DOWNLOAD PDF HONEY BEES AND HIVES (HONEY BEES)

Chapter 1 : Honey Bee Zen - From Our Hives To Your Health

Spring is when new and old beekeepers alike start honey bee hives because that's when new bee "packages" normally arrive. These honey bee packages need to be installed in hives (called hiving honey bees) quickly so that the honey bees survive and the queens start laying brood to support the new hives.

Swarm of honey bees on walnut tree limb. Feral beehive with combs. Large numbers of bees swarming in a tree in your garden or around your home can be unnerving, especially if they establish a hive within your house. However, bee swarms and nests can be safely managed if you follow careful procedures and get proper help. The old queen and about half of the worker bees leave their former nest and seek a new home, usually in the spring but sometimes at other times of the year when local conditions permit. A departing swarm consists of a large number of bees flying in a cloud that seems to drift along through the air. The queen is in the group, but not leading it. Usually within to yards of the original hive, the bees alight on an object and form a cluster, which looks like a seething, fuzzy glob of insects. Sometimes bees fly from the cluster to collect water and food, but most workers leaving the cluster are scouts that search out potential new home sites for the swarm. When they return from a good site, they dance on the cluster to communicate the location of their find. A clustered swarm of many bees may appear frightening, but most spring swarm clusters of European honey beesâ€”the common honey bees in central and Northern Californiaâ€”are extremely docile. It takes quite a bit of stimulation, such as being hit by sticks and stones or squirted with a hose, to induce defensive behavior. Honey bees will nest in cavities having a volume of at least 4 gallons but prefer cavities around 9 gallons. Honey bees also prefer dark cavities with an easily defended entrance that is at least 9 feet from the ground. Hollowed-out trees are ideal sites. However, honey bees may nest in all sorts of cavities such as inside walls of houses; in or around chimneys; in outbuildings, fences, shrubs, water meters, utility boxes, barbecue grills, and soffits; or under decks. Then the swarm takes to the air one last time to move to the new home. Once in flight, the swarm is guided by scouts and arrives at the new site. It forms a cluster around the entrance with many bees fanning their wings and releasing a chemical signal to guide the others. Then the bees enter their new home, somewhat slowly. This is what most people notice when they see bees clustered on a section of a building. Inside, the low humming sound of the bees ventilating their nest often can be heard. DAMAGE While they may look frightening, bees that are swarming and carrying honey from their old hive are much less defensive or likely to sting than they would be if they were protecting brood immature bees at the old hive. For information about bee stings, see Pest Notes: Bee and Wasp Stings. Once bees become established, they will begin to build combs for rearing brood and storing food. Although colonies may do no structural harm to the building, occasionally they use water to soften Sheetrock and remove it in order to expand the nesting area. Residents then will notice an enlarging damp area on their wall. In a few cases, the bees actually open a hole through the Sheetrock so that foragers escape into the house, annoying or scaring occupants. Finally, if the colony is killed and not immediately removed, honey will ferment and leak through walls and ceilings, causing damage. However, bees establishing a colony in a home need to be removed. Whenever the bees locate the proper new nesting site, the swarm will fly off to the new location. The bees usually leave a bit of beeswax at their clustering location, so appearances of additional swarms at that same place can be anticipated in the future. If the cluster needs to be removed, call a beekeeper. Experienced beekeepers often remove clusters simply by brushing or shaking the bees gently into a cardboard box and carrying them away. Ideally the box should have an entrance that enables the flying bees to join the already-captured group. Place the box in the shade until nightfall then seal and remove it after dark. The beekeeper should be prepared for defensive behavior by dressing in a bee suit, but dealing with a cluster is usually quite easy. It becomes more difficult, however, when the cluster is hard to reach, such as up in a tall tree, intermeshed with the branches of a shrub, or wedged into the corner of a building. When the bees first arrive, they are short on food and have to build combs from wax they produce from the honey they are carrying. They must continue to go outside to forage for nectar for the colony to survive. If sealed in, they will die in place over the next week or two. However, trapped bees will search around between the walls trying to find a new way out. Some of them are likely to

