ZITAVEX FOUNDATION

SAVE THE BEE PROJECT

Products, processes, ideas and discoveries as described in U.S. Patent #16888353

The following instructions, products and ideas are to be treated as apiculture farming techniques whose concepts and applications are to be freely shared for the purpose of eliminating the infestation of the honeybee parasitic mite "Varroa Destructor." And its diseases.

These discoveries, interfering with pheromonal signals as well as the ideas and techniques used to promote "hygienic response", are only for use within the Apiary and honeybee communities. Products, ideas and techniques are not to be sold and are for the purpose of the complete eradication of the parasitic mite Varroa Destructor on honeybee and pollinating insects in the Apiary industry.

ANTI-VARROA PRODUCT INGREDIENTS AND APPLICATION INSTRUCTIONS

BACKGROUND OF THE INVENTION

Since 1987 the honeybee parasitic mite Varroa Destructor has been an agricultural beekeeping issue and the cause of honeybee losses as high as 50% annually in the U.S.

Today this problem continues to plague the world adding to honeybee colony collapse and commercial losses extending to other indigenous insects that also pollinate our crops and food supply. Through simple coordinated efforts and legislation within the apiary community, both pollinators and honeybees; professionals and hobbyists, the problem of these losses can be solved and the continued spreading of disease between bee colonies and indigenous insects eliminated.

Past efforts to solve these problems have been met with the issues of trying to remove a parasitic insect from another insect. This is described as like "trying to remove a parasitic rabbit attached to a horse." Drugs and chemicals may kill both the host and the parasite and using tweezers to pluck them off one by one is not likely. Today, because of this issue, Varroa Destructor remains a serious problem.

During the Covid pandemic of 2019 and 2020, Zitavex Labs conducted research in Colombia, South America on pheromonal signals and the behavior of insects within and between honeybee colonies. Honeybees guard their colony and its precious stores in different ways. Some close all openings securely with propolis leaving only a small opening to defend. Other colonies use greater numbers of more ferocious guard bees. When a stranger approaches, if they don't pass the "smell test" they are repelled. This smell test does not seem to trigger an alarm among some bees in the presence of Varroa Destructor. Varroa Destructor is a parasitic mite that lives and reproduces entirely inside honeybee hives, venturing out only to spread itself among other beehives. The Varroa mite does land and feed on other local pollinators, but can only reproduce inside the honeybee hive. The reason Varroa Destructor is NOT perceived as an invader by the honeybee is because of this life cycle. Eating only from the bee's body and reproducing within the brood comb and on developing bee larva, Varroa evades detection by smelling like the host it lives on. This remarkable evolutionary adaptation or "trick" also allows the beekeeper to treat and eliminate this invader and the diseases it carries by mimicking or blocking these pheromones. After years of testing at OSU Corvallis, the pheromone called "Bee Bob" was found to smell and cause bees to respond like the queens' own pheromones. This pheromonal extract calmed the bees and made them respond by acting as though they were swarming around a queen. It was soon discovered that "Lemon grass" (both the extract oil and leaf) cause this same response in bees. An alarm response was also found to occur when honeycomb cells were torn and the honey inside was allowed to flow. Bees place their own distinct smells and acids in honey so they can detect when their hive is being raided or damaged. Between these observations and already known behaviors the "honeybee hygienic response" was discovered.

PROCUCT INGREDIENTS AND PREPARATION

The discovery that all honeybees and their colony can be induced to mimic or "lock out" the pheromonal signals and smells between the honeybee and the parasitic mite Varroa Destructor allows for the bee to detect and remove this invader. When swarming, the colony groups together to protect the queen. This "Queen" smell can be mimicked with Lemon grass or other simple ingredients. After becoming calm and grouping together, the bees are then prompted into a hygienic response to clean themselves (self-grooming) and each other (allo-grooming) of the *honey* that is used in this process; detaching the Varroa parasite and cleaning the colony of dirt and diseases. Many other techniques include blocking of these pheromonal signals and promoting the bee to remove Varroa and clean its hive can also work. The following instructions are a minimal guide to the easiest, safest and least expensive techniques. Other products may be used to mimic or block these pheromonal signals, but raw honey should always be used as the main ingredient to stimulate the bees into a Hygienic Response. Many other plant oils, extracts and leaves can work, such as Sumac or Yucca. Because insects use mild acids, (Prussic, Oxalic and Boric), these too can be included in small amounts if lemon grass is hard to find. These acids have been known to cause aggressive responses in bee colonies so use extreme caution and wear complete bee suits if you select these ingredients. Some researchers have used salts, like Calcium sulfate and Lithium sulfate in small amounts as well. Adding Ethyl alcohol is also safely tolerated up to 20% (consult pp 12). The following are the easiest methods and contain the safest and most extensively tested ingredients.

