

# Bees and Beekeeping

## Past and Present

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Besides being famous, what do Thomas Jefferson, Sir Edmund Hillary, Martha Stewart, Leo Tolstoy, Maria von Trapp, Henry Fonda, Morgan Freedman, and Scarlett Johansson have in common? They all were or are beekeepers.

Bees have been connected to human history for millennia. Cave paintings feature people climbing trees to gather wild honey. Pythagoras was so enamored of bees that his most devoted followers ate only bread and honey. Aristotle was an avid beekeeper who mistakenly concluded that the biggest bee in the hive must be male.

Fortunately, pioneers in apiculture have advanced our knowledge of how bee colonies operate, designed helpful equipment and techniques, developed commercial beekeeping, and discovered medical uses for bee products. Meanwhile, ordinary people in every corner of the world have kept bees, learning mostly from experience how best to care for them.

Aristotle's error about the gender of the largest bee in the hive was corrected nearly two thousand years later by Luis Mendez de Torres in 1586, but the discovery is usually credited to Charles Butler, who wrote *Feminine Monarchie* (1609), the first English language book on beekeeping, in which he also debunked the then-common notion that bees gather wax from plants. Instead, he explained, they produce it. In addition to being an apiarist, Butler was a musician who composed and directed concerts of music, including pieces based on the sounds of bees. (If you'd like to listen to some of this music, there is a performance of "Bee Madrigal: Feminine Monarchy" on YouTube.)

### **Understanding Bee Communities**

A major milestone in understanding the function of bees occurred around 1750 when the Irish beekeeper and botanist Arthur Dobbs realized that bees pollinate flowers as they collect nectar and pollen. He also observed that bees

choose one specific flower type at a time, even in a field with many varieties blooming.

We have learned a great deal about the collective activity of honey bees. Healthy bee colonies contain 60,000 to 80,000 bees, divided into three types: queens (female), drones (male), and worker bees (female). The queen is the only bee that can lay fertilized eggs, and she has the ability to choose which eggs to fertilize. Unfertilized eggs will become drones; fertilized eggs will become worker bees. A queen in her prime may lay 1,500-2,000 eggs in a day. If the queen dies, leaves, or becomes unproductive, the worker bees can create another queen by feeding larvae a special food known as royal jelly to larvae. Though normally only one queen reigns in each hive, West Virginia beekeeper Brian Umstead confirms that occasionally two queens work the same hive for a season.

A drone's sole function is to fertilize the queen, and the act of fertilization kills the drone. Though each hive produces several hundred drones, queens on their mating flights may only mate with 10-50. Any drones remaining in the hive in the fall will be kicked out; it's a harsh reality that they are no longer needed, and their presence will make it more difficult for the colony to survive through the winter.

Female worker bees perform all the other tasks necessary for the colony. They take on a series of jobs throughout the summer season. A worker bee's first duty is housekeeping: cleaning cells and preparing them for new eggs or nectar, and removing the bodies of bees that have died in the hive, as well as unhealthy brood. They also generate wax to cap cells in which eggs have been placed. Nurse



bees care for the developing larvae, checking on them as many as 1,200 times a day. Over the eight days before they hatch, the young need to be fed about 10,000 times. Queen attendants groom and feed the queen; in the process they spread the queen's pheromone scent throughout the hive, a signal to the other bees that the hive still has a viable queen.

Other workers deliver water, fan the hive to keep it at the right temperature, mix pollen with water and pack it into cells for feeding the brood, construct more honeycomb when needed, deposit nectar into cells to become honey, fan the honey to the right moisture content and then cap it, make repairs in the hive, and guard the entrance from unwelcome intruders. The most senior responsibility of the worker bee is to forage within a five-mile radius gathering pollen, nectar, and resinous material for use in the hive. Bees who are about to die generally leave the hive; this means other bees will not need to remove their bodies.

Worker bees born in the spring work incessantly and live about six weeks. In contrast, worker bees born in the fall live for six to eight months; these workers, larger than the spring bees, keep the queen warm through the winter. To do this, they cluster around the queen, cycling continually from the outer layer of the cluster to the inner part,

vibrating to raise the temperature. The bees depend on stored honey for energy during the winter; even when honey is available, if the bees cannot reach it without leaving the cluster, they will die.

