



ARTICLE

Glossary of Beekeeping Terms

Learn the ABCs of beekeeping in this comprehensive guide to the glossary of beekeeping terms.

— A —

Abdomen - The third region of the body of a bee enclosing the honey stomach, true stomach, intestine, sting, and reproductive organs.

Abscending swarm - An entire colony of bees that abandons their hive because of disease, wax moths, excessive heat or water, lack of resources, or other reasons.

Acarine disease - The name of the disease caused by the tracheal mite (*Acarapis woodi*). See **Tracheal mite**.

Afterswarm - A small swarm which may leave the hive after the first or primary swarm has departed. These after swarms usually have less bees associated with them than the primary swarm.

American foulbrood - A brood disease of honey bees caused by the spore-forming bacterium, *Paenibacillus larvae*. The spore stage of the bacterium can remain viable for many years, making it difficult to eliminate the disease.

Apiary - Colonies, hives, and other equipment assembled in one location for beekeeping operations; also known as a **bee yard**.

Apiculture - The science and art of raising honey bees.

Apis mellifera - The scientific genus and species of the Western honey bee, originating in Europe and Africa and now located around the world.

— B —

Bait hive - A hive or box, usually placed in an elevated location, used to attract and hopefully collect swarms.

Bee blower - A motorized blower used as one method to remove bees from honeycombs. Typically frames are not removed from supers before using the blower.

Bee bread - A "preserved" fermented mixture of collected pollen mixed with nectar or honey, deposited in the cells of a comb. Pollen is the primary pollen source for bees, and is used especially by the nurse bees to produce royal jelly to feed the young larvae.

Bee brush - A small brush used to gently remove bees from combs. (Often disturbs the bees more than shaking them off the frame would.)

Bee escape - A device used to remove bees from honey supers or buildings by permitting bees to pass one way but preventing their return.

Bee hive or **Beehive** - An artificial cavity for a bee colony to live in, usually a box or boxes with movable frames.

Bee metamorphosis - The different stages through which a bee passes as she matures: egg, larva, pupa, and adult. During the pupal stage inside a capped cell, large nutrient reserves are used to transform both the internal and external anatomy of the bee.

Bee space - 3/8-inch space between combs and hive parts in which bees build no comb or deposit only a small amount of propolis. Bee spaces are used as corridors to move within the hive. This is the space that the bees themselves build between and around their combs in nature, which beekeepers must respect when we design hives.

Beeswax - A complex mixture of organic compounds secreted by four pairs of special glands on the worker bee's **abdomen** and used for building comb. Its melting point is from 143.6 to 147.2 degrees F.

Bee venom - The poison secreted by special glands attached to the stinger of the female bee.

Boardman feeder - A device for feeding bees that consists of an inverted jar of syrup with a base designed to slide into the hive entrance.

Bottling - Filling glass or plastic bottles or jars with honey, using either gravity to fill the jars, or a honey bottling machine for more speed and consistency.

Bottom board - The floor of a hive that all the other hive components rest on top of. Can be a solid bottom board, or a screened bottom board, that allows hive debris to fall through onto the ground, or a waiting catch board.

Burr or brace comb - A small bit of stabilizing wax built between two combs or frames to fasten them together. Brace comb is also built between comb and adjacent hive materials, or between two hive parts such as top bars. See also: **Burr comb**.

Braula coeca - The scientific name of a wingless fly commonly known as the **bee louse**. Does not feed on bees, is not considered a parasite.

Brood - Immature bees that are still inside their cells. Brood can be in the form of eggs, larvae, or pupae of different ages.

Brood chamber or **Brood nest** - The part of the hive in which the brood is reared; may include one or more hive bodies and the combs within.

— C —

Capped brood or Sealed brood - Pupae whose cells have been sealed with a porous cover by adult workers, to isolate them during their nonfeeding pupal period.

Cappings - A thin layer of wax used to cover full cells of honey. This layer of wax is typically sliced from the surface of a honey-filled comb so that the honey can be extracted.

Caste - A term for social insects of the same species and sex that differ in morphology or behavior. In honey bees there are two castes, workers and queens. The drones are a different sex and therefore not a caste, though they are often miscategorized as the third caste.

Cell - The hexagonal compartment of comb built by honey bees.

Chilled brood - Bee larvae and pupae that have died from exposure to cold. This typically occurs in spring when the colony is expanding rapidly and on cold nights there aren't enough bees to keep the brood warm.

Chunk honey - Honey comb cut from frames and placed in jars along with liquid honey.

Clarifying Tank or Clarifier - Any tank or holding vessel that is used to temporarily store honey while the wax and other material separate from the honey.