HOW TO MAKE A ONE GALLON "HYGENIC RESPONSE" PREPARATION

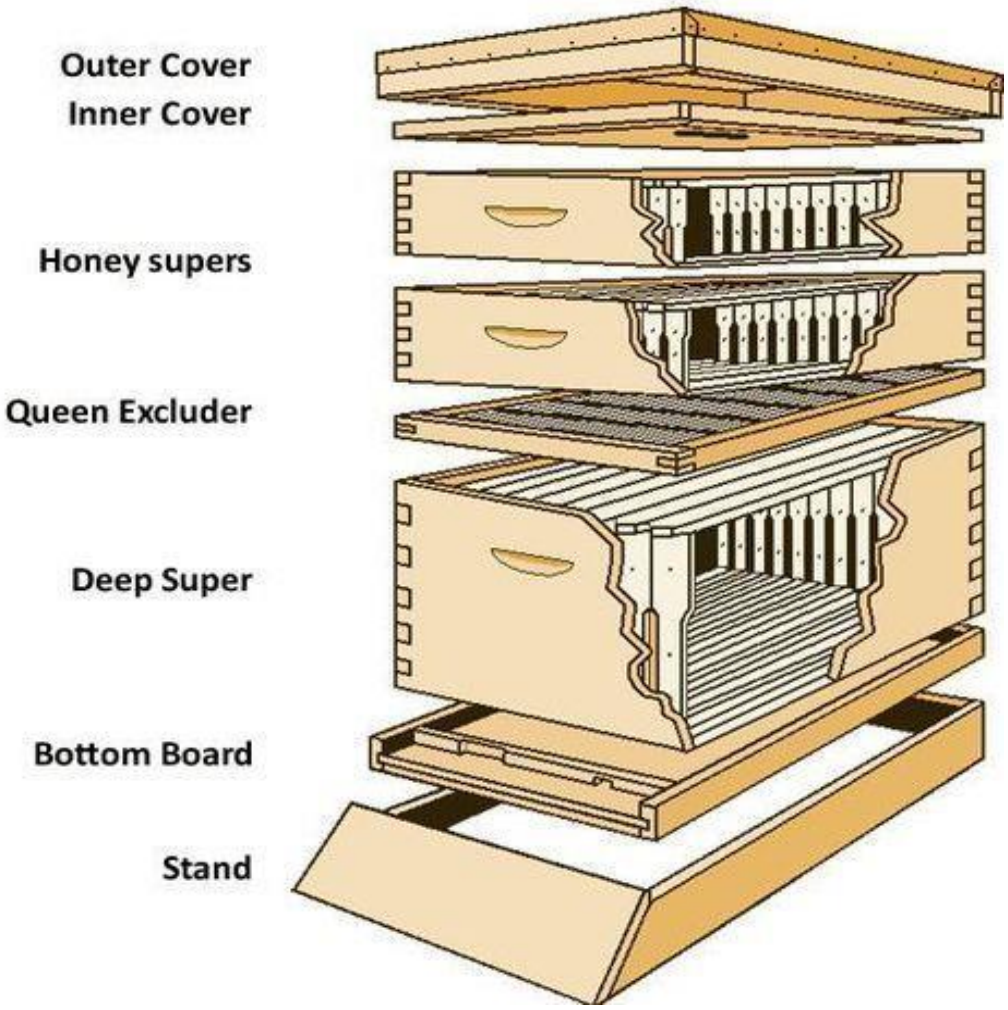
A single gallon should be enough to cover eight hives completely (approximately 1 pint per hive). Follow-up treatments require less. The use of fine spray nozzles and mists makes coverage easier and more complete. Combining fans and forced air with the application process helps to speed things along as well. Using standard, easily acquired farming and beekeeping equipment, the goal is to spray enough product to block all smells and promote pheromonal behaviors that enable the bees to remove parasites and clean their hive of dirt and disease through this induced "Hygienic response."

