



Honey



The Story of

What Is Honey?

What is honey?

Much more than it seems to be I think.

Aristotle called it the nectar of the gods. And 2400 years ago the prophet Isaiah said the Messiah would come eating honey so he might grow up knowing what was good.

Honey is certainly more than a simple jar sitting solidly on a grocery shelf.

It is the soul of a field of flowers.

It is a child with a sticky piece of toast learning that suddenly fingers taste good.

It is an unforgettable bear named Pooh pursuing a sweet obsession in a book a long time ago.

It is a going away gift for a Pharaoh on a journey into the hereafter – as everlasting as the gold ornaments that accompanied it.

Honey is Sunday breakfast with funnies and waffles and plates you'll clean up later.

It's the only justification you can think of for sweet potatoes – and still a good reason to lick your knife (when you're alone).

It's school days and paper sacks and thank goodness it's not egg salad again.

In a world of fastfoods and non-dairy creamer and artificial ingredients, it's the little plastic cup full of gold that somehow got overlooked when "progress" passed through.

Honey is the chapter they forgot to write in the book called "In Pursuit of Excellence." Yet its making is a marvelous work of nature that makes the best factories of man look disorganized, lazy and of very little real value.

Honey is the glow of beauty on the faces of striking women.

The touch of healing in a thousand remedies around the earth.

It is sweetness and life and its golden touch enhances our days from the beginning to the very end. And when at last the years have streaked our hair with gray and phrases like "darling" and "lambie pie" don't fit anymore, it is the one expression of pure affection that never wears out between us, "honey I love you."

Because honey itself is indeed synonymous with love itself. A beautiful blessing created in a mysterious way. An expression of love and a special gift to man.

By Dick Paetzke

A dictionary would define honey as the sweet liquid made by honey bees from the nectar of plants. Yet honey is so much more. One of man's earliest foods and valued throughout civilizations, honey has stirred the imagination through the ages.



The Busy Bees

Honey bees are the only insects that produce a food consumed by humans. Honey is produced in one of the busiest yet most efficient factories in the world – a beehive.

Honey bees are social insects with a marked division of labor among the various bees in the hive. A colony contains one queen, 500 to 1000 drones and about 40,000 to 60,000 workers.

The matriarch of the colony is the queen. Nurtured on a special diet of royal jelly, the queen is the only sexually developed female in the hive.

A few weeks after hatching, the queen mates with drones in flight. The drones, which are stout male bees that lack stingers, fulfill their single purpose in the colony by mating with the queen.

During this "mating flight," the queen receives millions of sperm cells that last her entire two-year life span. A productive queen will lay up to 3,000 eggs in a single day.

The sexually undeveloped female bees perform the work of the colony. Once hatched, these worker bees do a sequence of jobs – cleaning the nursery, caring for and feeding the larvae, collecting nectar, making wax comb, guarding the hive and fanning their wings to keep the hive cool.



A foraging honey bee visits yellow sweet clover. Clover is the most common floral source for honey in the United States.

To make a pound of honey, the worker bees must forage nectar from millions of flowers. To communicate the location of nectar sources, the bees perform several different and distinct dances.

Pollination – The Bees' Second Shift

In addition to gathering nectar to produce honey, honey bees perform a vital second function – pollination.

As bees travel from blossom to blossom in search of nectar, they transfer the pollen from plant to plant, thus fertilizing the plants and enabling them to reproduce. Almonds, apples, avocados, blueberries, cantaloupes, cherries, cucumbers, pears, plums and watermelon all rely on honey bees for pollination. The U.S. Department of Agriculture estimates that about one-third of the human diet is derived from insect-pollinated plants and

the honey bee is responsible for 80 percent of this pollination.



Worker bees fill the six-sided cells of honeycomb with nectar. The wax cells are also produced by the bees.



The practice of beekeeping dates back to the early Egyptians, but it was not until the 19th Century that a number of improvements paved the way for commercial honey production. In 1852, Reverend L.L. Langstroth perfected a wooden hive based on the simple principle of surrounding movable frames with a “bee space” – an area just large enough to discourage bees from gluing their comb solidly to the wall.

Honey

Varieties – It All Depends on Where the Bee Buzzed

The color and flavor of honeys differ depending on what blossoms the bees visit in search of nectar. Honey color ranges from almost colorless to dark amber brown and its flavor varies from delectably mild to richly bold. As a general rule, light-colored honey is milder in taste and dark-colored honey is stronger. Some honey varieties have a very distinctive flavor while others have very subtle flavor variations.

In the United States, there are more than 300 unique types of honey produced, each originating from a different floral source. Common honey floral sources include alfalfa, basswood, buckwheat, clover, eucalyptus, fireweed, orange blossom, safflower, tulip poplar and tupelo.

Beekeepers

Beekeeping, as opposed to foraging honey from wild bee colonies, probably began at different times in different parts of the world. Many agree that the first evidence of beekeeping appears in the paintings of ancient Egypt, dating from around 2,500 BC.