find their way into the living quarters, especially by following beams of nighttime room lighting. You can safely suck up these bees with a vacuum cleaner hose. Removing Established Colonies from Your Home Extracting honey bees from buildings is considerably more difficult than collecting swarm clusters. When the colony is first established, only a few pounds of adult bees are present, but these bees rapidly build combs, collect honey, and begin to rear more bees. A well-established colony may have up to pounds of honey, many pounds of adult and developing bees, and many beeswax combs. Removing such as nest is a challenge. The first step is to determine the exact location of the combs and size of the colony. Although honey bees can be killed in place inside buildings by using pesticides that are labeled for killing bees inside of structures, this removal option often leads to undesirable consequences. These chemicals are available only to licensed pest control operators. If the adult bees fall into a large pile, they may hold their body moisture and rot in place, producing a very bad odor. Liquid from the decomposing mass frequently penetrates the structure, leading to costly replacements. If the colony is well established, there are further issues associated with killing the colony. Unattended brood can also rot and become very odorous. Unattended honey stores can absorb moisture and ferment, creating gas that causes the cappings holding honey in the cells to burst. Gravity will start moving the honey down attached surfaces until it encounters a horizontal impediment, such as a window frame, doorframe, firebreak, ceiling, or floor. Honey then seeps through the drywall, leading to large amounts of cleanup and expensive replacement. If pesticides were used to kill the bees, then the honey, wax and, dead bees are contaminated and must be handled as hazardous waste. A better procedure than applying insecticides, especially if you have a beekeeper who is willing to help, may be to eliminate the bees without killing them. First the beekeeper will need to locate the nest by tapping the wall and listening for the hum of the colony. Some beekeepers rely on stethoscopes to find the edges of the nest. Others drill extremely small holes in the wall and insert a fine wire to find the periphery of the nest. To take honey bees and their combs from the nesting spot requires opening a fairly large hole in some portion of the building. That is best done by a professional contractor so that the hole can be easily closed after the bees are removed. If the bees are to be saved, the beekeeper gently removes them and their combs. This process tends to stimulate the bees to release an alarm pheromone that smells like bananas and increases defensive behavior, so everyone nearby must be fully clothed in a bee suit. Many beekeepers have baffles and collection containers in their vacuum lines to try to protect and save the bees. Be aware that pest control companies generally will kill the bees before removing them. Preventing Future Invasions Following extraction of honey bee combs from any site, the odor of beeswax remains. Because honey bees have an extremely acute sense of smell, that odor will be noticeable from a long distance and highly attractive to any future honey bee scouts seeking new nesting sites, long after the previous bees have been removed. Therefore, after bees have been removed from a building, all holes large enough to insert a pencil, or larger, that lead to spacious cavities in the building must be sealed. Larger potential entrances can be covered with screen having six or more meshes per inch. Cavities can be filled with expandable foam to make large spaces unsuitable for nesting. The area requiring examination and servicing includes the entire side of the building around the previous entrance or both sides of the building, if the entrance were on a corner. During the extraction process, some bees are likely to escape. Also, some honey bee foragers spend the night away from the hive in the summer, so there is likely to be a cluster of bees forming around the entrance after the bees and combs have been removed. That small number of bees can be vacuumed up or eliminated with an aerosol spray labeled for use on wasps and bees outside the home. Be sure to read the label and follow the instructions exactly. Finding Professionals to Assist with Colony Extractions It is relatively easy to remove a swarm cluster but a lot of work to remove bees in a cavity. This is particularly true in areas colonized by Africanized honey bees, including all Southern California counties. Both contractors and some beekeepers list their services in the Yellow Pages section of the telephone book and on the Web. Those clubs usually have Web sites that list locations, such as the Sacramento Area Beekeepers Association. County agricultural commissioners also have records of beekeepers registered in their counties. Registered apiary locations are confidential, but the names of beekeepers who are experienced in working with the public are often released from county offices. When arranging a bee removal, be sure you have an understanding of what will be done. Will the bees simply be killed in placeâ€”not the best idea, but cheaperâ€”or will the cavity

be opened, cleaned out of bees and combs, filled with insulation, reclosed along with all possible entrances, and refinished? A definitive job includes all of these steps but can become expensive. When it can be done, it is best to have the contractor and beekeeper cooperate in opening the hole, removing the bees, and sealing the hole. Finding a contractor who also keeps bees would be the best choice of all. How might individual honeybees measure massive volumes? Measurement of nest cavity volume by the honey bee Apis mellifera. Swarming Behavior of Honey Bees Hymenoptera: Apidae in Southeastern Louisiana. For noncommercial purposes only, any Web site may link directly to this page. Unfortunately, we cannot provide individual solutions to specific pest problems. See our Home page , or in the U.

Chapter 2 : Honey Bee Hives

Worker honey bees make hives to store honey and feed themselves throughout winter when they cannot go outdoors to forage for food. Honey bee hives are made of six-sided tubes, which are the shapes for optimal honey production because they require less wax and can hold more honey.