INGREDIENTS

½ Gallon water
½ Gallon Honey (pure unfiltered, unheated, local if possible)
1 Tablespoon Lemon grass (oil, extract or finely powdered ground leaf)
See above or U.S. patent #16888353 for pheromonal substitutions to lemon grass

Mix together completely and pour inside a clean spray applicator of your choice. Using a new or clean sprayer is important to prevent cross contamination or poisoning of your bees.
The lighter and smaller the droplets the sprayer makes, the better. Using fans and forced air also helps to speed up the process and make for more complete coverage.

LANGSTROTH BEEHIVE APPLICATION AND COVERAGE



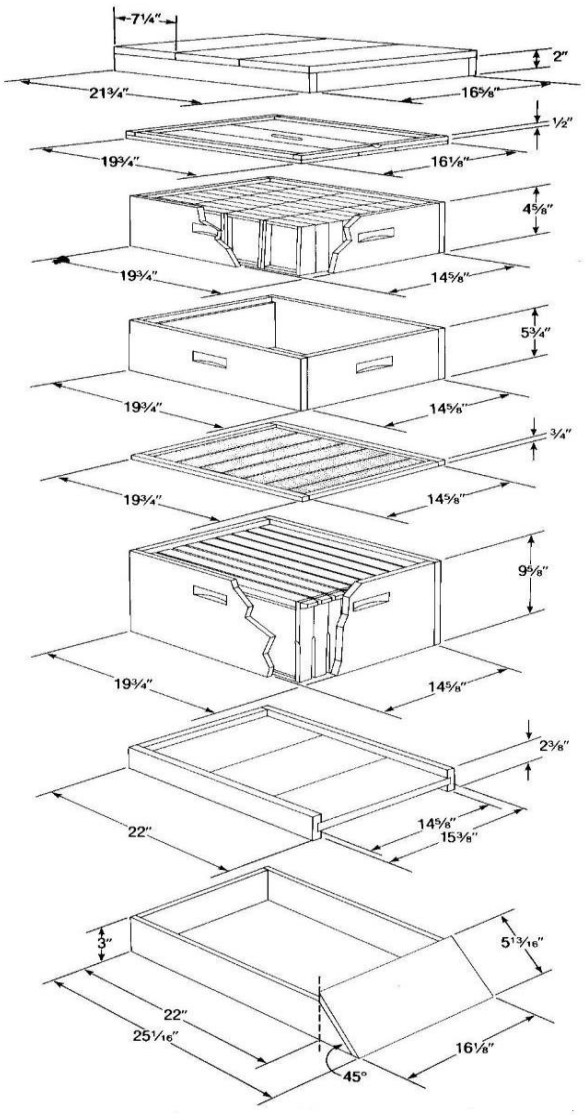
Standard Langstroth hives contain various sized supers and numbers of interior frames. To get complete coverage of the entire colony of bees, application of the hygienic product is best done at dawn or dusk when all the bees are inside the hive. It is also best to only open the top, inner and outer covers while also opening the bottom board bee access landing as wide as possible. If there are ventilation holes on the sides, these should also be opened while the hive is being treated. Using a clean fine mist manual pump or electric atomizer, spray a generous amount of the Varroa treatment inside the hive starting from the top (use approximately 1 pint). It is better to use too much than too little. Movement of air inside improves coverage and promotes a better Hygienic Response from the colony. Fans help to speed up the process. Practice these application techniques to improve coverage. The great advantage of using this Hygienic Response mixture is that it contains no chemicals or drugs making it safe, even advantageous to use regularly for feeding to help the bees protect their home while also eliminating Varroa and all the diseases it carries.

Remember to replace the top covers and restore all openings to normal after application of the hygienic liquid.

BEE INSPECTION AND TREATMENT STATIONS

As efforts begin to change laws and beekeeping practices, the need for entire Apiary inspections and the quick treatment of any hives found to be infested is paramount to the success of ending the spread of Varroa Destructor.

Equipment and dimensions for a standard Langstroth hive.



