles during their lifetime: e.g., nurses, guards, grocers, housekeepers, construction workers, royal attendants, undertakers, foragers, etc.

The queen bee can live for several years. Worker bees live for 6 weeks during the busy summer, and for 4-9 month during the winter months.

The honeybee hive is perennial. Although quite inactive during the winter, the honeybee survives the winter months by clustering for warmth. By self-regulating the internal temperature of the cluster, the bees maintain 93 degrees Fahrenheit in the center of the winter cluster (regardless of the outside temperature).