What better way to get in touch with the natural world than to raise your own bees? It may seem like a daunting hobby to begin, but there are few hobbies more rewarding. Caring for living creatures from the lovely comfort of your backyard is wonderfully common. Especially when those living creatures are so vitally important to the ecosystem we rely on for survival. In fact, about one out of every three mouthfuls of food we consume is the direct product of bee pollination. Everything from fruits to vegetables, to nuts, and even more, need pollination. If you need more convincing, check out these 8 reasons why raising honey bees is an excellent hobby. Your Own Honey Of course, the first thing people think of when people think of bees is their honey. In addition to being absolutely delicious, it has some magical health properties. Honey is an essential food for the winter season when the common cold is taking over. They say that nothing tastes better than what you produce yourself. With beeswax, you can make everything from chapstick, to think body butter, to homemade deodorant. Your Own Royal Jelly Okay, so honey bees secrete a lot of mystical juices from their bodies. It may not sound appetizing, but these substances have an almost mystical effect on the human body. Another one of these substances is royal jelly. Baby worker bees use this stuff to thrive in their youth. As they age, they stop receiving it and switch to honey, but the queen never does. Royal jelly contains these things called flavonoids, which are anti-bacterial, anti-viral, anti-allergenic, anti-inflammatory, and vasodilatory. They also do a lot of other awesome stuff that generally helps human bodies fight and prevent disease. It can also be used in DIY skincare products that can be sold for big bucks! Your Own Bee Pollen The list of amazing things that bees create never ends. Next on that list is bee pollen. The process of collecting these beautiful pellets is a long and intricate one. As bees land on flowers, the pollen sticks to their legs. Over time, their stomachs process this into bee pollen. The bees eat pollen to get the nutrients they need. Again, this stuff is very beneficial to the human body. It possesses valuable characteristics like being anti-fungal, anti-inflammatory, and a whole much of other anti-things that make it so healthy to consume. Sealed in the wax of the honeycomb is a mixture of pollen, honey, and bee digestive fluids. This is known as bee bread. They create the perfect environment for preservation. Your Own Mead Speaking of health, you can even get drunk in a healthier way. Mead has been around for 20, to 40, years. Raising honey bees means you can make your own traditional honey wine! You will be happy to know that the process is not too labor intensive. There are only three essential ingredients â€” honey, water, and yeast. Your Own Therapy Many people pick up a hobby like gardening to help manage their stress. Why not do the same with beekeeping? The time you spend in the outdoors with your hives will help calm your mind and focus it on the task at hand. The gentle buzzing of the bees is the perfect background noise to settle your mind. Your Own Business Considering all the fantastic substances your bees will produce, you can easily start your own business. Creating these products also means that you can use them in your own home and save yourself some money on your next grocery bill. Raising Honey Bees At Home Raising honey bees is an excellent hobby that helps the environment and has the potential to earn you money. At EbeeHQ, we not only help professional beekeepers, but amateur ones as well. Beekeeping is an amazing hobby, and can quickly turn into a life-long passion. So start Raising honey bees as soon as you can!

Chapter 3 : Honey Bees: Overview of Honeybee Types, Habitats & Characteristics

The hive was packed with bees and it was near impossible to get the honey out without squashing lots of them. The bees became grumpier and started to sting me through my beekeeper suit. I put the hive back together as quickly as I could, squashing more bees as the lid went on and ended up running away across the field, thinking, "There has to.