Outer Telescoping Cover

3 pieces 7¼" x ¾" x 18⅛" (top)
2 pieces 21¾" x ¾" x 2" (sides)
2 pieces 16⅝" x ¾" x 2" (ends)

Inner Cover

2 pieces ½" x ¾" x 16⅛"
2 pieces ½" x ¾" x 18¼"
2 pieces 6" x ⅜" x 19¾"
1 piece 4⅛" x ⅜" x 19¾"

Section Comb Super

2 pieces 19¾" x ¾" x 4⅝" (sides)
2 pieces 14⅝" x ¾" x 4⅝" (ends)

Shallow Extracting Super

2 pieces 19¾" x ¾" x 5¾" (sides)
2 pieces 14⅝" x ¾" x 5¾" (ends)

Queen Excluder

2 pieces 19¾" x ¾" x 5¾" (sides)
2 pieces 14⅝" x ¾" x 5¾" (ends)

Full Depth Hive Body

2 pieces 19¾" x ¾" x 9⅝" (sides)
2 pieces 14⅝" x ¾" x 9⅝" (ends)

Bottom Board

3 pieces 7⅛" x ¾" x 15⅜" (floor)
2 pieces 2⅜" x ¾" x 22" (sides)
1 piece 2⅜" x ¾" x 14⅝" (end)

Hive Stand

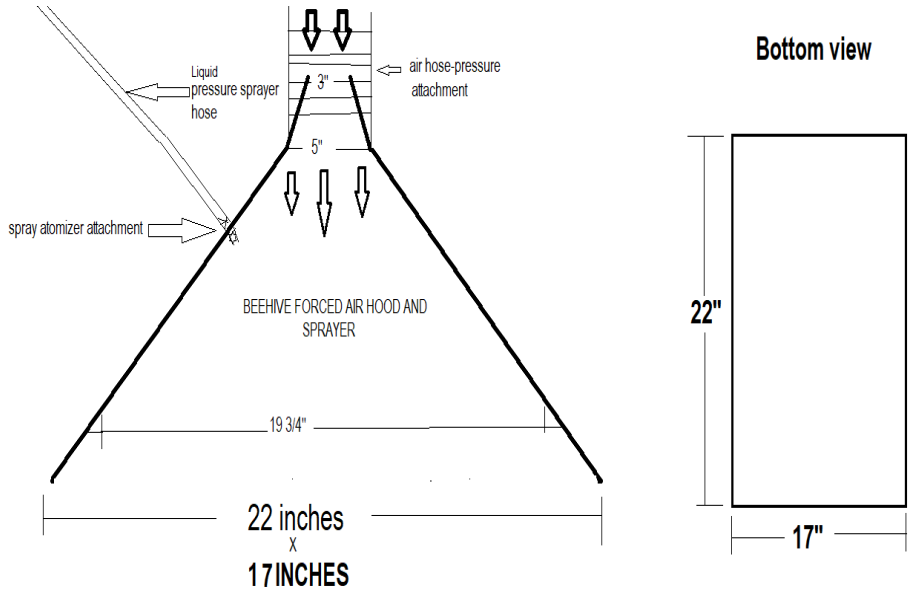
1 piece 3" x ¾" 14⅝" (back end)
2 pieces 3" x ¾" x 25¹⁄₁₆" (sides)
1 piece 5¹³⁄₁₆ x ¾" x 16⅛" (front end)

Using the standard Langstroth commercial beehive as a guide; see diagram above, a hood or cover can be fashioned to quickly fit over hives to be treated with a spray application of hygienic liquid through a "forced air spray hood assembly."

FORCED AIR SPRAY HOOD ASSEMBLY
FOR LANGSTROTH BEEHIVE.

The worldwide success of this project requires cooperation and simplicity. Using easily obtained ingredients and commonly available farm equipment is necessary to ensure use by professionals and hobbyists. Common sense dictates that when hives are on the move, inspectors and farmers should ensure that every colony that comes into and moves out of their area is inspected and treated. By making these treatments fast, inexpensive and safe, an inspector can quickly and efficiently treat every single beehive and colony, infested or not. This practice not only ensures that the bees are healthy, but stops the spread of disease and infestation from one colony to the next during these mass pollination cycles where multiple insects mix.

As the inspector goes through each beehive, the inspection can be done with very little disruption to the hive and treatments can be accomplished by placing the hood assembly on the top box after removing the top cover and opening all side and bottom vents. This simplicity also allows for spot treatments on a hive during inspection rounds. Because of the safety of the hygienic treatment spray, the bees are also fed and kept healthy, making treating and feeding a dual function during hectic pollination times.



