Beekeeping FAQ

1. **How many eyes does a bee have?**  
   Answer: Bees have 5 eyes (2 large compound eyes and 3 small eyes called ocelli).
2. **How many kinds of bees are there?**  
   Answer: We have about 1,600 species in California, 4,000 in the US, and 20,000 worldwide. Most are solitary insects; only about 5 percent are social bees, the most common being the honeybee.
3. **How smart are bees?**  
   Answer: Bees are capable of complex visual processing and learning tasks that are commonly reserved for primates. It is able to discriminate and remember one human face from another, a capacity likely used for foraging, navigation and identifying flowers.
4. **How long does a worker bee live?**  
   Answer: The average worker bee lives for just five to six weeks during the summer, longer during the winter.
5. **Do bees dance?**  
   Answer: To share information about the best food sources, they perform their ‘waggle dance’. When the worker returns to the hive, it moves in a figure-of-eight and waggles its body to indicate the direction of the food source.  A round dance indicates that food is close by; a waggle dance means it is distant.
6. **How many miles do bees have to fly to make 1 pound of honey?**  
   Answer:  A hive of bees must fly 55,000 miles to produce a pound of honey.
7. **Where do bees get nectar and pollen from?**  
   Answer: Honey bees harvest nectar and pollen from flowering plants.
8. **What are male bees called?**  
   Answer: Male bees in the hive are called drones and they do not have a stinger.
9. **Why is honey called a perfect food?**  
   Answer: Honey is the only food that includes all the substances necessary to sustain life, including enzymes, vitamins, minerals, and water; and it’s the only food that contains “pinocembrin”, an antioxidant associated with improved brain functioning.
10. **What is a society of bees called?**  
    Answer: Honey bees live in large groups called colonies.
11. **How many bees are there in a colony?**  
    Answer: An average beehive can hold around 50,000 bees.
12. **How fast do honey bees fly**  
    Answer: Honey bees fly at 15 miles per hour.
13. **How fast do honey bee wings beat?**  
    Answer: Honey bees' wings stroke 200 times per second, thus making their distinctive buzz.
14. **Is there a ‘King bee’?**  
    Answer: No, there are only male bees called drones. The queen was known as the king until the late 1660s, when Dutch scientist Jan Swammerdam dissected the hive’s big bee and discovered ovaries.
15. **Why do we need bees?**  
    Answer: Bees are important pollinators. Pollinators transfer pollen and seeds from one flower to another, fertilizing the plant so it can grow and produce food. Cross-pollination helps at least 30 percent of the world's crops and 90 percent of our wild plants to thrive. Without bees to spread seeds, many plants—including food crops—would die off.
16. **How is a queen bee made?**  
    Answer: All bee larvae are fed some royal jelly for the first few days after hatching but only queen larvae are fed on it exclusively. As a result of the difference in diet, the queen will develop into a sexually mature female, unlike the worker bees.
17. **Does a honeybee die after mating?**  
    Answer: Yes, the mating event is fatal for the male drone. When drones mate, they die afterwards from a ruptured abdomen. Sex detaches their endophallus, which gets stuck inside the queen
18. **When you kill a bee, does it attract other bees?**  
    Answer:  Generally no, bees do not give off a pheromone that attracts other bees when they die, although they do give off general "alarm" pheromones when they are agitated.
19. **Are worker bees male or female?**  
    Answer: Worker bees are females.
20. **What does smoke do to bees?**  
    Answer: We think it blocks the alarm pheromones, keeping the bees calm when working with a hive (colony)
21. **What is an “apiary”**  
    Answer: A group of colonies or hives
22. **How much honey does a worker bee make in it’s lifetime?**  
    Answer: During this time, she’ll produce around a twelfth of a teaspoon of honey.
23. **What does pollination mean?**  
    Answer:  This means the transferring pollen between the male and female parts, allowing plants to grow seeds and fruit. Honey bees are super-important pollinators for flowers, fruits and vegetables.
24. **What are honey bees best known for?**  
    Answer: Delicious honey! But did you know they produce honey as food stores for the hive during winter? Luckily for us, these efficient little workers produce 2-3 time more honey than they need, so we get to enjoy the tasty treat, too!
