Beekeeping manual pdf

The bee has always had a special place in the human psyche. Young children learn the origins of babies with stories about the birds and the bees, while their industry is so respected that someone involved in intense activity is as busy as a bee. Spelling bees and quilting bees are so named because a meeting of people working together resembles the scenes of a beehive. Closely guarded information is none of your beeswax, and flappers of the 1920s popularized the bee's knees to express the coolness of an object or activity. We've seen girls with bi-stung lips, and refer to annoyed people as having a bee in their bonnet. And who hasn't made a beeline for a special object? As far as we know, the bees have been around for about 125 million years. They are descendants of wasps, most of whom are predatory predators. Bees, however, switched from hunting prey to collecting pollen to food - a nice adaptation as the food didn't fight back. Scientists have since classified nearly 20,000 species of bees, and they are found on all continents except Antarctica. They are the most effective pollinators in nature, a critical factor in the appearance of the world as we know it. Honeybee, a European transplant While most bees pollinate flowers – the bumblebee, for example, is particularly important in pollinating tomatoes and greenhouse-farmed crops – the Western honeybee is the bee that people are most likely to mention when asked about the identity of the largest pollinator. The honeybee originated in Asia, travelled to Europe and was introduced to North America in the early 1600-1600s. Italian bees were brought to this country from Italy in 1859, and later from Spain, Portugal and elsewhere. In 1990, a subspecies from Africa came to the Americas. Western honeybees live in colonies of up to 80,000 bees with a queen bee, a small proportion of drones (male bees) whose sole purpose is to fertilize a new queen, and thousands and thousands of working bees, most of which live about three months. On average, about 1% of working bees die every day, so a hive is newly populated every three to four months. Fortunately, the queen bees are exceptionally productive, adding up to 2,000 to 2,500 eggs a day. Honey bees digest flower nectar and pollen, which are converted into honey by their digestive system and subsequently serve as a food source for the bees during the non-growing seasons. As a result of selective breeding over the centuries, honey bees produce much more honey than they consume. The amount of honey produced by a beehive varies considerably according to region and weather conditions, as the bees also consume honey for food. An average production can be 40 to 100 pounds per hive per year, but there are no guarantees as conditions per beehive can vary considerably. According to the National Honey Board, 147 million pounds of honey was produced in 2012, with a retail value of $286.9 million. Beekeepers in North and South Dakota produce almost of the total amount of commercial honey in the country. On the other hand, Americans consume more than 400 million pounds of honey annually, resulting in a large amount of imports. Domestic use and commercial use is about 50/50. In addition to honey, honeybees also produce several other widely used products: Beeswax: Used for the production of candles and seals. Propolis: Used by bees as sealant in the hives, but assembled and sold for wood finishes and other uses. Concentrated propolis has many purported health benefits and is widely available from nutritional supplement retailers like Supersmart. Royal Jelly: Produced by worker bees and fed by car heirlor. It is sometimes marketed as a health food, but can cause severe allergies. The importance of bees in life as we know it More than 100 agricultural crops are pollinated by bees, ranging from watermelons to apples. The U.S. Department of Agriculture has estimated that 80% of insect pollination is carried out by the Western Honeybee, mainly because they are the only species that can be easily handled and moved around, and can utilize a wide range of crops. In Arizona alone, honeybees are responsible for nearly $7 billion of agricultural crops, according to the University of Arizona's Africanized Honey Bee Education Project. And the California almond industry, which employs 800,000 acres and produces 80% of the world's production of almonds, is entirely dependent on honeybees, according to Western Farm Press. Every February, about one million hives are trucked in California to supplement the 500,000 hives of Californian beekeepers needed to pollinate the crop worth about $4 billion each year. The importance of bees in the cycle of life has been noted over the centuries. Especially Charles Darwin proclaimed, the life of man would be made extremely difficult if the bee disappeared. Albert Einstein is often attributed with the quote, If the bee disappears from the surface of the earth, man would not have more than four years to live. According to Elizabeth Grossman, writing in Yale Environment 360, One of every three bites of food eaten worldwide depends on pollinators, especially bees, for a successful harvest. Maria Boland, writing in a 2010 article for the Mother Nature Network, was more succinct: Essentially, if honeybees disappear, they could take most of our insect pollinated plants with them, potentially reducing humanity to little more than a water diet. A frightening thought if