The spray hood assembly, (see above) is shaped like the Langstroth beehive and is slightly larger in its bottom dimensions to completely fit over the top of the hive box. The hood assembly can be easily made using cardboard and tape for temporary solutions, or manufactured from simple plastic, wood or metal components for more permanent use. Attaching the pressure or discharge end of a vacuum cleaner hose to the top of the hood assembly provides sufficient downward forced air movement to quickly cover the entire beehive. After the hood assembly is placed on the top of the Langstroth hive, start the

fan to force air through the hood and squeeze the sprayer attachment, simultaneously releasing the liquid hygienic solution through the nozzle attached to the inside top of the hood assembly. Allow the air to move freely inside the hive, using sufficient hygienic liquid to cover all the bees and the interior of the hive. Adjust motor speed as necessary or place a grated limiter inside the air hose attachment to reduce the air pressure if bees are being forced out. Spray for at least 5 seconds; more if the hive is large. Watch for mist and liquid discharge exiting the bottom of the hive to ensure sufficient coverage. Using more is better than too little. With practice, this technique is fast and efficient. Removing the top cover and bottom openings is all that is needed and each hive can be sprayed daily if necessary. With a quick spray on a regular rotational basis, it takes very little time to cover an entire Apiary. As individual pollination practices become more permanent, the hood assembly can be built into each hive and portable tanks and hoses attached to quickly treat and feed the bee colony simultaneously, without having to open the hive. The less the bees are disturbed the better.

With the elimination of Varroa Destructor and the diseases it carries, the beekeeper can reduce the time needed to keep colonies healthy and end the practice of continually opening hives to inspect the bees for Varroa. Regular application of the Hygienic Response spray allows the bee colony to use their own natural defenses to keep the entire Apiary healthy.

LEMON GRASS FOR CALMING BEES AND CAPTURING SWARMS

Like catnip for bees, the power of Lemon Grass on bees makes this a must have instrument for every beekeeping moment.
The use of smokers and burning embers sends the honeybee into panic and right into the honey stores, taking as much as 25% of the honey stores into their guts as they flee. Using the lemon grass instead, calms and forces them to gather together. Just add a few grams of lemon grass to water and boil. Place the water solution into a hand sprayer and watch as the bees stay calm and stop their aggressive buzzing.
CAPTURING SWARMS.
The splitting of hives often requires patience to allow the bees to swarm naturally, taking with them a fertile and valuable queen. These swarms are most often easy to capture using a ladder and shaking the swarm into a box. For the hard to capture swarm, baiting the capture box with lemon grass and honey works wonders.
Place a small container of lemon grass and honey into an empty bee hive and thoroughly spray the lemon grass water inside. The next morning you will have a ready to go beehive with a new queen.

WAX FORTRESS

Protecting the colony using the hygienic spray to facilitate the bees to remove invaders and clean their hive is one of the easiest and most effective ways of dealing with invading mites such as Varroa Destructor. Another parasitic mite, known mostly in Thailand and surrounding areas, called Tropilaelaps (Clareae & Mercedesae), is particularly difficult to deal with. These new and highly developed invaders rely on the wax structures that the bees build to store honey and rear their brood for their own protection. In the commercial beehives of today, the brood chamber is separated from the honey chambers by a queen excluder used to keep the queen laying eggs in only specific areas of the hive**. Because of the practice of keeping honey chambers separate from the brood chambers, the beekeeper can help eliminate these particularly tough invaders that hide within the wax structures of the brood comb.**

Beeswax cells are six sided, hexagonal structures made to store nectar and pollen the bees have collected which are food for the entire colony. Nectar is processed and thickened to be eaten as honey and the pollen is consumed by nurse bees and turned it into Royal Jelly to be fed to the developing larva. Brood cells are the same wax structures as the honeycomb cells except they serve the purpose of protecting developing bee larva instead of storing honey. The entire colony are female workers of which there can be over 50,0000. There is usually only a single Queen that lays eggs one at a time inside the hive and a few hundred male Drones. After many years in the hive, these brood cells are gradually coated with Propolis which hardens and thickens the wax chamber, protecting the brood within. While being constructed by the worker bee, wax is taken from their thorax and made soft and formed into a comb. Many bees and their wax are needed to make just one cell. While soft and malleable, the bees lay down layers of warm wax while moving in a "circle" and using its own body dimensions to guide it. The next bee to come along builds another layer on the first "circle" and the process continues until the comb is finished.