25. **Can bees smell?**  
    Answer:  Each bee has 170 types of smell receptors, which means they have one serious sense of smell! They use this to communicate within the hive and to recognize different types of flowers when looking for food.
26. **What is ‘Colony Collapse Disorder’?**  
    Answer: Sadly, over the past 15 years, colonies of bees have been disappearing, and the reason remains unknown. Referred to as ‘colony collapse disorder’, billions of Honey bees across the world are leaving their hives, never to return. In some regions, up to 90% of bees have disappeared!
27. **What do bees eat?**  
    Answer: Bees fly from flower to flower, sipping nectar.  Bees have a special tongue that sucks up the nectar and a ‘honey stomach’ in their throat for storing it until they get back to the hive, where it is turned into honey to use as food (carbohydrates).  
    Bees also collect grains of pollen which they later eat as a source of protein
28. **What is the difference between native and non-native bees?**  
    Answer: Native (a.k.a. wild) bees originated here in the US, none of them are honey bees. Meaning all honey bee are non-native, and are the type of bee raised like livestock for their honey, pollen and wax.
29. **How many legs does a bee have?**  
    Answer: Bees have 6 legs. They are insects.
30. **What is a sweat bee?**  
    Answer:  Sweat bees are a native bee.  They benefit plants as they feed on nectar and pollen, pollinating in the process. You may be wondering where they get the name 'sweat bee.' While they do feed on pollen and nectar, the bee is also attracted to human perspiration
31. **How much honey do Americans eat?**  
    Answer:  Americans consume about 285 million pounds of honey each year.
32. **How far do bees fly to collect honey?**  
    Answer: As a rule of thumb the foraging area around a beehive extends for two miles (3 km), although bees have been observed foraging twice and three times this distance from the hive.
33. **Do bee's sleep?**  
    Answer: According to Jürgen Tautz in his book The Buzz About Bees, foragers enter a pronounced state of sleep—largely at night and in the hive. However, sometimes they sleep outside the hive as well. In addition, beekeepers and bee photographers the world over have reported seeing bees asleep in flowers.
34. **Where do bees go in the winter?**         
    Answer: During winter, honey bees feed on the honey they collected during the warmer months. They form a tight cluster in their hive to keep the queen and themselves warm.
35. **How many bees are in a typical beehive?**         
    Answer: In the summer, about 40,000 to 60,000.
36. **How much honey would be required to power a honey bee’s flight 25,000 miles around the world?**          
    Answer: 2 tablespoons.
37. **What hive product has sufficient antibacterial properties as to be useful in the treatment of wounds?**        
    Answer: Honey.
38. **How many miles does a typical honey bee fly in its lifetime?**        
    Answer: 500 miles.
39. **How do bees know their own hive?**          
    Answer: Each honey bee colony has a unique odor for members’ identification.
40. **Do all bees sting?**         
    Answer: Only (female) worker bees sting, and only if they feel threatened and they die once they sting. Queens have a stinger, but they don’t leave the hive to help defend it. Drone (males) don’t have a stinger.
41. **Where does honeycomb come from?**         
    Answer: The worker bees produce honeycomb through the consumption of honey produced from the collected flower nectar. To produce one pound of beeswax, six to eight pounds of honey are ingested.
42. **How many wings do bees have?**  
    Answer: 4 (2 wings per side)
43. **How much honey can a bee colony produce?**  
    Answer: One bee colony can produce 60 to 100 pounds of honey per year.
44. **How many flowers does a bee visit during one collection flight from the hive?**  
    Answer: A honeybee visits between 50 and 100 flowers during one collection flight from the hive.
45. **What is the direct dollar value of honeybee pollination to U.S. agriculture?**  
    Answer: A Cornell University paper released in 2000 concluded that the direct value of honeybee pollination to U.S. agriculture is $14.6 billion annually.
46. **How many beekeepers are there in the U.S.?**  
    Answer: The United States has an estimated 211,600 beekeepers.
47. **What is honey wine called?**  
    Answer: Mead
48. **How many sides does each honeycomb cell have?**  
    Answer: Six, it is a hexagon
49. **What is the U.S. per capita consumption of honey?**  
    Answer: On average, each person in the U.S. consumes about 1.3 pounds per year.