extinction is possible - but is it realistic? Are honeybees dying? According to the USDA, beekeepers began reporting losses of 30 to 90% of their hives in 2006. While a certain number of hives are lost each year, the extent of recent losses is unusual. Even before recent losses, the honeybee population has been in a long-term decline, from an estimated 5 million hives in the 1940s to about 2.5 million today. At the same time, the agricultural industry's demand for hives Increase. The unusual loss, commonly referred to as colony collapse disorder (CCD), has been studied for years without yet being able to identify a single cause. According to a 2006 National Academy of Sciences report, the population of wild bees and other natural pollinators has also declined in recent years, although there is a lack of sufficient data to make definitive

statements. Despite efforts to connect the population falls to a single cause, most researchers believe it is the result of a combination of five main factors: Pathogens. While no single virus or bacteria have been directly correlated with CCD, higher totals of pathogens have been found in collapsed colonies. Parasites. Varroa mites only reproduce in a honeybee colony and weaken the bee by spreading the RNA virus on the merging pupae. Miticides have been used for control, but about 5% of mites develop immunity, eliminating its effectiveness on future generations. Management stressors. Hives are often transported across the country to pollinate large food crops and are in the immediate vicinity, causing overcrowding. This underlines the bees and makes them more vulnerable to disease. environmental stressors. Increased urbanization reduces sources of pollen and nectar, and large crops of a single black border diversity and provide lower nutritional value. In addition, limited access to water or contaminated water contributes to CCD. Neonicotinoid pesticides are thought to be a factor, but there is disagreement as to whether research supports this. Many researchers have concluded that a single cause of CCD is unlikely, but is more likely the result of a perfect storm in which all the factors play a role. Some observers believe that the war of extermination is exaggerated and note their economic value to agriculture in general. They suggest that domestic honeybees in particular will be saved through genetic modification and greater dependence on human-supplied sugars to replace pollen and nectar in order to ensure a sufficient number of bees for commercial pollination. However, such measures will not save wild bees or unmanaged honeybee hives from continued threats to survival. Rise of Urban Beekeepers Urban beekeeping was banned in many cities after World War II, as municipalities tried to distance themselves from their agricultural past. Another wave of restrictions followed the publication of killer bee invasions from South America and sinister tales of people and animals being hunted and stabbed to death by simply being close to a beehive. But as fear began to subside with reality, beekeeping began to emerge in cities of all sizes. Beginning in the late 1990s, the popularity of natural foods and a desire to return to simpler, more agricultural times led to the increasing presence of hives in urban areas. Beehives on rooftops, balconies and gardens in all five new boroughs City began to appear in 2010, following the lifting of the ban on According to the founding director of the New York City Beekeepers Association Andrew Coté, quoted on CNN blog Eatocracy, beekeeping in the city has had exponential growth. Other major cities that already allow hives within their borders include Chicago, Denver, Salt Lake City, San Francisco, Seattle, Atlanta, Washington, D.C., and Dallas. Los Angeles and other communities are currently studying laws and deciding whether to allow beekeeping in their communities. According to Kim Flottum, editor of Bee Culture magazine, there were an estimated 125,000 amateur apiarists (beekeepers) nationwide in 2011, a population that has grown significantly in recent years. Getting started While many more municipilaties allow beekeeping, experienced beekeepers note that in those who have restrictions banning beekeeping, the laws are rarely enforced unless a complaint is received. For this reason, they suggest maintaining hives out of place and surrounded by six-foot fences or nearby shrubbery. Veteran beekeepers are often willing to help novices get started, liberally sharing their time and knowledge through local beekeeping associations. Your first step should be to find an association near your residence and contact one of the local beekeepers. Many associations run regular classes on beekeeping, and it's a great place to find other enthusiasts. The time to start new colonies is between January and May, depending on the season in which you live. If you start too early, the bees will not be able to find food and keep warm; If you start too late, they lose the opportunity to make honey and miss the first wave of nectar. You should also keep it simple, following basic beekeeping methods without experimentation. You will have enough time for that when you gain experience and confidence. Use the following plan to start your first colonies. 