



Beekeeping Vocabulary

- **Bee Brush**

Use your bee brush to gently sweep bees from one location to another.

The soft, fine bristles of this brush enable you to remove bees from frames and clothing without harming them.

- **Bee Dance**

A scout bee tells the other bees exactly where to go to find nectar or pollen by doing a dance in the hive.

The bee dances in a figure 8. Depending on the angle of the figure 8, it tells the bees where the nectar source is in correlation with the sun. The bee will do a vibration through the center of the figure 8, showing how far the nectar source is. If they vibrate fast, it's very close. If they do a very slow vibration, it is a distance away.

- **Bee Veil**

A bee veil protects your face and neck from potential bee stings.

This veil extends downward from a hat and ties around your waist. Always wear your veil when working with your hives. You might want to keep an extra one on hand for visitors to your hives.

- **Beehive**

See **Hive**

- **Beekeeper's Smoker**

Smoke from a beekeeper's smoker calms down the bees and allows you to work with them more safely.

These spouted cylinders generally made of stainless steel contain a burning chamber that emits cool smoke. By pumping the attached hand bellows, you can control your fuel and fan it into flame as needed.

- **Beeswax**

A wax secreted by bees used to build their hexagonal cells in a honeycomb.

Bees secrete wax from their abdomen in the form of small scales as they build their honeycomb.

Beeswax leftover from the extraction process can be cleaned and used to make candles. It can be added to homemade natural soap, lip balms, lotions, ointments and furniture polish. You'll find many uses for it around the homestead.

- **Brood**

The developing bees in the colony

The bees pass through 4 stages of development in the honeycomb cells, metamorphosing from egg, to larvae to pupa to adult.

- **Brood Nest**

Honeycomb encircled with honey where the young bees go through metamorphosis

The queen typically resides in the brood nest. She lays her eggs in the comb cells, where they hatch out. Other bees feed the young larvae honey and pollen as they mature. Typically bees place their brood nest at the front of a Top Bar Hive. Hives can contain 10 to 15 combs of brood.

- **Bumblebees**

A large, seasonal yellow-and-black bee that lives in small colonies underground.

Bumblebees do not live as a colony year round; they die off in the winter. They do not pollinate many flowers because they don't need to store up large amounts of nectar or pollen.

- **Capped Cells**

A thin wax coating bees place on each full cell of honey

After bees dehydrate the honey down to less than 18% percentage moisture, they put a cap of thin wax in each cell. This acts like the lid on a canning jar and 'stores' the honey, preserving the perfect moisture content.

- **Cells**

Hexagonal wax structures created by bees to form comb.

To build honeycomb cells, bees hang on each other from the top of the hive forming a chain.

Continued



Bees at the bottom pass secreted wax scales upward in the chain. The bee at the top of the chain forms the wax into cells. Honeycomb is made up of neatly aligned hexagonal cells.

- **Colony**

Large, well-organized groups of bees that live together in one location or hive.

A honeybee colony contains 3 kinds of adult bees: workers, drones, and a queen. Several thousand workers cooperate in taking care of the queen, building nests, collecting food and feeding the maturing brood. A colony normally has a single queen and several hundred drones during late spring and summer.

- **Comb**

See **Honeycomb**

- **Crooked Honeycomb**

Honeycomb that bees build adjacent to combs that are thick on one side

When the bees start bringing in large amounts of honey, they get excited and sometimes draw out the comb thicker on one side. Because bees always build their combs 1 ³/₈ inches apart from center to center, they build adjacent combs crooked. It is important to straighten out crooked combs. You can find these instructions in the Harvesting Honey video.

- **Crystallize**

A thick, solid form of honey in which semi-hard, sugary crystals have formed

Pure, raw honey crystallizes at cool temperatures. To re-liquefy crystallized honey, simply loosen the lid of the container and place it in hot water for a few minutes.

- **Divider Board**

A solid board in a Top Bar Hive that fits the internal dimension of your hive, used to partition the hive.

When placed near the front of the hive, it condenses the space the bees have to seasonally keep warm or cool. To increase the space inside the hive to expand the size of the colony in high collection months, move the divider board

back. If your hive has 2 entrances, you can use this board to divide the hive in half, making 2 chambers in your hives. The second chamber can be used for raising queens or it can be used to begin a new hive as you split a growing colony.