Contact Author The queen bee is the mother and monarch of the honey bee Apis mellifera. The life cycle of the queen bee and her affect upon the hive is fascinating. This article answers 10 questions that together tell the story of the life of a queen bee. The Queen Bee The queen bee of a honey bee hive has a complex, and very interesting, life. How Is a Queen Bee Created? The queen begins her life as an ordinary egg. The queen will be fed royal jelly throughout her life Royal jelly is an enriched form of honey produced by the nurse bees which contain the protein called royalactin. The nurse bees make the royal jelly from glands on their heads. All bee larvae get royal jelly for three days, but the larvae designated to become queens are fed only royal jelly until they emerge. The other bee larvae, after the first three days, will be fed with ordinary honey and pollen bee bread until they emerge, the same diet they will have throughout their lives. The royal jelly diet enables the queen bee to emerge sooner than other bees because she goes through each of the phases of development faster than the other bees. The queen has a developmental period of only 16 days, whereas worker bees take 21 days to emerge. There is only one queen bee per hive. The first queen to emerge will locate the other potential queens who are still in the pupa stage and kill them. If two queens emerge simultaneously, they will fight to the death. The survivor becomes the queen of the hive. How Large Is a Queen Bee? The queen bee is larger than the other bees. Most of the bees in a hive are the female worker bees which are mm long and weigh about mg. Drones, the male bees, are a little bit larger than worker bees, but there are relatively few drones in a hiveâ€" to in a hive of 50, bees. How Does the Queen Bee Mate? The queen bee mates only once in her life when she is about a week old. The mating occurs during a "nuptial flight. The queen stores the sperm she receives during this time in a special organ called the spermatheca. A male drone mounts the queen in mid-air and inserts his endophallus, ejaculating semen. After ejaculation, a male honey bee pulls away from the queen, and in the process, his endophallus is ripped from his body. The next male to mate with the queen removes the previous endophallus and then inserts his own. Each of the successful drones dies quickly after mating. The removal of the endophallus has ripped open their abdomens. Even drones that survive their nuptial flight may be ejected from the hive and left to dieâ€"they no longer have a purpose. After her nuptial flight, the queen bee returns to the hive and usually never leaves it again. If the hive becomes over-crowded or the bees find it unsuitable in some way, the queen will leave, and the other bees will follow in a swarm. This swarm creates a new hive. The bees that remain in the old hive will produce a new queen. The queen will lay about to eggs per day. The number of eggs laid and the pace of egg-laying is determined by food availability. If there are no flowers from which to obtain nectar which is used to make honey to feed the hive, as in the winter months in cold-weather regions, the queen will not lay any eggs. The queen can lay unfertilized eggs of fertilized eggs. She fertilizes the eggs using the sperm obtained from the drones during mating. They become haploid dronesâ€"bees with only one chromosome instead of two. The fertilized eggs become female bees--worker bees and potential queens. The queen lays her eggs in a careful pattern inserting each egg into a cell of the honeycomb constructed by the worker bees. She starts in the center and moves outward. This allows the worker bees to prepare each cell and seal it with wax after an egg has been deposited. The queen lives for about two to five years, usually three to four years. In contrast, worker bees hatched in the spring and summer live about six to seven weeks. Worker bees hatched in the autumn live through the winter and so have a life span of four to six months. Drones can live for up to four months, but if food is scarce, the worker bees will eject the drones from the hive. And as previously noted, drones die immediately after mating with the queen. The bees form a circle around her to protect her. Honey bees have one of the most complex pheromonal communication systems found in nature. They have 15 different glands that produce an array of compounds which affect the behavior of the other bees in the hive. It affects social behavior, maintenance of the hive, suppression of queen rearing, the inhibition of ovary development in worker bees, and all the daily worker

activities such as cleaning, building, guarding, foraging, and brood feeding. The queen is always surrounded by her "court. They form a circle around her with all their heads pointing towards her. They walk backwards so that their heads are always pointing towards the queen. If a queen is old or sick, she will emit a low pheromonal signal. The diminished signal stimulates the bees to produce new queens. If a bee hive becomes too large, the communication between the queen and the bees that are furthest from the center of the hive may be disrupted. This will trigger swarmingâ€”bees will leave the hive along with the queen. When the queen leaves along with the swarming bees, a new queen replaces her. Or perhaps her queen signal is weakening. A new queen is produced and the aging queen is killed after the supersedure process. The Queen Bee as an Idiom The human "queen bee" is more about vanity and control than about service. When we call a woman or girl a queen bee, we do it because she is at the center of a female social circle. The others in this circle cater and defer to her. The queen bee of a honey bee hive is at the center of a hive and she is surrounded by other bees that have the specific task of caring for the queen. They feed her and tend to all her needs. The queen bee of a honey bee hive is an amazing creature that dedicates her life to the well-being of the hive, unlike the human queen bees who only seek self-aggrandizement. The photographs of bees are not ordinary photographs; they are taken with an electronic microscope that magnifies up to X. The text is minimal, but the photos tell the story. Each photo is a stunning work of art.

Chapter 4 : The Life of the Queen Bee in the Honey Bee Hive | Owlcation

Access to honey for the winter cluster. To have any chance of getting through the winter, bees need honey. Lots of honey. Through the winter, the cluster will wind a path around the hive, consuming honey reserves built through the summer and fall.

Select the Right Location Location, location, location. A bubble fountain that is shallow or even a big plant saucer will do the trick. After all, wind may blow snow or rain into the beehive, thus decreasing the chance that the hive will remain warm. And avoid pet areas, swimming pools and play areas for this same reason. For instance, be sure to face your hive south if you can. Spring, as this is when growing flowers provide a helpful supply of food for your worker bees. Bee Feeding Speaking of food â€" yes, you can feed your honey bees. And yes, they deserve it. Your busy bees are hard at work sealing seams and cracks in their home hive, as well as storing nectar and pollen. In other words, they have their work cut out for them. Why not give them a taste of nectar to make it easier for them to adjust to their new home? Then, add the sweet mixture to quart jars, and place feeder caps on top. Next, invert your containers into the holes. After you have grown more comfortable with your new role, an inspection every couple of weeks or so is sufficient. So, what exactly do you need to be looking for? It means your queen bee is healthy. This process can stress out your bees, as you have to use smoke to calm them down. And unfortunately, it takes bees around one day to fully recover from this kind of stress. Pest Inspection Another part of your hive inspection involves looking for diseases and pests. The Varroa mite is among the most commonly found pests in beehives. Also, look out for wax moths and small hive beetles. Diseases to keep an eye out for include European and American foulbrood. The sooner you intervene, the greater your chances of having a thriving hive instead of a dead one. Expansion Just as some homeowners consider adding onto their homes, you may want to expand your beehive. Start with a deep brood box, where they may take up around seven to eight rows. Then, after your buzzing friends have filled up this box, add a second box on top. With these boxes, building up solid brood cells is easy for your bees. Enjoy the Fruits of Your Labor Yes, the scrumptious taste of honey is reason enough to learn how to raise honey bees. For instance, bees produce wax, which can come in handy for cosmetics and candles. Also, by mastering how to raise honey bees, you promote pollination. Spend more time on our site to find out more about how you can maximize your beekeeping results with proven best practices, technologies and techniques time and time again.