The work of bees requires the ability to learn and to convey vital information or requests to each other. Foraging bees going out for the first time hover over the hive memorizing its markings and safe landing spots so they can find it on their return. Bees can sense and remember the scent of flowers as a clue to locating them again.

When German scientist Karl von Frisch published *The Dancing Bees* in 1927, his theories about the meaning of bees' dances was dismissed by other scientists, but in 1973, he received the Nobel Prize for his "pioneering work in communication between insects." Foragers who have found a food source come back to the hive and perform a round dance if the food is close, or a waggle dance if it is further away. The waggle dance indicates what direction (in relation to the current position of the sun) and what distance others should fly to find the food. Additional dances encourage workers to join the foraging for a particularly rich source, or to help with the processing of nectar when a large quantity is arriving at the hive.



There is one Queen bee per colony. She mates with 12-18 drones and can lay up to 2,000 eggs a day. Drones only job is to mate with the queen: the mating process kills the drone. Worker bees care for eggs, feed larvae, attend to the queen, clean and guard the hive and forage for nectar. They also process the nectar and build comb.

A Honeybee produces 1/8 teaspoon of honey in its life and a hive can make 60 lbs of honey per season.

Queens produce chemicals to give orders to the other bees about what they should do. When hives become crowded, the queen can decide to “swarm,” taking about half the colony with her to find a new place to build a home. As the main group rests on shrubs or trees, scout bees fly ahead looking for a good spot to settle, and return to indicate the potential new location with yet another dance.

Bees form a remarkably sophisticated community, and have inspired many writers and philosophers with their industry and social complexity. The Irish scholar Jonathan Swift writes this comment from a bee’s perspective: “Instead of dirt and poison, we have chosen to fill our hives with honey and wax, thus furnishing mankind with the two noblest of things, which are sweetness and light.” Lord Baden Powell, English aristocrat who founded the Boy Scouts, offered somewhat more dubious praise for bees, suggesting that “they are quite a model community, for they respect their Queen and kill their unemployed.”

### ***Bees and Humans***

In the interaction of humans with bees, people have had a steep learning curve. Primitive honey gatherers looked for trees where honey bees had constructed a colony, and scooped out some of the comb and honey into a container,

probably getting stung in the process. Eventually, people began to devise means of having bees produce honey in a convenient place. One early method of keeping bees was simply to cut the tree down and re-house the bees. People created bee shelters by cutting a portion of a hollow log, called a bee gum, and putting a lid on top of it; by fashioning



**Beekeeper, Jeff McIntyre, inspecting a movable frame at one of his hives.**



**Jacob Taylor, Bearded Bee Company, inspecting some of his hives.**

*Photo courtesy Bearded Bee Company*

a skep out of woven straw, often with sticks inside to support the comb; or by building a wooden box. The drawback to these methods was that the bees attached the comb to the sides and roof, making it difficult to remove the honey without destroying the colony.

Two innovations combined to greatly improve beekeeping: the invention of the movable frame and the discovery of “bee space.” Columela, a first century Spanish soldier designed an early system of moveable frame that allowed beekeepers to insert and remove frames for bees to fill with honey. In 1649, the Reverend Bill Mew, inspired by Greek hives that he had seen on his travels, constructed a forerunner of the modern hive, complete with multi-level honey holding boxes. At the end of the next century, Francois Huber, a blind Swiss naturalist and beekeeper, designed special bee hives where others could see and describe to him how the bees built comb. This led to a fuller understanding of bee space, which has determined how moveable frames should be positioned. Bee space refers to the amount of open area bees naturally leave between comb.

It is enough space for them to work, but neither big enough that they overflow it with comb nor small enough that they feel it needs to be sealed shut.

L.L. Langstroth, in 1851, combined these ideas into the beehive design still commonly used in North America. His 1853 book, *The Hive and the Honey Bee*, is a foundational explanation of modern bee management.

Two types of equipment that have proved very helpful are the extractor, invented in 1865 by Czech beekeeper Francois Hruschka, and machines that aid with removing wax caps from the honey cells before extraction, a job that is done in its most basic form by hand with knives warmed in hot water.