50. **What state is known as the beehive state?**  
    Answer: Utah
51. **Do bees have brains?**  
    Answer: Bees have a grass-seed sized brain that is able to calculate foraging distances and energy expenditure, and find out the shortest route to the targeted flowers, a complex mathematical problem that can keep computers busy for days.
52. **Is a “meat bee” or “yellowjacket” a bee?**  
    Answer: No, a “meat bee” or “yellow jacket” is not a bee. They are nicknames for a wasp that can sting (and bite).
53. **Why are African bees so aggressive?**   
    Answer: In fact, the A. mellifera scutellata is no more aggressive than most other sub-species of A. mellifera. However, in 1957 scientists in South Eastern Brazil who were conducting experiments on the interbreeding of the African bee with other forms of European A. mellifera (in an attempt to improve local stocks of bees) allowed the escape of some of the resulting hybrids. The African bee, when mated with other forms of European bee (mainly the Italian bee), were noted for their defensiveness.
54. **How much honey does a colony (hive )of bees produce per year?**  
    Answer: A bee colony can produce 60 to 100 pounds of honey per year about (10 gallons).
55. **How long does a queen bee live?**  
    Answer: The queen can live up to five years. She is busiest in the summer months, when she can lay up to 2,500 eggs a day! Most bee keepers replace the queen bee after 2-3 years.
56. **How does honey provide energy to humans?**  
    Answer: Honey supplies 2 stages of energy. The glucose in honey is absorbed by the body quickly and gives an immediate energy boost. The fructose is absorbed more slowly providing sustained energy.
57. **How many types of honey bees are there?**  
    Answer: One genus under which all honey bees fall, Apis, contains all the known species of honey bee forming at least 44 sub species.  None of which are native to the US.  
    Commonly we see (imported) European, Italian, Russian, African, Buckfast, Caucasian, (Georgia is the “central homeland” for the subspecies, although the bees also can be found in eastern Turkey, Armenia and Azerbaijan.),  
    There Asian honeybees, giant and dwarf honeybees.
58. **How far away can a bee smell?**  
    Answer: Bees can smell something a mile off. In fact, it is believed that honey bees can sense particular odors over distances of 2-3 km (1.2 – 1.8 miles). Bees can use odor to locate their own colony or a particular source of nectar.
59. **What kinds of eggs does the queen bee lay?**  
    Answer: A mated queen bee can produce either a fertilized egg or an un-fertilized egg based on the colony’s needs. A fertilized egg will produce a female worker bee or a another queen bee whereas an un-fertilized egg will produce a drone.
60. **How long have bees been around?**  
    Answer: Melittosphex burmensis, recently found preserved in amber in a mine in northern Myanmar, is the oldest bee known. It lived 100 million years ago.
61. **What is “organic“ honey?**  
    Answer: “Organic honey” is when the flowers that the bees get the nectar from have not been sprayed with chemicals.  As long as beekeepers control where the bees go, they'll know that they're getting honey from organic flowers.
62. **Can bees ‘talk’?**  
    Answer: Bees can “talk”. The buzz of a bee is traditionally thought to be made by the beating wings. However, bees can also contract their flight muscles and make a buzzing sound - without moving their wings - causing air to vibrate through their spiracles (breathing tubes). It is believed that bees can communicate by modifying the tone of the buzz by controlling how air passes through the spiracles. American researchers have found that bees can modify their buzz according to specific stimuli such as particular chemicals.
63. **What is the most popular honey bee?**  
    Answer: Apis mellifera ligustica. This is the most popular bee in North American. These, as all of the commercial bees, are gentle and good producers. They use less propolis than some of the darker bees. It is native to Italy.
64. **Where did the term “honeymoon” come from?**  
    Answer: The term “honeymoon” is derived from an old northern European custom in which newlyweds would consume a daily cup of mead, made with fermented honey, for a month.
65. **What do younger worker bees do?**  
    Answer: They are cleaners. Worker bees become cleaners of brood cells when they are only one or two days old. They are responsible for cleaning and polishing the empty cells that ready to receive new eggs and store nectar and pollen. The queen inspects the cells and if they are not clean, the cleaners will have to do it again.