Chapter 5 : 8 Benefits of Raising Honey Bees at Home - EbeeHQ

The frames of basically bare foundation cut the bees off from the rest of the honey in the top deep â€" and from the honey in the rest of the hive it seems. More starved bees closer to the tiny cluster.

The worker bees rotate through the cluster from the outside to the inside so that no bee gets too cold. The colder the weather is outside, the more compact the cluster becomes. During winter, they consume their stored honey to produce body heat. During the summer, however, this is achieved through fanning and water evaporation from water collected in various fields. Pollination management and List of crop plants pollinated by bees Of all the honey bee species, only A. Without specialized adaptations for specific flowers, their ability to reach pollen and nectar is often limited. As such, they can provide some pollination to many plants, especially non-native crops, but most native plants have some native pollinator that is far more effective at pollinating that species. Plantains are sterile and propagated by cuttings, as are cassava. Potatoes , yams , and sweet potatoes are root vegetables propagated by tubers. Rice , wheat , and corn are all wind-pollinated , because this is true of all grasses. Similarly, no crops originating in the New World depend on the domesticated honey bee Apis mellifera at all, as the insect is invasive, having been brought over with colonists in the last few centuries. Thomas Jefferson mentioned this in his Notes on the State of Virginia: Marcgrave indeed mentions a species of honey-bee in Brasil. But this has no sting, and is therefore different from the one we have, which resembles perfectly that of Europe. The Indians concur with us in the tradition that it was brought from Europe; but, when, and by whom, we know not. The bees have generally extended themselves into the country, a little in advance of the white settlers. The stingless bees mentioned by Jefferson are distant relatives of the honey bees, in the genus Melipona. Nutrition[edit] Honey bees obtain all of their nutritional requirements from a diverse combination of pollen and nectar. Pollen is the only natural protein source for honey bees. Adult worker honey bees consume 3. Of these amino acids, honey bees require highest concentrations of leucine, isoleucine, and valine, however elevated concentrations of arginine and lysine are required for brood rearing. Pyridoxine is the most prevalent B vitamin found in royal jelly and concentrations vary throughout the foraging season with lowest concentrations found in May and highest concentrations found in July and August. Honey bees lacking dietary pyridoxine were unable to rear brood. Fat-soluble vitamins A, D, E, and K are not considered essential but have shown to significantly improve the number of brood reared. Nurse bees have the ability to selectively transfer sterols to larvae through brood food. The dominant monosaccharides in honey bee diets are fructose and glucose but the most common circulating sugar in hemolymph is trehalose which is a disaccharide consisting of two glucose molecules. Occasionally on hot days or when nectar is limited, foragers will collect water from streams or ponds to meet the needs of the hive. Eggs are laid within the hive, and the larva that hatch tunnel through and destroy the honeycombs that contain bee larva and their honey stores. The tunnels they create are lined with silk, which entangles and starves emerging bees. Destruction of honeycombs also result in honey leaking and being wasted. Chemical fumigants, particularly CO2, are also used. Beekeeping The only domesticated species of honey bee are A. In Japan, where mellifera is vulnerable to local hornets and disease, the Japanese honey bee a. Modern hives also enable beekeepers to transport bees, moving from field to field as the crop needs pollinating and allowing the beekeeper to charge for the pollination services they provide, revising the historical role of the self-employed beekeeper, and favoring large-scale commercial operations. Bees of various types other than honey bees are also domesticated and used for pollination or other means around the world, including Tetragonula iridipennis in India, the blue orchard bee for tree nut and fruit pollination in the United States, and a number of species of Bombus bumblebees for pollination in various regions globally, such as tomatoes , which are not effectively pollinated by honey bees. Colony collapse disorder Primarily in places where the bee was imported by humans, periodic collapses in honeybee populations have occurred at least since the late 19th century. This has been dubbed "colony collapse disorder" CCD and was at first unexplained.