Even before widespread adoption of the modern beehive design and other conveniences, great strides were being made in keeping bees on a commercial scale. Petro Prokopovich, an early 19th century Ukrainian, kept 10,000 hives, the first truly large-scale operation in the world, and Moses Quinby, with 1,200 colonies in the

1830s, was the first commercial honey producer in North America. His book *Mysteries of Bee-Keeping Explained*, provided a template for developing a beekeeping business, but Quinby is perhaps better known for inventing the modern bee smoker forty years later.

At about the same time that Quinby was running his commercial operation, Charles Dadant emigrated to the United States from France. Starting with very little, he managed to work his way to nine hives, and later to thousands. He also founded a bee supply factory, and wrote and published books about apiculture. Now over 150 years old, the company still updates and publishes Langstroth’s book, and has published *American Bee Journal* from 1869 to the present.

In 1854, J.S. Harbison, a Pennsylvania beekeeper, headed to California in search of gold, but ended up dealing in liquid gold. He brought in bees from the east, and went into business, producing the world’s largest crop of honey. Harbison shipped train car loads of comb honey from California to Chicago and New York. On the other side



of the equator and a hundred years later, Australian Rob Smith set a world record in 1954 by harvesting an astounding average of 762 pounds of honey from each of 460 hives. Jim Powers operated 30,000 hives in Idaho, the Dakotas, Hawaii, Florida, and Texas during the 1960s through the 1980s. This was the largest honey farm in the United States at the time.

### **Health Benefits**

In Vietnam, Le Quy Quynh (1923-2012) spent fifty years as a beekeeper. One of his major accomplishments was to help expand commercial beekeeping in his country from several thousand colonies to over a million. Simultaneously, as a physician, Le Quy Quynh, also researched medical treatment using bees and bee products.

Bees can produce royal jelly, wax, and honey. They can convert pollen into a nutritious food called bee bread, and plant resins into a sticky substance called propolis. These products, which are made up of hundreds of natural ingredients, have long been known to have medicinal benefits. Hippocrates, the physician for whom the Hippocratic Oath is named, recommended these remedies: “Honey and pollen cause warmth, clean sores and ulcers, soften hard ulcers of lips, heal carbuncles and running sores.” Ancient Greeks and Assyrians applied propolis to wounds and tumors. Traditional cultures have used bee products to treat ailments as varied as gastrointestinal disorders and eye infections.

Interest in the health benefits of all bee products continues to be widespread. Vermont doctor D.C. Jarvis’s book “Folk Medicine” made honey so popular in the 1970s that honey prices more than doubled. He particularly encouraged readers to drink two teaspoons of honey mixed with two teaspoons of apple cider vinegar in a little warm water every day, and many beekeepers still adhere to this practice.

Not everyone can tolerate bee products; before use, people need to be tested for sensitivity; these possible allergens should not be ingested by babies, or by pregnant or nursing women. However, when used appropriately, bee products are not only nutritious food, they also have many helpful properties; there are promising indications that bee products may aid people who are dealing with high blood pressure, heart disease, diabetes, cancer, fungal infections, herpes outbreaks, infertility, dementia, skin problems, colds, and many other maladies.



**A jar of honey comb used for educational purposes. The jars are placed on a colony of bees empty, the bees go into the jars and attach the comb to the inside of the jar, as they would in a natural cavity, such as a tree.**

Bees also produce venom, which, though not a food, has its own therapeutic uses. Known as apitherapy, treatment with bee venom has been developed from ancient times in China. Vermont doctor Dr. Charles Mraz and others have brought this practice to the Western world and carried it forward. Venom can be administered through live bee stings at strategic “trigger points” similar to acupuncture sites, and it can be collected without harming the bee and incorporated into balms and ointments. Bee venom’s use as treatment for arthritis, multiple sclerosis, Parkinson’s Disease, Lou Gehrig’s Disease, Lyme Disease, and other ailments continues to be researched.

### **Modern Beekeeping and Hive Problems**

Another area of great progress is in the breeding of bees. A single fossilized honey bee found in Nevada proves that there were honey bees in North America 14 million years ago, but they have long been extinct. Modern honey bees were first introduced in 1622 by European colonists. Today the bees found in the United States include Italian, German, Russian, Carniolan, Caucasian, and Buckfast. Buckfast bees were developed by Brother Adam, a monk at Buckfast Abbey



**Louis Capezuto, Honey Hole Apiary, holding a frame of capped honey.**

in England. When most of the monastery's existing bees died in 1916, he searched in countries around the Mediterranean for sturdy bees to import and breed. He and other beekeepers have carefully observed and recorded the characteristics each bee exhibits. Are they hardy in cold weather? Do they produce a lot of honey? Are they prone to swarming? Do they reproduce well? Are they aggressive? These and other factors have to be considered when choosing what stock to use.