Cluster - A large group of bees hanging together, one upon another. See also: **Winter cluster**.

Colony - The queen, brood, drones, and all the worker bees living together in a single hive or other nest.

Comb - A sheet of six-sided wax cells made by honey bees to hold brood, honey, nectar, and pollen. A sheet of comb will have a layer of cells on each side, united at their bases.

Comb honey - Honey harvested and sold in the comb. It is produced either by cutting the comb from the frame (**cut-comb honey**) or when the comb is built in special frames which allow for its easy removal without cutting.

Creamed honey - Honey which has crystallized under carefully controlled conditions to produce tiny crystals and an appealingly smooth texture. Often a starter or seed is used to help control the crystallization.

Crimped-wire foundation - Foundation in which crimped wire is embedded vertically during the manufacturing process. The wire increases the strength of the foundation.

Cross-pollination - See **Pollination**.

Crystallization - The formation of sugar crystals in honey.

Cut-comb honey - See **Comb honey**.

— D —

Dance language - The system honey bees use to communicate the locations of food sources or potential nest sites to each other.

Dearth - See **Nectar dearth**.

Deformed wing virus (DWV) - A viral disease of honey bees, transmitted between bees and by the feeding of varroa mites.

Dextrose - See **Glucose**.

Dividing - See **Splitting**.

Division board feeder - A wooden or plastic compartment that is hung in a hive replacing one or more frames and contains feed for bees.

Double screen - A thin wooden frame with two separated layers of screen. Used to separate two colonies within the same hive, one above the other. An entrance or entrances are cut on the upper side to allow the upper colony access to the outside.

Drawn combs - Cells that have been built out by honey bees from foundation in a frame.

Drift - The failure of bees to return to their own hive in an apiary containing many colonies, because they have entered neighboring colonies instead.

Drone - The male honey bee. Produced from unfertilized eggs.

Drone comb - Comb measuring about four cells per linear inch, that bees use for drone rearing as well as honey storage.

Drone layer - A queen with no stored sperm, who is therefore incapable of laying fertilized eggs. As a result, all young she lays will be drones.

Dysentery - A condition of adult bees characterized by severe diarrhea that may be caused by starvation or low-quality food, confinement due to poor weather conditions, or nosema infection.

— E —

European foulbrood - An infectious disease that only affects the brood of honey bees and is caused by the bacteria *Streptococcus pluton*.

Extracted honey - Liquid honey removed from the comb.

Extraction - The process in which honey is spun out of frames using centrifugal force with a honey extractor.

Extractor - A machine that removes honey from the cells of comb by centrifugal force.

— F —

Fermentation - The process of yeast utilizing sugar as a food, and as a byproduct producing alcohol. Bees remove moisture from nectar as it is ripened into honey until fermentation cannot occur.

Fertile queen - A queen with sufficient stored sperm from drones, able to lay fertilized eggs.

Follower board - A thin board the size of a frame that can be inserted into a hive to reduce the space available to the bees. Often done to help smaller colonies that may have trouble keeping the brood nest warm.

Foragers or Field bees - Worker bees, generally at least two to three weeks old, that work to collect nectar, pollen, water, and propolis for the colony.

Foundation - A manmade thin sheet of beeswax or plastic embossed on both sides with the shape of cell bases. Used to encourage straight combs in frames, and to support the combs built on the foundation.

Frame - A rectangular wooden or plastic framework, designed to hold comb and hang in a hive box.

Fructose - The predominant simple sugar found in honey.

Fume board - A rectangular cover the size of a super which has an absorbent material on the underside. A chemical is placed on the material to drive the bees out of supers for honey removal.

Fumagilin-B - An antibiotic used in the prevention and suppression of **nosema** disease.

— G —

Glucose - One of the two principal sugars found in honey; forms crystals during **crystallization/granulation**. Also called **dextrose**.

Grafting - Removing a young worker larva from its cell and placing it in a queen cup in order to have it reared into a queen.

Grafting tool - A probe, needle, or scoop designed for transferring larvae from worker cells to queen cells..

— H —

Hive - A manmade structure used by a colony of bees as a nest cavity.

Hive body - A box that encloses frames of comb. Often used particularly for the **brood chambers** to distinguish from **supers**, though the term can be applied to any hive box.

Hive stand - A structure that supports the hive and keeps it elevated off the ground.

Hive tool - A metal device used to open hives, pry and manipulate frames, and scrape wax and propolis from equipment.

Honey - A sweet, viscous fluid produced by bees from the nectar of flowers. Composed largely of a mixture of sugars dissolved in about 17 percent water. It contains small amounts of mineral matter, vitamins, proteins, and enzymes.