The International Trade Commission has estimated that there are about 211,600 beekeepers in the United States. The vast majority of beekeepers (approximately 200,000) are hobbyist beekeepers who manage less than 25 hives. About 10,000 part-time beekeepers keep 25 to 299 hives. An estimated 1,600 commercial beekeepers manage more than 300 bee colonies each.



Beekeepers use a smoker to calm the bees making inspection easier.

Beekeepers work long hours in the spring and summer. They examine their hives to ensure the colony has a healthy queen and that the colony



Because of the floral sources from which honey originates, no two honeys are exactly alike in flavor, color and nutritional content.

is clean and free from disease. To keep their hives strong, beekeepers must place their hives in locations that will provide abundant nectar sources as well as water.

Beekeepers harvest their honey in late spring to early fall, depending on

the honey flows. In the fall, beekeepers prepare their hives for winter, ensuring that each hive has adequate honey to feed the colony.

Many beekeepers also move their hives to warmer states during

the winter. About one-half of all commercial beekeepers are migratory beekeepers. They rent their bees to farmers, following the pollination seasons of the various crops.

Extracting the Sweet Liquid

Fortunately, honey bees will make more honey than their colony needs. On average, a hive will produce about 80 pounds of surplus honey each year.

To harvest the honey, beekeepers remove the honeycomb frames from their hives. The wax capping covering the honeycomb frames is scraped off to expose the liquid honey. Using a honey extractor, the honey is spun out of the comb. The honey then passes through a filter and drains into a storage tank. The honey is often placed in 55-gallon drums and transported to a honey packer. Or, the beekeeper may bottle the honey for local sale.



Honey comes in a variety of forms including liquid, whipped and comb.

The most popular form in the United States is liquid honey. Free of any crystals or wax, liquid honey is extracted from the comb in the hive by centrifugal force, gravity, straining or other means.

Whipped (or “creme”) honey is finely crystallized. Preferred in many countries, whipped honey is creamy and spreadable.

Comb honey is honey that comes as it was produced — in the honey bees’ wax comb.

Honey's Antimicrobial Benefits

Throughout history, honey has been enjoyed for its sweetness as well as for its healing properties. A review of scientific literature has confirmed that honey is an effective antimicrobial agent and thus is an effective dressing for wound and burns. Antimicrobial agents inhibit the growth of certain bacteria, yeast and molds. Honey is antimicrobial for many reasons, including its high sugar content which limits the amount of water available to microorganisms for growth, its relatively high acidity (low pH), the presence of organic acids and the presence, in low concentrations, of hydrogen peroxide. When used to treat minor skin injuries, honey promotes healing, helps prevent scarring and keeps the wound from adhering to the bandage.

Honey Composition

Honey is a rich source of carbohydrates – mainly fructose (about 38.5 percent) and glucose (about 31.0 percent). The remaining carbohydrates include maltose, sucrose and other complex carbohydrates.

On average, honey is 17.1 percent water.

In addition, honey contains a wide array of vitamins, such as vitamin B₆, thiamin, niacin, riboflavin and pantothenic acid. Essential minerals including calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium and zinc as well as several different amino acids have been identified in honey.

Honey also contains several compounds which function as antioxidants – compounds that help delay the oxidative damage to cells or tissues in our bodies. Known antioxidant compounds in honey are chrysin, pinobanksin, vitamin C, catalase and pinocembrin.

Research has shown that unlike most other sweeteners, honey contains small amounts of a wide array of vitamins, minerals and trace minerals as well as antioxidants.



A spoonful of honey in hot tea is a great way to soothe a sore throat.

Honey and Its Many Uses

Honey is enjoyed by millions of families as a topping, a sweetener and as an ingredient. The most popular home uses include honey-topped biscuits, muffins and toast, honey-sweetened tea, barbecue sauces and ham glazes.

At restaurants, honey is often served with chicken and baked goods and as an ingredient in honey mustard dressings.

Valued for its flavor and all-natural origins, honey also appears in a range of manufactured products from honey cough syrups to honey salad dressings.



Created in 1957, the honey squeeze bear remains a popular container for honey.

Honey in Manufactured Food Products

Honey appears on every aisle of the supermarket. Honey beers. Honey breads. Honey cereals. Honey mustards. Honey shampoos. Approximately one half of honey sold in the United States is used in manufactured products.



Honey is used as an ingredient in more and more manufactured products from cereals to pretzels.



Honey adds sweetness to many elegant desserts.

Honey is a popular glaze used by cooks when preparing dishes such as chicken.



The National Honey Board

Founded in 1986, the National Honey Board has developed and operated programs for generic honey research, advertising and promotion. These projects range from exploration of honey's antioxidant properties to newspaper press releases to restaurant promotions. The National Honey Board is funded by the honey industry.

To learn more about honey, contact:



National Honey Board

390 Lashley Street / Longmont, CO 80501-6045

Or visit the National Honey Board Web sites:

www.nhb.org / www.honey.com

The National Honey Board creates informational and recipe brochures to help consumers, foodservice operators, manufacturers and the media learn more about honey and its many uses.