

Products from the Hive

Honey—Bees produce honey by collecting nectar, which is a clear liquid consisting of nearly 80% water with complex sugars. The collecting bees store the nectar in a second stomach and return to the hive where worker bees remove the nectar. The worker bees digest the raw nectar for about 30 minutes using enzymes to break up the complex sugars into simpler ones. Raw honey is then spread out in empty honeycomb cells to dry, which reduces the water content to less than 20%. When nectar is being processed, honeybees create a draft through the hive by fanning with their wings. Once dried, the cells of the honeycomb are sealed (capped) with wax to preserve the honey. Honey has antibacterial qualities; it is often claimed that eating local honey can help fend off allergies. More than 200 million pounds of honey are produced in the United States annually, with an equal amount being imported for human consumption. Honey is consumed in many forms:

- extracted honey -- liquid honey; honey that has been extracted from the combs
- comb honey -- honey that is in the comb
- chunk honey -- honey that consists of a piece of comb honey immersed in extracted honey
- creamed honey -- finely crystallized honey

Pollination—approximately every third mouthful of food you eat is a product of honeybee pollination. Honeybees account for about 80% of all insect-pollinated food that humans eat.

Pollen—a gamete produced by the male parts of flowers used by honeybees to make bee bread (a mixture of pollen and honey) to feed larvae and nurse bees. Some humans eat pollen for its high nutritional value. Typical pollen consists 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).

Propolis—a sticky substance gathered from tree buds, sap flows, and other botanical sources by honeybees and used as “glue” to fill in any unwanted spaces or cracks; used by man to treat skin disorders. It is used by humans as a health aid, and as the basis for fine wood varnishes.

Royal Jelly—a fluid secreted by special glands (hypopharyngeal glands) on the head of a nurse bee used to feed the larvae. It is also the powerful, milky substance that turns an ordinary larva into a queen. Royal jelly is sold at premium prices, sometimes rivaling imported caviar. Royal Jelly is used by some people as a dietary supplement and fertility stimulant. It is loaded with all of the B vitamins.

Beeswax—a substance made from six wax glands on the underside of the abdomen of a worker bee used to make comb; man most commonly uses wax in candle making and art. Beeswax is also used by humans in drugs, cosmetics, and furniture polish. The wax of honeycomb is nearly white, but becomes progressively more yellow or brown by incorporation of pollen oils and propolis. The wax scales are about 3 millimetres about 1100 are required to make a gram of wax. Typically, for a honeybee keeper, 10 pounds of honey yields 1 pound of wax. Western honeybees use the beeswax to build honeycomb cells in which their young are raised and honey and pollen are stored. For the wax-making bees to secrete wax, the ambient temperature in the hive has to be 91 to 97 °F. To produce their wax, bees must consume about eight times as much honey by mass. It is estimated that bees fly 150,000 miles, roughly six times around the earth, to yield one pound of beeswax

Bee Venom—the poison contained in the venom sack of a honey bee used to sting predators or enemies; in some cases bee venom is used to treat the symptoms of rheumatoid arthritis, neuralgia, high blood pressure, high cholesterol and even multiple sclerosis.

Bees—are also a product of the hive. Some beekeepers raise queen and worker bees so that they may be sold for profit. Establishing new hives requires stock for the initial colony of bees that will take up residence in the hive. This is a multi-million dollar business in the United States.

Honeybee Predators

Insects

- Asian giant hornet - Southeast Asia
- Robber Flies
- Dragonfly
 - Green Darner
- European beewolf - Europe and North Africa
- Chinese mantis
 - Bald-faced hornet
- Common Water Strider
- Yellowjacket

Spiders

- Six-spotted Fishing Spider
- Green Lynx spider
- Goldenrod spider [2]
- Black argiope

Reptiles and amphibians

- American toad
- Anoles
- Bullfrog
- Wood Frog

Birds

- Bee-eater
- Common Grackle
- Ruby-throated hummingbird
- Tyrant flycatcher
 - Great Crested flycatcher

Mammals

Contrary to popular perception, bears and honey badgers are brood predators; honey is only of secondary interest.

- Bear
- Human
- Least shrew
- Opossum
- Raccoon
- Honey badger
- Skunk

Products from the Hive agenda:

Talk about the 8 different products from the hive

Soap and Lotions Classes

How to extract honey brief

How to collect beeswax, clean and process

How to collect Propolis or pollen