66. **Does honey spoil?**  
    Answer: Honey never spoils. Ever.
67. **What do worker bee and drone larvae eat?**  
    Answer: worker bee and drone larvae are fed a mixture of pollen, honey and royal jelly
68. **Is it safe to eat crystallized honey?**  
    Answer: Crystallized honey is perfectly good to eat and preferable to many people. Some people prefer it because of its ability to spread easily without dripping. The tiny little grains of crystallized sugar give your once liquid, amber honey a very fine texture. ... Raw honey is more likely to crystallize than a processed honey. Gentle heating will melt the crystals if desired.
69. **How many queens are there in a hive?**  
    Answer: Usually just one.  A newly hatched queen immediately kills all other hatched and unhatched queens in the hive.
70. **Where do bees mate?**  
    Answer: When a queen is five to six days old, she is ready to mate. She puts out a pheromone scent to attract the males and takes off in the air.  The males from miles around smell the scent and instantly volunteer in the mating chase, which is performed in the air.
71. **Can bees regulate the temperature inside the hive?**  
    Answer: Bees are able to regulate the temperature of their hive. In cold weather, the bees huddle together and vibrate their wing muscles to generate heat. When it's hot, they fan their wings to improve air circulation or even collect water for evaporative cooling.
72. **What is special about the bee’s compound eyes?**  
    Answer: Has hair on its eyes to help keep its eyeballs clean. The hair catches dirt and pollen.
73. **How does the beeswax comb get built?**  
    Answer: Worker bees that are about 12 days old are mature enough to begin secreting and producing beeswax, the material for the construction of comb. The wax flakes they produce help with the building of new wax comb and in the capping of ripened honey and cells containing developing pupae.
74. **How important is bee pollination of food plants?**  
    Answer: Is responsible for pollinating 70 of the 100 crops that provide 90% of the world's food.
75. **Why do honey bees die after they sting?**  
    Answer: It depends on what they are stinging. Honey bee worker (females) will die if they sting you. This is because honey bee workers have barbed stings, causing the stinger to get lodged in the skin of mammals (including humans). This is fatal to the honey bee when they try to pull away from the victim, and the bee will die after the stinging incident.  However, honey bees can sting insect predators repeatedly.
76. **What do queen bee larvae eat?**  
    Answer:  They feed pure royal jelly, a milky concentration secreted from the food glands in their heads.
77. **What does honey and spinach have in common?**  
    Answer: Not a spinach lover? Eat honey – it has similar levels of heart-healthy antioxidants!
78. **How many flowers do bees have to visit to make 1 pound of honey?**  
    Answer:  In order to produce 1 pound of honey, 2 million flowers must be visited
79. **Why is the bee an important insect?**  
    Answer: Is the only insect that humans raise for food and medicine.
80. **What do the oldest worker bees do?**  
    Answer:  They forage.  When they are about fourteen days old, the worker bees leave the nest at sunrise as foragers and visit the flowers in a 1.5 mile radius from the hive in search of nectar, water, pollen and propolis. They can make about ten trips a day, each one lasting about an hour and return to their hive at sunset. At this final phase of life, at the age of 5 - 6 weeks, most worker bees will die in the field.
81. **Can worker bees produce eggs?**  
    Answer: Worker bees don’t mate and so can’t produce fertilized eggs, however if there is no queen, they sometimes lay unfertilized eggs, which become male drones.
82. **Do bees nurse their young?**  
    Answer: Yes brood care bees assume the role of incubating and caring for the developing larvae. It is said that on average, nurse bees check a single larva over a thousand times a day.
83. **What is propolis?**  
    Answer: Propolis is a natural antibiotic made by honeybees. Not only does it help to inhibit the spread of bacteria, virus, and fungi that would otherwise pose a significant threat in the closely-knit quarters, it also helps fight against climatic changes, such as wind and cold by sealing gaps in the hive walls
84. **What is “raw” honey?**  
    Answer: Raw honey is described as honey “as it exists in the beehive.” The honey was obtained by extraction, settling, or straining. Most importantly, the honey hasn’t been heated past pasteurization, which is usually around 95 degrees.