Chapter 6 : An Introduction to Overwintering Honey Bees - PerfectBee

Yes, the scrumptious taste of honey is reason enough to learn how to raise honey bees. And it's probably the top reason you'd shout, "Bees, please!" But there are other benefits to becoming a top-notch beekeeper.

Honey bees are the only surviving group of bees from the Apini tribe, which is under the Apis genus. They are known for producing and storing honey, or liquefied sugar, as well as building impressively large nests using wax secreted by workers in a particular colony. The honey bee is one member of the insect class Insecta. Honey bees measure about 15 mm long and are light brown in color. Honey bees are usually oval-shaped creatures with golden-yellow colors and brown bands. Although the body color of honey bees varies between species and some honey bees have predominantly black bodies, almost all honey bees have varying dark-to-light striations. These light and dark stripes serve a purpose for the survival of the honey bee: Anatomy The body of the honey bee is segmented: The head of the honey bee consists of the eyes, antennae and feeding structures. The eyes include the compound eye and the simple eye: The thorax of the bee consists of the wings, legs and the muscles that control their movement. The forewing, which is typically larger than the hind wing, is used for flight and as a cooling mechanism, while the latter is used to fan away heat and cool the hive. Behavior In the wild, honey bee hives are often located in the holes of trees and on rock crevices. The hive is made from wax from the special abdominal glands of worker honey bees. Workers sweep up a few flakes of wax from their abdomens and chew these flakes until the wax becomes soft. Workers then mold the wax and use it in making cells to form the hive. Unlike other bee species, honey bees do not hibernate during cold periods. Instead, they remain inside the nests huddled closely together, sharing body heat and feeding on stored food supplies. Honey bees are social creatures and live in colonies. However, they do display some aggressive behavior within colonies: Although honey bees serve a significant role in pollination and ecology, measures should be taken to ensure that hives do not exist in close proximity to your home, due to the possibility of getting stung. Always contact a pest control professional before attempting to address an infestation. The colony and responsibilities of each bee Like some other bee species, honey bees are social and live in colonies numbering in the thousands. Three types of adult honey bees reside in one colony: In each colony, there is only one egg-laying queen, but there are thousands of workers. The queen honey bees mate with drones, establish new colonies and lay eggs. Queen bees lay eggs in the cells of the nest, and when they hatch, they become larvae. Each colony contains only one queen, who is capable of producing 2, eggs a day. Adult workers tend the larvae inside the cells and feed them with pollen and honey for approximately three weeks, at which point they become adults. Mature bees chew themselves out of the sealed cells to emerge. Drones, or male bees, are the minority in a colony and serve only one purpose: Soon after mating, drones die. Although infertile worker females usually do not produce their own eggs nor establish new colonies, they perform several important tasks. Young honey bee workers tend to larvae by secreting liquid from their abdominal glands. As workers mature, they become responsible for carrying and storing food gathered by foragers. As strong adults, they forage for food until they die. Distribution Honey bees species are found worldwide and can be seen in many different locations, including Europe and the United States. They are most visible in summer and late spring, when new queens leave their old colonies along with thousands of workers to build new nests. At this time, large groups of bees can be seen swarming together to find a new nesting place. It takes a swarm approximately 24 hours to locate a new nesting site. While most swarms are harmless, certain species of bees are extremely aggressive and may attack unprovoked. Because honey bees are found worldwide, their nature and behavior can vary. For instance, while Italian honey bees are usually more docile, German and African honey bees can display extremely defensive behavior. However, all honey bees can become defensive when provoked and can chase humans or animals hundreds of feet. Pollination For millions of years honey bees have been major pollinators of flowers and, therefore, the plants producing the flowers have relied on the bees. The goal of the plant is reproduction. Without pollination, many plants would not be able to procreate and eventually would die out. Humans benefit from this relationship though crop and honey production. Many of the crops people consume are pollinated by honey bees. Many growers maintain honey