Modern beekeepers benefit from all the acquired knowledge of this long tradition, but beekeeping has changed dramatically in the past few decades. Many beekeepers in the mountains of Pennsylvania, West Virginia, and Maryland remember their grandparents keeping bees on their small family farms. In those days, farmers simply put the hives out and took honey later. The way beekeeping used to be is a nostalgic memory now. Pests, diseases, habitat loss, chemicals, and unpredictable weather present difficult and sometimes deadly challenges.

The most significant of the pests are varroa mites, which entered the United States in the mid-1980s. The tiny red

or brown mites attach to the abdomen of bees and feed on the bees' internal organs; lay their eggs in uncapped brood cells, thus damaging the next generation of bees; and bring diseases to the colony. Essentially all beehives now have mites, and most beekeepers maintain a regimen of mite counts to know when treatment is necessary.

In addition to treatment, other efforts are being made to find a solution to varroa mites. For instance, breeding programs are focused on producing bees that are super groomers, called hygienic bees. Pennsylvania beekeeper Bernie Svidergol and others work with scientists in artificial insemination of bees (done under a microscope and requiring special training and equipment) and breeding of queens that will produce particularly hygienic bees. Another effort is to breed bees that will attack the mites. Commonly called ankle biters, they are properly referred to as mite biters. Another type of mite, the tracheal mite, used to be a bigger issue than they are today. Bees have apparently developed some resistance to tracheal mites;



**Jacob Taylor winterizing some hives at Bearded Bee Company. The electric fencing is to help repel bears from getting to the hives.** *Photo courtesy Bearded Bee Company*

perhaps something similar will happen with regard to varroa mites.

Numerous other pests still bedevil bees. Wax moths, mice, and hive beetles are a few examples. Wax moths were the most troublesome pest prior to the advent of varroa mites. They damage the comb and lay eggs in the hive. Mice also are destructive, and if they die in the hive, their bodies are too large for the tidy bees to remove. Beekeeper Edwin Summy describes one way bees deal with this problem; they completely enclose the mouse body in a layer of propolis.

While moths, mice, and mites have been a nuisance in local bee yards for years, the hive beetle has only appeared recently in the colder mountain areas. At a recent meeting of the Appalachian Beekeepers Association in Oakland, Maryland, discussion arose about how to deal with hive beetles. One suggestion was to use dryer fabric softener strips that trap the beetles but don't bother the bees.

The largest pest, rare elsewhere but common in this area, is the bear. Nearly every mountain beekeeper has found hives smashed to bits at least once. Contrary to the popular understanding that bears love honey, the real object of the bears' appetite is the brood housed inside the hive. The most common defense against bears is four-strand electric fencing, but occasionally bears will go through electric fencing to get to the tempting bee brood. Because bears can cause so much damage to hives, the State of Maryland legislature has recently approved legislation that allows beekeepers to shoot bears if electric fencing has been installed and the Department of Natural Resources has been contacted. Maryland law also provides funds for electric fencing and a mechanism to apply for reimbursement when hives are damaged.

Another threat to bees comes from changes in agriculture in the last sixty years. Larger tracts of land are dedicated to single crops or large herds of livestock. This leaves less of the wildflowers, trees, and other vegetation that used to grow at the edge of fields, providing forage for bees. Beekeeper Brian Umstead, who "chases the bloom" as warmer



**A frame of bees going about their various tasks, making and filling the honeycomb.**

temperatures occur at different elevations and on different sides of slopes, says it has become more difficult to find suitable locations for his hives.