85. **How many bee stings does it take to kill a person?**  
    Answer: If you're not allergic to bee stings, the average person can tolerate 10 stings per one pound of body weight. Most adults can tolerate more than 1,000 stings. 500 stings may be fatal for children. (Source: The Merck Manual of Diagnosis & Therapy).
86. **How many years did Albert Einstein theorize about man would last without bee.**  
    Answer: "If the bee disappears from the surface of the earth, man would have no more than four years to live?"    ~ Albert Einstein
87. **What is ‘colony collapse disorder’?**  
    Sadly, over the past 15 years, colonies of bees have been disappearing. There have been many theories about the cause of CCD, but the researchers who are leading the effort to find out why are now focused on these factors: Increased losses due to the invasive varroa mite (a pest of honey bees). New or emerging diseases such as Israeli Acute Paralysis virus and the gut parasite Nosema.
88. **What is swarming?**  
    Answer: Swarming is the reproduction of a honey bee colony, and it occurs when an existing colony subdivides into two colonies. Swarming is essential to the bees' survival. If the hive becomes overcrowded, resources will be scarce and the colony's health will begin to decline. So every now and then, the queen and a bunch of bees will fly out and find a new place to live.
89. **Do bees go poo in the hives where the honey is?**  
    Answer: Honey bees are very clean .They want their hive (which they made themselves, hexagon by hexagon) to be immaculately clean. If something dirties their hive, they will immediately get the offense out. The only honey bee in the hive that uses the bathroom inside the hive is the queen. She never leaves the hive, so her faithful workers get her mess right out.
90. **How do bees make honey?**  
    Answer: Honey is created when bees mix plant nectar, a sweet substance secreted by flowers, with their own bee enzymes, then evaporate it by fanning their wings.  When it is about 15-20 percent water the bees cap off the cell with wax.
91. **Do bumblebees make honey?**  
    Answer: Bumblebees make a honey like substance, but it tastes nothing like the sweet honey we know and love. They also make this in very small quantities. Honey bees though make honey in surplus so bee keepers are able to take a certain amount without hurting the bees or depriving them of food.
92. **How sweet is honey?**  
    Answer: Due to the high level of fructose, honey is 25% sweeter than table sugar (sucrose).
93. **How much water is there in good honey?**  
    Answer: The water content of honey (water-in-honey) is the quality aspect that determines the ability of honey to remain fresh and to avoid spoilage by yeast fermentation.  Raw honey can have a water-in-honey content of less than 14% and the lower the water content the higher the perceived value of the honey.  It is internationally recognized that good quality honey should be processed at less than 20% water content.
94. **How do you get the honey out of the cell?**  
    Answer: The wax caps of the cells are sliced off with a special hot wax knife and placed in a centrifuge. The high circular speed pulls the honey outward, out of the honeycomb.
95. **Where do bumblebees live?**  
    Answer: mostly in solitary burrows in the ground.
96. **Are there naturally different colors and flavors of honey?**  
    Answer: Yes. Honey has different flavors and colors, depending on the location and kinds of flowers the bees visit. Climatic conditions of the area also influence its flavor and color. NZ’s Rata honey is nearly white, Manuka honey is rich ginger-brown and avocado honey is dark brown and tastes like molasses
97. **When were honeybees introduced to the Americas?**  
    Answer: The Americas didn’t have honey bees until they were introduced by Spanish, Dutch, and English settlers near the end of the 17th century.
98. **Does honey contain anti-oxidants?**  
    Answer: Honey contains vitamins and antioxidants, but is fat free, cholesterol free and sodium free!
99. **How is honey used as a medicine?**  
    Answer: As recently as the First World War, honey was being mixed with cod liver oil to dress wounds on the battlefield. Modern science now acknowledges honey as an anti-microbial agent, which means it deters the growth of certain types of bacteria, yeast and molds.
100. **How much does pollution affect a bees ability to smell?**  
     Answer:  Normally bee can smell something a mile (1760 yards) away. In areas of increased pollution, the “smelling distance” can be reduced to less than 200 yards.