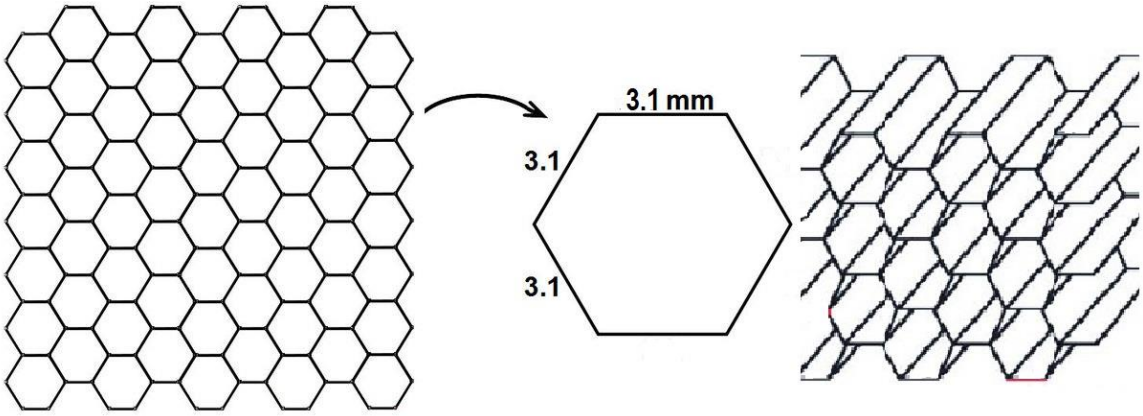
HOW THE HONEYCOMB GET ITS HEXAGONAL SHAPE

Beeswax is made soft and malleable at 120 degrees Fahrenheit by the bees. The bee is cold blooded so the hive together must use vibrations and buzzing to create this much heat. During the winter, bees group together and vibrate or buzz to keep warm. While making the wax cells, the warm and circular wax structures that the bees make according to its own body dimensions, begin to join together and take on their six-sided hexagonal shape through heat and vibration.

TO DEMONSTRATION, pour warm water of about 130 degrees onto a glass plate; fill ¼ of the way up. Melt a teaspoon of pure beeswax and carefully drip onto the plate of water and allow to cool. *The wax hardens into blobs and puddles of varied shapes.* Repeat the experiment, this time place the dish on top of a radio with the music playing loud enough to cause the water to vibrate or buzz. *As the vibrating wax cools it forms six sided hexagonal structures*. This can also be done with honey and warm water. Place a few drops of honey into warm water and vibrate.

H**eat makes the beeswax soft; the vibrations form the beeswax into hexagonal comb.**

BROOD CELL DIMENSIONS



The final dimensions of the worker bee brood cell and honey comb are based on the bee's own body dimensions. Queen cells and Drone cells are larger and often irregular in shape and attached to the sides of the nicely uniform brood comb. The majority of the European honeybees within Apis Mellifera make uniformed wax comb sides of about 3.1 mm. When first constructed, these wax cells are soft and easily torn. After many years the comparison between old brood cells and new cells is striking. The old brood cells are dark, covered with propolis and hard. This is important when dealing with ANY parasitic invader. These invaders live inside the brood comb exclusively with the developing bee larvae. *The practice of destroying brood comb while working with new and old hives is reducing the natural defenses placed into beeswax.* The propolis may act as an irritant to the mite and the hardness of the structure of the older wax cells may make life processes too hard. Breathing, eating, reproducing etc. can all be much more difficult within these hardened brood cells. It is also possible that the changed anatomy of the mite mouth parts may be making hard wax an issue for them, making penetrating the wax a problem. Observations have shown how the bee follows the laws of physics to construct beautiful hexagon honeycomb cells. We can also see that the practice of constantly destroying the wax comb and forcing the bees to construct new brood comb structures is diminishing their ability to ward off and protect themselves from invaders. By coating the wax cells with hard propolis the beekeeper can mimic what the bees are attempting to do naturally.

Constructing a wax fortress.

The use of inexpensive, easily obtained materials remains the goal of eradicating honeybee parasites around the world. Because the honeybee makes its wax cells according to its own body dimensions, and because beekeepers have excess comb after extracting honey, the use of empty, clean honeycomb to make hardened brood comb is preferred. After draining, cleaning and drying honeycomb frames, hang them on a string from a corner section and slowly spin, to allow even spray coating of the prepared propolis solution into and on the wax comb.