Another feature of modern agriculture has been widespread use of herbicides such as glyphosate, fungicides such as chlorothalonil, and pesticides such as neonicotinoids (called neonics). Beekeepers are wary of placing bees near crops that are being treated with chemicals because bees are unavoidably exposed to these chemicals as they gather nectar, pollen, and water. Many chemicals are immediately toxic to the bees; some can have complicated impacts that unfold over time. Bees may be so confused that they cannot continue their usual work in the hive; contamination of nectar, pollen, and water can lead to feeding the brood with substances that damage them; the presence of some chemicals can make treatments for mites ineffective; and chemicals weaken honey bees, making them more susceptible to parasites and disease.

Unusual weather has resulted in far greater than usual losses in the last few years; many local beekeepers have reported from half to all of their colonies failing to survive the winter. One factor mentioned frequently is rain, which washes pollen off the flowers and makes it impossible for bees to find adequate nourishment. The extremely wet 2018 summer season in Cumberland, Maryland, and the

surrounding area led to serious losses in bee yards.

Another factor is dramatic swings in temperature. As beekeepers wistfully observe, a gradual lowering of temperature to winter and a gradual warming to spring would be ideal—but this isn't what has been happening. Irregular bloom times, reduced pollen availability, and other consequences of erratic weather have taken a toll on bee colonies in the region.

Honey bees are part of a larger trend. The past few decades have seen unprecedented losses in the insect population globally. Scientists estimate that forty percent or more of all insects could become extinct in the next few decades.

One of the immediate problems this causes is that many plants rely on insects (along with bats and birds) for pollination. In some cases, insect pollination is essential, and in some cases it serves to increase crop yield. Most experts agree that insects pollinate roughly a third of our food. Honey bees have a specific role; worldwide, they pollinate about a thousand plants grown for food, spices, beverages, medicines, and fibers. The American Beekeeping Federation notes that some food crops, including blueberries and cherries, are “90-percent dependent” on honey



bees for pollination; one crop grown in this country, almonds, is pollinated only by honey bees.

In recent decades, a completely different problem has arisen around honey itself. Some unscrupulous manufacturers are flooding global markets with honey that is either stripped of its pollen (making it impossible to identify the honey's origin), partly composed of corn or other syrups, or contaminated with substances such as strong antibiotics not approved for use in hives. This adulterated honey does not deliver the nutrition or health benefits of honey, and it presents unfair competition to the products of honest beekeepers.

Concern about the threat to honey bees and their products has led to increased efforts to help honey bees thrive. Universities, agricultural extension offices, clubs, organizations, and individuals conduct research on best practices, provide education on how to properly care for bees, breed stronger and better bees, develop helpful equipment and supplies, and raise public awareness of ways that everyone can help support honey bees. Beekeepers are the foot soldiers of this campaign. Many belong to one or more associations and meet monthly to exchange information and tips with other beekeepers, and they continue to replace the bees that are lost each year.

**Honey Hole Apiary honey extracting equipment (left) and bottling tanks (right), used for filling jars of honey. Tubing runs from the extractors directly to the bottling tanks.**

Edwin Summy of Grantsville says he began intending to make a profit, and he has. Louis Capezuto of Clear Spring has also operated a successful bee-centered business for the past fifteen years. Beekeepers can and do sell honey and other products such as candles, skin lotion, and food wraps. They can also sell the pollination services of their bees; some beekeepers even send bees as far away as California and Florida for almond and citrus growers. Some beekeepers breed queens and assemble “nucs” or “packages” of bees to sell to other beekeepers. Others sell equipment and supplies. They may charge for collecting swarms or colonies that have set up housekeeping in inconvenient places.

Nevertheless, most people don't make much money as beekeepers. Often they consider themselves lucky to break even. Basic equipment and supplies involve a substantial expenditure, and there are many optional pieces of equipment that provide advanced function, such as hive temperature and humidity gauges that can be read remotely. Beekeeper Chip Lee ruefully admits to being “easily seduced by gadgets.” Bees and queens can also be costly. Ed and Audrey McCreary sell comb honey; for every box they sell for \$7, they spend \$5 on supplies, and this makes no allowance for labor or other costs.



**Jacob Taylor getting up close with a few of his friends.**  
 Photo courtesy Bearded Bee Company

### ***Why do beekeepers keep bees, then?***

Some people come to this pursuit in unusual ways—Scarlett Johansson was given a hive as a wedding gift, and one local beekeeper began keeping bees because she was afraid of them and decided she needed to face her phobia—but usually the reasons fall into several categories.

