

# The Importance of the Honeybee

## From Pollination to Communication

Mar 14, 2010 [Johanna Bailey](#)

North American bees are responsible for pollinating over 1/3 of the food on our plates, an estimated 100 crops.

Across the North American continent exists over 5,000 native bee species. These bees are categorized into four groups; honey, stingless, bumble, and solitary. Though each group has a part to play in the pollination of flowers and other crops, the honeybee is the most vital, complex, and productive bee out there.

### The Social Structure of the Honeybee Colony

Honeybees work in colonies as large as 100,000 insects, governed by one queen. Each day the queen lays around 1,500 eggs and she will perform this role for approximately four years. At all times, she is surrounded by up to 10 young bees who continuously examine, groom, and feed her.

The colony is efficiently organized and each bee has a specific and vital role to execute. Every worker in the hive is female and will graduate through a series of about 20 responsibilities over her life span (roughly 60 days). Female workers will fulfill tasks anywhere from nursing the queen, performing sanitation, foraging, and most remarkably, constructing honeycombs.

The male bees, drones, have a much lighter workload. They have only one responsibility for the duration of their lives (a meager few weeks); impregnating the virgin queen. Unfortunately, once this role is performed, the drone dies.

### Communication in the Hive

While some bees communicate by transmitting sound, honeybees use dance as their means of communication. There are four basic dances performed, but bees rarely perform their dances outside of the hive.

The round dance indicates that a new source of nectar is within 10 metres of the hive, while the circle dance indicates a distance of 10-100 metres. The waggle dance gives precise information about the exact location of the nectar, and the

vibrational dance conveys information about either swarming or foraging activity.

### **Fun Facts About the Honeybee**

There is a multitude of fascinating facts available about the busiest bees in the world. According to research, honeybees can be trained to count up to four, and can distinguish among over 170 odors. Bees may also be able to perform diagnostics and locate landmines by using their superb sense of smell. And, many European countries recognize bee venom as a drug for a range of diseases including multiple sclerosis, fibromyalgia, and arthritis.

### **What Honeybees Do for Us**

Honeybees have many extraordinary gifts to offer us, most notably, honey. Each year, over 1.2 billion kilograms of honey are produced by our busy little friends. The taste of honey varies from region to region and depends very much on the native crops of the area in which it is produced.

Honey contains high caloric energy, and it's what keeps the hive (and the bees) going. To produce a meager 21 grams of honey, 12 bees will fly and forage over 9,600 kilometers.

Delicious as it is, honey is much more than just a sweet treat. Its medicinal properties have been revered since ancient times. The Mayans were among the first documented cultures to utilize the antibacterial properties of honey to treat wounds and infections. Honey was even used as an embalming fluid by Ancient Egyptians, Persians, and Arabs for many years.

Today, honey is widely known for its high concentration of vitamins B6, C, E as well as many minerals, including calcium, iron, and magnesium.

Beeswax is another incredible byproduct of the bee business, and most people would be surprised to learn that we use 20 million kilograms of it each year. Beeswax is an ingredient in a variety of commercial products including dental floss, cosmetics, shoe polish, pool tables, and of course, the fragrant and beautiful beeswax candle.

It's clear that bees are not just busy, they are incredibly productive and a vital part of our world. Without them, we don't just lose out on little luxuries like honey and beeswax; we lose out on that which sustains our existence: food. Not only do honeybees provide for us, they also have a lot to teach us when it comes to communication, the environment, efficiency, and of course, savoring one of life's

sweet delicacies.

References:

Halter, Dr. Reese. *The Incomparable Honeybee & The Economics of Pollination*. Rocky Mountain Books, 2009.

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