- **Drone**

The drone is the male honeybee in the hive. His sole purpose is to mate with queen.

Because he has no stinger, wax glands or pollen baskets, he is not capable of doing any work. Drones live during the active spring and summer season of the colony. They do not normally live through the winter.

- **Egg**

A honeybee's life starts out as an egg laid in a honeycomb cell

This is the first stage a bee goes through in metamorphosis.

- **Extract**

A simple process that releases honey from the honeycomb

To extract honey from a Top Bar Hive comb, mash the cone and strain out the beeswax. The extraction process is shown in its entirety in the *Harvesting Honey* video. To extract honey from a Langstroth Hive frame requires a centrifuge honey extractor.

- **Frame**

Wooden rectangles inside a Langstroth hive filled with foundation upon which the bees build their honeycomb.

Each box in a Langstroth hive can contain up to 10 frames.

- **Foundation**

The wax or plastic filler sheet in each frame of a Langstroth hive

The foundation guides the bees in building their combs. It is embossed in the shape of a honeycomb so the bees simply draw it out with wax. Foundation also adds rigidity to the comb when you put the whole comb in an extractor.

- **French Hive Tool**

The French hive tool is a little longer and more slender than the standard hive tool. You will use it every time you check your hives, mainly for prying.

The French tool is long enough that it will reach all the way down to the bottom of the hive. With it, you can scrape out any wax or retrieve anything that falls to the bottom of the hive.

- **Guard Bees**

Worker bees that stand at the entrance to the hive and guard it

Every bee coming into the hive has to check in with the guard bees. If the incoming bees bear their mother's pheromone or are bringing in nectar and pollen, the guard bees let them into the hive. If not, they chase them out.

- **Harvest**

To remove the honeycomb from the hive and extract the honey.

Honey is ready to be harvested when at least 3/4 of the comb has been capped by the bees. Honey that is harvested when it is not fully dehydrated will ferment.

- **Hive**

a. A colony of bees that live in a beehive

b. An enclosed structure that houses a colony of bees

The hive provides a protected place for a colony of bees to raise their larvae and store their food. We have found that the top bar beehive is the most simple and sustainable family hive.

- **Hive Management**

Periodically open your hive and check on the bees.

Watch for signs of diseases, swarming or low food level. Also watch for excess wax, propolis and honey that can be harvested. Always check the health of the queen.

- **Hive Temperature**

Bees keep their hives at 93°F.

In cool weather, bees produce heat for the hive. The sugar they ingest from honey is a carbohydrate which produces energy. Therefore their bodies produce heat. To keep the hive

warm, the bees mass together and vibrate their bodies. The vibration produces heat and keeps their hive warm.

In the summertime when the hive gets hot, the bees all come to the entrance and fan their wings, circulating cool air through the hive. If temperatures get really hot, they will fly from the hive, dip in some water, then fly back and fan their wings over their wet bodies. This causes an evaporation which cools them and in turn cools the air which circulates through the hive.

- **Hive Tool**

A versatile, simple tool that you will use almost every time you visit your hive.

Use this tool to scrape wax and propolis off the hive, loosen hive parts, open the hive and much more. They are available in different styles and lengths from Beekeeping Supply companies. The French Hive tool is a favorite because it is long and slender.

- **Honey**

An all-natural sweetener with many different beneficial properties – for the bees and for us alike

Honey is the main diet of bees. They gather it from flowers as nectar. The bee sips it into their honey stomachs with their tongues. While the nectar is in their stomachs, the bee will add enzymes from a gland. Once the nectar has been turned into honey, these enzymes will preserve it from spoiling.

When bees bring in the nectar from the field, it is typically somewhere between 70% and 80% moisture. They store it in the cells of the honeycomb. As they put it in the cells, they fan their wings over the surface of the cells, dehydrating the nectar down. Once the nectar is reduced to 17% moisture, the bees put a thin wax capping over each full cell. This acts like the lid on a canning jar and is the bees' way of storing it. Honey stored by bees or harvested by beekeepers when it is not fully dehydrated will ferment. Honey is ready to be harvested when at least 3/4 of the honeycomb has been capped by the bees.