For many, there is a desire to preserve bees because of their importance to plant life. Truman Kahl of Accident, Md., doesn't even like honey, but he knows how vital bees are to agriculture. Alex Taylor, who is allergic to bees, began beekeeping in an effort to rejuvenate the formerly wooded slopes around his home that had been devastated by gypsy moths. Many people have mentioned their gardening as an impetus to start keeping bees.

Some beekeepers see health benefits in working with bees. Louis Capezuto had bothersome allergies and when someone gave him some local honey, his allergies improved noticeably. People who have skin problems find the creams and lotions made with bees wax very effective. The Baker Creek Heirloom Seeds catalogue tells an interesting story

about fish peppers, one of their offerings that would have been lost if not for Horace Pippin, an African American folk painter who lost the use of his right arm after being shot in World War I. This injury left him with arthritic pain, and to find relief, he bartered seeds with a beekeeper in order to have access to bee sting therapy. Bernie Svidergol has severe rheumatoid arthritis, and feels that bee stings are good therapy. He and other beekeepers view the potential for therapeutic use of bee products as vast.

Honey is seen by most beekeepers as not only nutritious, but also delicious. Beekeepers describe the various flavors of honey made from different blooms. Locust trees make a light, mild honey. Brian Umstead says that goldenrod honey is like butterscotch. Bernie Svidergol compares buckwheat honey to molasses. Honey is wonderful to eat, and it makes a tasty sweetener for many recipes. Former baker and long-time beekeeper Jeff McIntyre supplied this recipe made with honey:

#### **Potato Bread or Rolls**

2 cakes of yeast or 3 packages of dry yeast  
 7½ cups flour  
 2 cups of scalded milk  
 1 tsp salt  
 ½ cup of mixed sugar and honey  
 2 eggs  
 ¼-½ cup shortening  
 1 small cooked potato (sieved through a strainer)  
 and 2 cups of the water it was cooked in

Cook the potato and shred, rice, or mash it. Bring the milk just to boiling; add shortening. Let water from potato and milk cool to between 50 and 90 degrees (warm but not hot). Add yeast and sugar/honey and let yeast work. Meanwhile, mix the dry ingredients and make a well in the center. Add yeast mixture and eggs and mix well.

Knead on floured board and put into greased bowl, turning to grease top. Let rise until double, covered, in a warm place. Punch dough down, shape it into loaves or rolls in baking pans, and let it rise again.

Bake at 350°, about half an hour or until done.

Makes 3 to 4 loaves. Recipe can easily be halved.

A motivation that many beekeepers express in one way or another is the pleasure they take in this natural, never-boring endeavor. Hop Cassidy points out that nature has a way of compensating for problems; even the special challenges in the mountains (short summers, cold winters, bears, etc.) are offset by the longer honey flow here due to all the wild plants in the environment. Beekeeping follows the rhythm of the seasons. An old adage quoted at a beekeeper's association identifies what a difference a month makes:

***A swarm in May  
is worth a load of hay***

***A swarm in June  
is worth a silver spoon***

***A swarm in July  
isn't worth a fly***

Despite the regular progression of the seasons, beekeeping demands some agility. No matter how much you think you know, bees will surprise you by doing something unexpected, and there is always more to learn. In fact, bees and bee colonies are endlessly fascinating to beekeepers. Many beekeepers describe going out to the bee yard just to watch the bees at work.

For many, there is a profound sense of being in relationship with the bees. One beekeeper tells this story about his first experience with bees. The beekeeper that was showing him the bees was calm and the bees remained calm. Suddenly a man in a neighboring yard yelled at him to be careful around the vicious bees, and the bees immediately flew over and stung the man who had issued the warning. Louis Capezuto says that when he began beekeeping, he let the bees teach him. At this point, he can look at a couple of brood frames and learn all he needs to know about the health of the colony because he has learned the language of the bees.