1. Identify the location of your hives before ordering A typical beehive feed more than 8,000 square meters, depending on the availability of flowering plants. It is not necessary to find your hives adjacent to a garden, but a constant supply of clean water is essential. In addition, you should avoid places next to trails or other areas where people are likely to gather or walk. It is generally a good idea to keep hives out of sight to avoid problems with neighbours. 2. Limit initial purchases Start simply and learn the basics with the following essentials, all of which are available from many vendors over the Internet: Hives. Commercially produced hives replicate the conditions found in natural hives, but facilitate the management of bees and honey harvests. There are a number of configurations ($80 to $160) available depending on the number of frames and building materials, but all consist of at least one runway/board for bees to land and enter the hive, a bottom table, a brood box for the queen to lay eggs, boxes where honey is stored (called supers), frames for and an outer cover. Many beekeepers recommend placing the hives on support above ground to minimize moisture (which causes rot) and invasion of mice. Bees. Most experts recommend Italian bees for beginners, although some suggest Russians or Carniolans. All three varieties are known for their gentleness, production and easy management. Bees can be purchased online or from local bee farms. Some vendors require you to pick up bees, rather than have them shipped, so you should check with potential sellers about their restrictions. While bees can be bought in packs of 9,000 to 20,000 bees with the Queen Bee in her own pack ($110 to $140), start beekeepers should buy a starter hive called a nuc hive ($180 to $210), consisting of four or five frames of bees and a queen. Buying a nuk ensures that the bees are related to the Queen and already work as a beehive. Smoking. Bees are evolutionaryly trained to predict a wildfire and the destruction of the hive when they smell smoke. Anticipating escape, they instinctively enter the hive and start consuming as much honey as possible for energy to escape and find a new nest. Smoke also interferes with natural chemical communication between bees, causing confusion and slower reactions. When a smoker ($30 to $45) - a simple cylinder with bellows attached - is directed into the hive, the bees become occupied, allowing you pretty much alone to do some necessary work, such as cleaning the hive or harvesting honey. Protective equipment. For most beekeeping activities, a simple veil and hat ($35 to $45) is what most users use to keep bees out of their hair. Some wear a light jacket with a veil ($54 to $60). Beginner beekeepers often use a full bee suit ($75 to $90) and gloves ($18 to $25) until they get used to working with bees, especially if the weather isn't right or the bees feel feisty. You should wear what makes you comfortable so you enjoy working with the bees. Usually, as you gain experience, you will start wearing less protective equipment. Some companies offer a complete beginner kit, complete with a beehive, protective gear, smoker, tools, and a beginner DVD with instruction book at prices starting around $220. Purchased separately, these items would cost approximately $300 to $400. 3. Consider two colonies, but no more at the beginning Many beekeepers recommend starting with two colonies, rather than one, since you can compare one to the other and help the weaker by transferring bees and brood from healthier hives if needed. As time goes on, many budding beekeepers add more hives, often expanding throughout the neighborhood to plant new colonies. 4. Plan on spending at least half an hour a week Beekeeping This allows you to keep up the health of the hive and correct any problems. Bees generally take care of themselves, so you probably won't spend more than 30 to 40 hours a year looking out for them if you've done a good job Hives. Africanized Bees africanized bees have invaded the lower parts of the United States in recent years. While smaller than the Western honeybee, they are far more aggressive and can pursue a perceived attacker for a quarter-mile or more. They often breed in the soil and tend to swarm more often than the honeybee. Also, they are not as effective honey makers as the Western honey bee. Beekeepers should especially note when a hive becomes unusually defensive, replacing the Queen with a known European variety as soon as possible. There are additional steps to take if your hive appears to be overcome with an aggressive strain of the African variety: Use plastic-coated carnations instead of leather. Bees adhere to leather, and embedded stingers emit alarm chemicals that further excite bees. Wear white veils and clothes instead of dark colors, as africanized bees are attracted to darkness. Smoke billows harder than usual to keep the bees calm. Many communities banned commercial beekeeping in their fear of africanized bees. But high densities of Western honeybees are the best defense against invasion, and beekeepers are the only ones with the knowledge and experience to handle and dilute africanized bees. Finally, the popularity of the honeybee is undeniable - 17 states have designated the bee as their official insect. Honey is in many ways the perfect food. Whether you decide to become an urban beekeeper or not, remember the next time you see that little yellow insect buzzing around your flower bed or sitting on your soda can, our world wouldn't be the same without them. Do you have any further tips for people who want to become beekeepers? Beekeepers?