- **Honeybees**

Bees that live in highly organized colonies that are raised in hives to produce honey

Bees gather nectar from blossoms, then take it back to their hive where they turn it into honey. Honeybees account for 80% of all insect pollination. We recommend the Italian and the Buckfast breeds because we have found them overall to be a more gentle and docile bee.

- **Honeycomb**

A structure of hexagonal rows of wax cells made by bees to brood their larvae and store their gathered foods of nectar and pollen.

Bees build their honeycombs by secreting waxcells. Wax separated from the honeycomb is a useful byproduct of keeping a Top Bar Hive.

- **Langstroth Hive**

A standard production hive that contains stacked boxes and removable frames.

L. L. Langstroth developed this original box-type hive with individual frames and foundation in the 1850's. His use of frames built on 1 3/8" centers allowed beekeepers to remove the combs individually from a hive. His individual boxes allowed the brood combs to be separated from the honeycombs. For the first time, beekeepers no longer needed straw skeps which required the annual destruction of their colonies.

- **Larvae**

A bee egg hatches three days after it is laid, then transforms into a larvae.

This is the second stage of the metamorphosis of bees. The worker bees feed the young worker larvae in their cells. They literally float the queen larvae in royal jelly in her special cell until she spins her cocoon.

- **Metamorphosis**

The development of a bee in the honeycomb cell, changing from one form into another.

The life of a bee begins with the queen laying an egg in a single brood cell. During the metamorphosis of a bee, the egg changes in a 4-stage process from an egg to a larvae to a pupa and then into an adult bee.

- **Mites**

See **Varroa Mites**

- **Nectar**

The sweet, aromatic liquid inside of blossoms, wildflowers and flowering garden vegetables.

Nectar is one of the honeybees' main sources of food, providing their main source of carbohydrates. After gathering nectar from the flowers, they take it back to their hives where they store it in the honeycombs. Once the bees place nectar in the comb cells, they fan their wings over the cell and at the entrance of the hive. This causes air to circulate which dehydrates the nectar. Once its moisture level lowers to 17% it becomes honey.

- **Pheromones**

Bees communicate using pheromones.

When bees become alarmed, they put out pheromones to warn the other bees to attack. Smoking the bees masks the alarm pheromone.

A new queen puts out pheromones which attract all the other bees to her cage. During her entire lifetime, the queen exudes pheromones that tells the other bees that she is present in the hive. Her pheromones stimulate bees to continue to work, to build comb and to bring in honey, pollen and nectar. Her pheromones keep cohesion in the hive.

- **Pollen**

Pollen is a powdered substance that comes from flowers.

The pollen collects on the bee's hairy body while they gather nectar from flowers.

- **Pollinate (Pollination)**

Transferring pollen from one flower or plant to another

Bees become dusted with pollen while gathering flower nectar. As they move from one blossom to the next, the bees lose some of the pollen collected from the previous flower onto a new flower. Thus they pollinate plants as they gather their nectar. Honeybees account for 80% of all insect pollination.



- **Propolis**

A sticky resin which bees gather from surrounding trees and use to seal cracks and polish the inside of their hive

Propolis contains natural antibiotic properties and creates a very healthy environment inside the hive. Bees propolis the entire inside of their hive. It acts like caulking, sealing the entire inner surface of their hive.

- **Pupa**

Once a bee larvae has spun its cocoon

This is the third stage of metamorphosis of a bee.

- **Queen Bee**

The most important bee in the colony. She is the mother of all the bees in the hive.

She is the largest bee, having a long tapering abdomen, usually without color bands. The queen is the only bee capable of laying fertile eggs. Pheromones emitted from the queen stimulate the other bees to continue to work, to build comb and to bring in honey, pollen and nectar. With her presence, she maintains colony morale and cohesion. Her life span of 2 to 3 years is relatively long for a bee.

- **Queen's Cage**

When you purchase a queen bee, she will arrive packaged in a separate wooden cage that contains 3-chambers with a corked hole on each end.