**A swarm of honey bees — when a hive becomes crowded, the queen can decide to “swarm,” taking about half the colony to build a new home.**

*Photo courtesy Bearded Bee Company*

Beekeepers can tell from the sounds and scents of the hive what mood the bees are in. Beekeepers recognize from sound if bees are contented or having a problem such as a missing queen. Chip Lee warns that if you smell bananas, you should find something else to do that day—the bees want to be left alone. A hive dripping with honey at the height of the goldenrod season smells like dirty socks. A harmoniously working colony, he says, has the aroma of wood, honey, beeswax, and bees—an ethereal, lovely scent. Lee, an Episcopal priest, draws on the biblical understanding of covenant in explaining how he feels about bees and beekeepers. Both sides have duties and obligations in the partnership. He quotes George Imrie, a “legendary” Maryland beekeeper and mentor, who said that there are bee “havers” and bee

“keepers.” Today, it is nearly impossible to have bees without making the commitment to keep them.

When beekeepers talk about their early experience, they usually list a series of setbacks. All their bees died the first winter. Bears destroyed their hives. Mites or disease weakened a colony to the point that it couldn't survive. Their bees “swarmed” and were lost. Some beekeepers who start with the best of intentions realize beekeeping is too challenging for them, but those who keep going are the people who love it in ways they find difficult to express. Edwin Summy says that he “enjoys everything about bees and beekeeping.” When asked if he plans to continue, his reply is an emphatic, “Absolutely!”

It takes optimism, persistence, and deep appreciation for bees to withstand the bad years and keep working to



**Insulating the hives aids the bees in surviving the harsh winters in our area.**

**Jacob Taylor uses a smoker to help decrease the alarm pheromones of the bees so he can perform a hive inspection.**

*Photos courtesy Bearded Bee Company*

improve your practice. The meetings of bee associations reassure us about the future of honey bees. There are young people there who are drawn to beekeeping just as the elders in the room were years ago. Requests come in from schools, 4H clubs, and community colleges for beekeeping classes. Both men and women are eager to learn and eager to pass on the knowledge to others.

The next time that you spread honey on a warm biscuit, eat some almonds, or light a beeswax candle, think of the thousands of bees who gave their short energetic lives to the production of honey and wax, and the pollination of plants such as almond trees. Remember that much of your food is possible only because pollinators helped it grow. If you want to make life a little easier for these dynamic heroes of the insect world, do what you can to encourage

more green spaces, planted with blooming plants that will attract and feed pollinators. Buy genuine honey from the people who harvest it. Use honey made locally for the best health effects. Refrain from using chemicals that are harmful to pollinators. If you find a swarm or suspect you have bees in a building, call for professional help.\* And say thanks to the beekeepers you meet.

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**Note from the author:** *To all the beekeepers and groups who spent time talking about, explaining, and demonstrating various aspects of apiculture, thank you for teaching me so much about bees and beekeeping.*



**Bee hives can come in unusual shapes and sizes—when a Coca-Cola cooler quit working, Louis Capezuto repurposed it into a working beehive at his Honey Hole Apiary business.**



### Allegheny Mountain Beekeepers Association

#### Appalachian Beekeepers Association

Louis Capezuto, *Honey Hole Apiary*

Hop Cassidy

Truman Kahl, *The Bee Shack*

Roland Kee

Chip Lee, *Country Parson Honey*

Don McCombs

Audrey McCreary

Jeff McIntyre

Edwin Summy, *Sugar Hollow Farms*

Bernie Svidergol, *Yellow Bear Apiary*

Alex, Lori, and Jacob Taylor, *Bearded Bee Company*

Brian Umstead, *Ridge Top Garden and Apiary*

Allegheny Mountain Beekeepers Association meets at 7 pm on the second Friday of every month at the LaVale Library, 815 National Highway, LaVale, Maryland 21502.

<https://www.alleghenymountainbeekeepers.com>

Appalachian Beekeepers Association meets at 7 pm on the third Friday of every month except December, at the University of Maryland Extension Office, 1916 Maryland Highway, Suite A, Mountain Lake Park, Maryland 21550. <https://extension.umd.edu/garrett-county/appalachian-beekeepers-association>

Two C's and a Bee Beekeepers Association meets monthly from March through December in various locations, usually on Sundays. Check the meetings schedule and locations at <http://www.ccbee.org/meetings.htm>.

\*In the area around Cumberland, Maryland, call Lew Smith 814-979-0699 or Ben Cooper 814-324-4550. Or look online for local beekeepers who offer help with swarms or "structural collection." A resource for those in or near Maryland is this webpage: <https://www.mdbeekeepers.org/swarms/>

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