PREPARING A PROPOLIS SPRAY SOLUTION TO HARDEN BEESWAX

1-pound raw propolis
2 ounces, 70% Ethyl alcohol

After scraping and collecting approximately one pound of raw propolis from your hives, filter out impurities by thoroughly mixing together with 2 ounces of 70% Ethyl alcohol, squeeze and filter through cheesecloth. Collect and save the filtered, liquid propolis. Place the filtered liquid propolis in a clean compressed air paint sprayer and spray on the hanging, rotating honeycomb frames. Apply several coats. Let stand until the wet, sticky comb becomes hard and completely dry. Ensure an even coating, however the bees will fix most defects. Beeswax readily absorbs this liquid propolis solution and hardens quickly. Excess propolis is gathered and reused by the bees to seal openings and coat other surfaces inside the hive.

Use these propolis coated honeycomb as your brood comb inside the brood box in every new colony, slowly converting older hives as time and comb availability allow. The bees will accept these propolis coated comb cells instantly and the queen will begin laying eggs in the ones that are "built out" from the base with new wax. Because the bees build the comb according to their dimensions, the length of the brood comb will change according to their own needs. The protection offered to the entire hive comes in shielding the brood with propolis hardened cells. Even if new pests arrive, the hardened, propolis coated brood cell keeps mites off developing larvae and the future of the colony safe. Wax worm and moths are also deterred in this environment of hard, inedible wax brood comb. It is not necessary to coat the honeycomb storage frames in the honey supers as parasites do not crawl into these.

Through the exclusive use of hardened wax brood cells, parasitic mites can be largely minimized and kept under control. By combining the Hygienic solution as a preventative treatment when problems are found, most hives can be left alone to allow the bees to do their work in peace. The bees want to naturally coat their hive in propolis, by giving them this boost and allowing the hive to heal and harden, the honeybee colony can defend itself from most attacks in most environments. Only the oldest and heartiest wild swarms are known to survive today without the help and intervention of a beekeeper. Varroa and the diseases it carries kills most wild swarms in their first year because the colony must start from soft, newly formed wax, which is easily penetrated until finally made hard after years of meticulous work.

USING ETHYL ALCOHOL

The honeybee, like the fruit fly, is an insect that has evolved to ingest one of nature's own preservatives, (Ethyl alcohol, ETOH), the drinkable alcohol. Studies in alcoholism have found that the honeybee responds to alcohol in a similar way to humans.

. 2019 Jan;43(1):26-35.
doi: 10.1111/acer.13908. Epub 2018 Nov 11.
Julie A Mustard [1], Ramiro Oquita [1], Paulina Garza [1], Alexander Stoker [2]

The bees actively seek out fermented sugars and can even become addicted (when continuously fed). Their behavior while intoxicated offers comparisons to medications and treatments for people suffering from alcoholism. These observations can be a benefit for future treatments against some of the honeybee diseases that plague the Apiary industry. This evolutionary advantage makes dosing of amounts of ETOH as high as 20% safe to the bee but instantly deadly to mites and other invaders. When ethyl alcohol was given alone without added sugars, the bees found it to be bitter and would not accept it. Adding the alcohol to the sweet honey solution in the Hygienic spray made the alcohol more palatable and tolerable to the bees. Alcohol, being disinfecting, also performed well in killing molds, mildews and viruses that were found around damp areas inside some hives. It was also observed that many other pests like wax worms, ants and spiders found the hive unacceptable to live in for many reasons after spraying just a 12% ETOH mixture. When included in the Hygienic solution of honey and a pheromonal additive such as Lemon Grass, ETOH levels of 12% sprayed through a fine mist or cold smoke application caused instant death to the free roaming, unattached varroa, and death within minutes to the ones attached to a host. All remaining Varroa were groomed and detached by the bees within an hour of application. Our preference in Ethyl alcohols are ones made from cane or corn sugar.