Honeydew - A sweet liquid excreted by aphids, leafhoppers, and some scale insects that is collected by bees, especially in the absence of a good source of nectar. Can be used to produce "forest honey" or "honeydew honey."

Honey house - A building used for extracting honey and storing equipment.

Honey stomach or **Honey crop** - An expandable storage organ at the front of the honey bee's digestive system. Used for carrying nectar, honey, or water.

Hopelessly queenless - Used to describe a colony that has lost its queen, and also has no queen cells or young brood that can be used to raise emergency queens.

— I —

Increase - To add to the number of colonies, usually by splitting those on hand. The phrase "making increase" is commonly used to describe growing one's colony numbers.

Inner cover - A lightweight cover used under a standard telescoping outer cover on a beehive.

Instrumental insemination - The introduction of drone spermatozoa into the genital organs of a virgin queen by means of special instruments, allowing beekeeper control over the genetics of the queen's offspring.

Invertase - An enzyme produced by the honey bee which helps to transform sucrose to glucose (dextrose) and fructose (levulose).

— L —

Larva (plural, **larvae**) - The second stage of the bee life cycle. A white, legless, grub-like insect.

Laying worker - A worker that lays unfertilized eggs, producing only drones, usually in colonies that are hopelessly queenless.

Levulose - See **Fructose**.

— M —

Mating flight or **Nuptial flight** - The flight (or flights) taken by a virgin queen while she mates in the air with multiple drones.

Migratory beekeeping - The moving of colonies of bees from one locality to another during a single season to take advantage of multiple honey flows, and/or to fulfill agricultural pollination contracts.

Mead - Honey wine.

— N —

Nectar - A sweet and often fragrant liquid secreted by the nectaries of flowering plants as an attractive reward for pollinating animals. Nectar is the raw resource used to make.

Nectar dearth - A period with little to no nectar available for foraging bees to collect.

Nectar flow or **Honey flow** - A time when nectar is plentiful and bees produce and store surplus honey. Often linked to a single particular flower, e.g. "the goldenrod flow."

Nectar guide - Markings or patterns on flowers believed to direct insects to nectar sources.

Nosema disease or **Nosemosis** - Intestinal disease of honey bees caused by either the protozoa *Nosema apis* or *Nosema ceranae*. The microbes destroy the gut of the bee and severe infections result in malnutrition and dysentery. Symptoms of the two infections differ somewhat. (Recently reclassified as *Vairimorpha apis* and *Vairimorpha ceranae*.)

Nucleus or **Nuc** - A small colony of bees consisting of fewer frames than a typical hive, usually housed in a smaller hive box. A nuc usually consists of three to six frames of comb and is used primarily for starting new colonies or rearing or storing queens.

Nurse bees - Young bees, usually three to ten days old, that feed and take care of developing brood.

— O —

Observation hive - A hive made largely of glass or clear plastic to allow for the observation of bees at work.

— P —

Package bees - A quantity of adult bees (2 to 5 pounds), usually with a queen, contained in a screened shipping cage with a food source. A package is essentially a simulated swarm.

PDB (Paradichlorobenzene) - Crystals used to fumigate stored combs against wax moths.

Pheromones - Chemical substances secreted from glands and used as a means of communication. Honey bees secrete many different pheromones.

Play flights or **Orientation flights** - Short flights taken in front of or near the hive to acquaint young bees with their immediate surroundings.

Pollen - The male reproductive cells produced by anthers of flowers. Collected and used by honey bees as their source of protein.

Pollen basket - A flattened depression surrounded by curved hairs, located on the outer surface of a worker bee's hind legs and adapted for carrying pollen to the hive.

Pollen substitute - Any material such as soybean flour, powdered skim milk, brewer's yeast, or a mixture of these used in place of pollen as a source of protein to stimulate brood rearing. Typically fed to a hive in early spring to encourage colony expansion.

Pollen supplement - Pollen, or a mixture of pollen and pollen substitutes, used to stimulate brood rearing as with **pollen substitute**.

Pollen trap - A device designed to remove pollen loads from the pollen baskets of incoming bees.

Pollination - The transfer of pollen from the anthers to the stigma of a flower or flowers. Honey bees are excellent pollinators.

Primary swarm - The first swarm to leave the parent colony, usually with the old queen (see **secondary swarm**).

Propolis - Plant saps and resins collected by bees and used to strengthen the comb and to seal cracks. Possesses antimicrobial and waterproofing properties.

Pupa (plural **Pupae**) - The third stage in the honey bee life cycle, during which it changes (pupates) from a larva to an adult bee.

— Q —

Queen - A female bee with a fully developed reproductive system. Larger and longer than a worker bee.

Queen cage - A small cage in which a queen and three to five worker bee attendants are confined, for shipping and introduction into a new colony.