bee colonies for this very reason. Without pollination, the plants would not produce fruits and vegetables. Besides pollination, honey bees extract nectar along with the pollen from the flowers. The nectar is transported back to the nest where, through a process, it is converted into honey. Listen to a recording of Honey Bee noise. Honey Bee Dance There are two major theories on how honey bee foragers communicate with other workers about a new food source: Although there is evidence to support each claim, the honey bee dance is more widely accepted. The honey bee dance plays an important role in the survival of the species: The honey bee dance is a way for bees to communicate with one another. A honey bee that discovers a new food source will tell other honey bees about its location through the honey bee dance. When a worker bee returns from an abundant food source, she will dance inside their nest in a circle. There are two main types of honey bee dances: Round dance, as the name indicates, is a movement in a circle. This is used to indicate the food source is less than 50 meters from the nest. Waggle dance is a figure eight pattern while the bee waggles its abdomen and is used for food located at a distance of more than meters. Exact distance can be communicated by duration of the dance. A longer dance indicates a great distance. The degrees to the right or left of the vertical indicate the direction of the food. This language is also understandable by humans, and researchers determine effectiveness by measuring the amount and quality of new pollen and nectar brought into the nest. However, certain features of this dance language, including the fact that honey bees understand dance patterns even in the dark, are still not understood. More Information Honey bees can produce substantial amounts of honey, as can several other bee species. As pollinators, honey bees are critical to the environment and the food supply. Unfortunately, they also can become a medical and structural threat if they nest near people and buildings. Bees and other pollinators are protected in many states, so if an infestation should occur in or near a dwelling, consumers should consider contacting a local beekeeper to relocate the nest. A beekeeper can assess the situation and determine if it is feasible to remove the nest. This can be an intensive process, especially if the nest is large. For more information on honey bee nest relocation, contact a local bee keeper or an apiary society.

Chapter 7 : Honey Bee Program - Bees, Beekeeping & Pollination - Honey Bee Biology

Raising honey bees is an excellent hobby that helps the environment and has the potential to earn you money. At EbeeHQ, we not only help professional beekeepers, but amateur ones as well. If you're interested in learning how to start beekeeping and more particularly how to start a beehive, including the equipment that you will need, then.

For thousands of years, humans have plundered natural honey bee colonies to get honey, bee larvae and beeswax. In more recent centuries, bee plundering has given way to bee management. Today, honey bees are kept in artificial hives throughout the United States, and a large and sophisticated beekeeping industry provides valuable honey, beeswax and pollination services. A large section of the industry, well represented in Georgia, is devoted to producing queens and bees for sale to other beekeepers. Although many people make a living from bees, most beekeepers are hobbyists who have only a few hives and who simply enjoy working with these fascinating insects. Honey Bee Castes Honey bees, like ants, termites and some wasps, are social insects. Unlike ants and wasps, bees are vegetarians; their protein comes from pollen and their carbohydrate comes from honey which they make from nectar. Social insects live together in groups, cooperate in foraging tasks and the care of young, and have different types, or "castes," of individuals. In honey bees there are two genders, the females of which are further divided into two castes â€” sterile workers and fertile queens: Workers - Reproductively underdeveloped females that do all the work of the colony. A colony may have 2, to 60, workers Fig. Queen - A fully fertile female specialized for producing eggs. When a queen dies or is lost, workers select a few young worker larvae and feed them a special food called "royal jelly. Therefore, the only difference between workers and queens is the quality and quantity of the larval diet. There is usually only one queen per colony. The queen also affects the colony by producing chemicals called "pheromones" that regulate the behavior of other bees Fig. Drones - Male bees. A colony may have 0 to drones during spring and summer. Drones fly from the hive and mate in the air with queens from other colonies. Drones are kicked out of the hive during the winter months Fig. Developing young honey bees called "brood" go through four stages: The types of bees have different development times Table 1. These intervals, however, are literature averages and do not always apply locally. For example, it is common for worker bees in Georgia to emerge in 19 days and queens in

Chapter 8 : Bee. Honey and Hive | Brevard, North Carolina

Honey Bee Suite is dedicated to honey bees, beekeeping, wild bees, other pollinators, and pollination ecology. It is designed to be informative and fun, but also to remind readers that pollinators throughout the world are endangered.