The chamber furthest from the queen contains soft, marshmallow-like candy that the beekeeper places in the cage. Suspend the queen's cage between the first 2 top bars in a Top Bar Beehive using the attached strand. *Do not place the queen on the bottom of the hive.* Once you place the new queen in a hive, the cork on the candy end needs to be removed. The other bees will eat through the candy, thus releasing the queen. As the bees eat the candy they familiarize themselves with the queen's pheromones and accept her into the hive. It is very important to remove the right cork. If she is released too quickly, the bees will kill her.

- **Queen Cell**

A special honeycomb cell built only for developing queens

Queen cells are much larger than any of the other cells in the hive. The bees only build this cell at the time when they raise a new queen. Bees build 15 to 30 cells in case a queen doesn't hatch or she dies before she hatches out.

- **Queen Excluder**

A grate with wires spaced so closely that the queen can't pass through to the top box of a Langstroth hive

The grate sets between the brood box and the honey box. The worker bees can easily pass through the wires and bring their nectar through the hive into the top box. Because the queen is bigger, the excluder keeps her in the bottom box laying eggs and rearing all her young.

- **Royal Jelly**

A high mineral substance fed to young larvae by the worker bees.

Royal jelly is secreted from glands on the worker's head. Workers feed royal jelly to young larvae for 3 days and to the queen larvae until she spins her cocoon.

- **Scout Bees**

The first bees that leave the hive early in the morning and go out in search of nectar and pollen.

When the scout bees have found a floral source, they go back to the hive and do a bee dance to tell the other bees the location of the source.

- **Skep**

Conical baskets made of straw that were traditionally used to keep bees in before the 1900's.

Beekeepers would catch a swarm, place it inside the basket, then place the basket on a flat surface, leaving the bees inside all summer. To harvest the honey, the bees and brood would annually be destroyed.



- **Smoke**

Puffs of wood smoke from a smoker, used when working with a hive.

As you work with your bees, releasing smoke from your beekeeper's smoker will calm the bees and keep them manageable. Smoke masks the alarm pheromone.

- **Starter Strip**

A strip of preformed wax or plastic embossed with a honeycomb pattern.

These strips are inserted in the underside of top bars or inside a foundation frame. Bees use these starter strips to efficiently begin to build new honeycombs.

- **Sugar Water**

You will need to feed your newly established bees a 50/50 water and sugar solution.

Always use granulated sugar, not powdered sugar. Powdered sugar contains cornstarch, which is bad for the bees. Also, don't use honey. Because you do not know its origins, you could inadvertently spread disease to your hive.

- **Sugar Water Can**

A can of sugar water embedded in the top of a bee shipping case

The beekeeper who raised the bees will fill this can with sugar water before he ships the bees you order. This provides food for the bees as they travel through the mail.

- **Swarm**

A mass of bees that clump together and leave the old queen and their hive in search of a new location

Bees swarm for various reasons. Most commonly, they swarm because the colony grows too large or they become too crowded. When this happens, the colony raises a new queen, splits in half and moves to a new location.

- **Top Bar Hive**

We have found that the top bar beehive is the most simple and sustainable family hive.

This wooden hive houses a single trapezoid bee box supported on legs. Bees build their combs from a series of top bars that hang across the top of the hive. Full combs of honey can be easily harvested anytime.

- **Varroa Mites**

The varroa mite is a tick-like pest that invades and weakens the health of a honeybee colony.

Russian bees have been imported in recent years because of their natural resistance to these mites.

- **Wax**

See **Beeswax**

- **Wax Chain**

When building honeycomb, bees hang off each other from the top of the hive, forming a chain of bees.

The bees secrete wax from a gland in their abdomen. They pass the little wax scales up the chain, each bee adding their scale to the other, until the last bee forms the scales into the hexagonal shape of the cells.

- **Worker Bees**

The majority of the hive's population consists of female worker bees

The worker bee is responsible for all the maintenance functions in the beehive. They live only about 45 days. The first half of their life is spent in the hive. They spend the first two days cleaning the cells, then feed developing larvae for another two days. Next they build comb and store incoming nectar. Their last job in the hive is to guard the entrance and learn to navigate. Once they learn to navigate, they gather nectar and pollen for the hive. As many as 40,000 to 60,000 workers live in an active hive.