Queen cell - A special elongated cell in which a queen is reared. It is an inch or longer and hangs down from the comb in a vertical orientation.

Queen clipping - Removing a portion of one or both front wings of a queen to prevent her from flying.

Queen cup - A shallow wax cup built by bees to allow the production of new queens. Once the queen has laid an egg in, it becomes a **queen cell**.

Queen excluder - A flat sheet of metal or plastic with spaces that permit the passage of workers but restrict the movement of drones and queens, limiting their access to a certain parts of the hive.

— R —

Robbing - Stealing of nectar or honey by bees from other colonies. More common during a **nectar dearth**.

Robbing screen or **Robber screen** - A device that fits over the entrance of a hive, baffling arriving robber bees while allowing the resident bees to come and go.

Royal jelly - A highly nutritious glandular secretion of young bees, used to feed the queen and young brood.

— S —

Sacbrood - A viral disease which affects the larvae of honey bees.

Scout bees - Worker bees searching for a new source of pollen, nectar, propolis, water, or a new home for the swarm they are a part of.

Screened bottom board - See **Bottom board**.

Secondary swarm - A smaller swarm containing a new virgin queen which may occur after the primary swarm has departed.

Skep - A traditional bell-shaped straw beehive without movable frames.

Slatted rack - A wooden frame that fits between the bottom board and lowest hive body. Can reduce congestion at the hive entrance, and helps the bees control the microclimate at the bottoms of the bottom frames.

Slumgum - The remaining refuse from melted comb and cappings after the usable wax has been rendered and removed.

Smoker - A device in which materials are kept smoldering to produce cool smoke (not flames) to subdue bees.

Solar wax melter - A box with a transparent lid, used to melt wax from combs and cappings by the heat of the sun.

Splitting - Dividing a bee colony into two (or more) colonies to produce new colonies.

Spur embedder - A handheld device used for embedding wires into wax foundation with the purpose of reinforcing the foundation.

Stinger or Sting - The specialized modified ovipositor of a female honey bee, used as a weapon. Worker honey bees have a barbed stinger which embeds in the elastic skin of most vertebrate victims. Queens have non-barbed stingers that are largely used to kill rival queens early in life.

Streptococcus pluton - Bacterium that causes European foulbrood.

Sucrose - The principal sugar found in most nectar.

Super - Any hive body, usually a smaller box, used for the storage of honey which the beekeeper intends to harvest. Normally it is placed above the brood chamber(s). Supers are typically medium or shallow sized boxes.

Supersedure - The natural replacement of an established mother queen by a newly reared daughter queen in the same hive.

Swarm - A large number of worker bees, drones, and usually the old queen that leaves the parent colony to find a new home and establish a new colony.

Swarming - The natural process through which a swarm emerges from a hive, clusters (bivouacs) on a tree branch or other surface, and then finds and moves to a new home.

Swarm cell - Queen cells usually found on the bottom of the combs before swarming, produced to provide a new queen for the colony from which the swarm depart.

— T —

Terramycin - An antibiotic used to control American and European foulbrood. Only available in the U.S. under the supervision of a veterinarian.

Tracheal mites - A parasitic mite of the species *Acarapis woodi*. Lives in the internal trachea (breathing tubes) of adult bees.

— U —

Uncapping - The process by which the thin layer of beeswax over capped honey is removed, allowing for honey harvesting.

Uncapping knife - A knife used to shave or remove the cappings from combs of sealed honey prior to extraction. Some are heated by steam or electricity.

Uniting - Combining two or more colonies to form one larger colony. Weak colonies are often combined in the fall to prepare for winter.

— V —

Varroa mite or **Varroa destructor** - A devastating parasitic mite of honey bees, responsible for the deaths of many colonies due to weakening the bees and transmitting multiple bee viruses.

Veil - A hat, helmet, or headpiece including a screen of wire or fabric netting, used to protect the beekeeper's head and neck from stings.

Virgin queen - A queen that is not yet mated.

— W —

Waggle dance - See **Dance language**.

Wax glands - Glands that secrete beeswax. Found in pairs on the underside of the last four abdominal segments of worker bees.

Wax moth - Usually, larvae of the greater wax moth *Galleria mellonella*, which can seriously damage brood and empty combs.

Winter cluster - A ball-like arrangement of adult bees within the hive during winter. Bees in winter consume honey and produce heat with their flight muscles.

Worker bee - A female bee whose reproductive organs are undeveloped. The majority of the honey bees in a colony are worker bees, and they do all the work in the colony except for laying fertile eggs.

Worker comb - Comb measuring about five cells to the inch, in which workers are reared and honey and pollen are stored.

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