An Introduction to Overwintering Honey Bees Introduction Of all the challenges faced by bees - and beekeepers - the topic of "overwintering" is one of the most commonly discussed. Even without our help, bees all across the country manage to survive the cold winter months, which speaks to their incredible planning and resilience. But there are also a few things we can do to help them, including, in some cases, the avoidance of our own "meddling" for example, being a tad too eager to get our hands on honey! As the cold weather arrives, bees stop foraging and hunker down for the winter. From that point forward, they stay warm in the confines of the hive all through the winter. When the weather starts to warm they appear and eventually start foraging again. The objective is simply to survive the winter. Of course, under this simple explanation are behaviors and situations that are complex and, in many ways, amazing! What bees do Overview To achieve their success, a considerable number of factors need to align to support the bees. Virtually all of this is down to preparation on their part, with a little help often provided by the beekeeper. Here are just a few of the details of how bees survive the winter. These are, of course, worker bees kicking out their brothers! Forming the winter cluster As we saw in Fat Bees and the Winter Cluster , bees have a number of ways to combat the cold weather. But the most effective is the notion of the winter cluster, an incredible achievement of collaboration to to huddle around the queen for the entire winter to keep her warm. Access to honey for the winter cluster To have any chance of getting through the winter, bees need honey. Through the winter, the cluster will wind a path around the hive, consuming honey reserves built through the summer and fall. The positioning and availability of the honey is important and many a colony has starved to death with honey in the hive but just out of reach of the cluster. During warmer winter days, the cluster may become a little less compact and, on days with sufficient warmth, bees may even leave the hive and stretch their wings, both figuratively and literally. This is a potential opportunity for the cluster to jump from one area of the hive to another. As the cold returns, the cluster will reform. But if the cold days extend for a long period, as is common in many areas of the country especially in the north, this opportunity to regroup is not available to the cluster. In this situation, the cluster can survive if it can move over a path within the hive that always includes honey reserves. If the cluster is "stranded" in a part of the hive where honey runs out, it will not have the option to jump across to another area with honey, since the cluster must be maintained in the cold. This is where beekeepers may experience the sadness of a lost colony, even though honey reserves lay undisturbed elsewhere in the hive. The amount of honey required will vary considerably, depending on the harshness of the winter. In warmer climates, for example in the US south, 50 lbs of honey may sustain the colony for the brief winter cold. However, in the north and in Canada much more honey may be needed, as much as lbs in extreme conditions. How beekeepers can help When possible They have a natural disposition to do so, honed over millions of years. But if there are non-invasive ways to help them, then many beekeepers will consider doing just that. Leave honey reserves It is possible to analyze and calculate and come up with all sorts of reasons why you can and should take some honey from your bees in their first year, if they build strong reserves of honey. But a first year colony is something of an unknown quantity, as is the coldness of the winter. Yes, there will be many who argue that this is overly conservative and will take moderate amounts of honey, while still expecting to see their bees survive the winter. But is it really worth it? Is honey so important that this is necessary, in that vital first year for the colony? Because there are so many variables at play we like the simplicity of "no honey in year one". Feeding As we have seen , feeding is a topic unto itself. Again, a starting point for any consideration is whether there is a way for bees to take care of themselves. A good example of when it is very difficult for them is with the installation of a package of bees. Many beekeepers feel this is one of the times when feeding is justified. However, it is also quite common for beekeepers to offer food in the fall. If your bees have been successful in building honey reserves then hopefully this is unnecessary. Another common and effective option is to ensure fondant is available. A popular choice of feeder is the Hive Top

Feeder with Floats. This is used in a way similar to the a box, namely it is installed on top of a regular box and the inner and top covers placed on top of the feeder. The reservoirs hold the sugar syrup and bees climb up the center for access. Floats reduce the chances of drowning. The feeder can contain 1. Some beekeepers store a frame or two from the summer harvest, which they then use in the fall as a way to augment what the bees have collected themselves. One advantage of this is that the source of the honey is known. Never feed honey from an unknown source, due to the possibility of it bringing damaging spores, such as American Foul Brood. Condensation within the hive This is a perfect combination to create condensation â€" lots of it. In very bad situations, the bees might be "rained on" on a perfectly dry day when water condenses and then falls onto the cluster. Resolving this can be a fine balance between ensuring the hive is ventilated vs. An aid to this issue is the use of "wicking" materials, such as a burlap sack or wood shavings, which do a fine job of absorbing moisture. Some products exist just for this purpose. For example the Lansgtroth Insulation Box is installed on top of the inner cover and features a canvas bottom and cedar quilt material. This product helps maintain both temperature and humidity. Another very popular choice is a Vivaldi Board , which has venting slots and allows both the opportunity to feed bees as well as the installation of material like a burlap sack, to absorb moisture. Temperature The winter cluster does an amazing job of protecting the queen, including keeping her in a space that stays warm. Assuming they have sufficient honey reserves, bees can take care of themselves well, even in very low temperatures. In the winter, a strong wind can ensure the cold air finds every nook and cranny. In positioning your beehive, you have hopefully placed it in a position protected from strong winds, regardless of the season. Although rarely necessary other than in very cold climates, hive wrappers can be purchased, to help retain the heat. Mites As fall arrives it is important to understand the situation regarding mites. Many beekeepers treat for mites at this time. Many prefer to use natural products such as those based on thymol or formic acid. There are some challenges with these products, even though they can be very effective at treating mites. First, their application can be time-consuming and difficult. Secondly, it is important that no honey boxes are present, since these products would contaminate the honey. One example of a product that is heavily used for such scenarios is Api Life VAR , which is composed of all-natural oils and applied over a three week period. Treatments such as these should be applied proactively and relatively early, so as to set up winter bees for success. This normally means treating summer bees late in the summer and into early fall. This "cleanses" the colony, hopefully in a way that is helpful to the winter bees that come a little later.

Chapter 9 : How to Raise Honey Bees: Your Ultimate Guide - EbeeHQ

Find great deals on eBay for honey bees hives. Shop with confidence.