A NOTE OF CAUTION:

Because bees will leave their hive when they feel sick, alcohol and its effects on the bee can make them act disoriented and even drunk. If you do decide to use alcohol to treat your bees, enclose them within the hive at night before application. This will ensure they do not leave and lose their way. It will also give them time to "sober up" from the application. Reopen the hive after 8 hours. Direct observations of developing brood inside their cells during ETOH applications were not made. However, there was no drop in capped brood comb noticed and all bees that emerged during this time period, and the months following, were healthy and showed no signs of deformity, disease or distress. There was also an increase of uncapping and removing of brood infested with varroa noticed in the workers. The combination of alcohol with the honey based hygienic spray may be more than is required for most problems and should be used sparingly. All ingredients are safe, naturally occurring and abundant. When using any self-treatments on your bees, always be aware of their behaviors and the effects of each treatment. Some types of pheromones can cause aggressive behaviors and mixing ETOH with certain acids can cause bee loses due to flight pattern disruptions and intoxication. Repeated over-use of Ethyl alcohol has also caused high mortality rates in adult bees in amounts as

low as 2%. A single ETOH treatment once a month is the maximum amount recommended and necessary as the hygienic treatment, without the alcohol, can be used daily and is very effective on its own.

Please feel free to share these ideas and give feedback on your experiences to us and share them with others. Our goal is to end Varroa and prevent the infestation of other even more dangerous mites from spreading, like the Tropilaelaps mite.

All this effort is for the future of our planet and our love of the honeybee. As a responsible part of beekeeping, all discoveries, good and bad, will be freely shared so that we may put an end to these problems once and for all.

Thank you for your participation and doing what you can to save the bees!

Zitavex.org
Username: Zitavex
Password: Paradux

APIARY FARMING FOR THE FUTURE

To bring success to those with the least hope of achieving financial backing or to bring a little extra to add success and provide a future for those who are close to the land.

Thousands of years of selection and careful observation have been the reason why farmers, villagers and indigenous people worldwide have turned to the European honeybee Apiaries. An excellent pollinator of flowering fruits, vegetables and nuts the European honeybee is gentle, easy to care for and produces more honey than any insect on the planet; when healthy. The impact of Colony Collapse Disorder (CCD), industrial farming practices, mono-agriculture, parasites and disease have decimated the honey industry in every country except Australia. The following information is a road map to eradicating the parasites and diseases that plague the honey industry and are the first steps to returning to natural, easy and inexpensive beekeeping.

INVESTING IN THE FUTURE

They say "it takes a village" to raise a child. The same is true with farming and beekeeping. To use what is available and easy to find from your neighbors and from your own home is the key to sustainable and environmentally friendly farming. Why own a tractor when you can't buy fuel or repair broken parts? This is the reality of beekeeping today for most agrarian societies. Expensive hybrid Queens, chemicals, treatments and expert knowledge requiring huge upfront costs and specialized equipment make beekeeping too difficult for all but the largest farms.

From the most basic beehive made from coiled rope to the most advanced Langstroth hive, the key is providing your bees with a safe, secure and easily accessed home using what is available on the farm and in the local community.
The next step is making a new colony from another beehive. The European bee, when it is not infested with parasites such as the Varroa destructor, can make a queen from the brood and larva inside the broodcomb laid from another Queen. A few thousand bees and a batch of broodcomb inside the hive and your new colony will do the rest. Healthy hives rarely need any attention until harvest time when the rewards of the bees' work are realized. In a country like Colombia, flowers provide year-round nectar and pollen, reducing the need for supplemental nutrients and sugar feeding during the winter months. Simple harvesting methods where the honey is squeezed or slowly drained from the honeycomb eliminate the need for any specialized equipment. The wax, honey and propolis that are gathered in this process are all valuable, renewable and in high demand around the world. Easily stored without the need for refrigeration or complex techniques, all the products that are harvested from the Apiary can be sold when the need arises.

HOW TO:

Once established, simplicity and sustainability in an Apiary farm can be maintained using only what is easily found on the farm. By following the “honeybee hygienic response” technique, local honey and lemon grass (Limonzillow) that grows abundantly in most flower pots and is indigenous to Colombia is all the is required.

For a liter of “hygienic” spray.

Boil 500ML ½ liter of water and add 20 grams of lemon grass. Dried, fresh, leaves, stems, flowers and roots of the lemon grass all carry the pheromones necessary. Like catnip for bees, the boiled lemon grass water interferes with smells inside the beehive allowing the bees to detect and remove the parasites, pests and diseases “hygienic response.”

Add 500ML ½ liter of honey (locally harvested) and mix well. The honey, added to the pheromone blocking power of the lemon grass water, gives the bees the sugars to help them remove disease, Varroa and to clean their home.