Bee Colony Collapse Disorder (CCD) Remedy Utilizing Environmental Balance Device (EBD) Technology

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1. HONEY BEE ECOLOGY

A) Honeybee Society

Honey bees are social insects, which means that they live together in large, well-organized family groups. Each honey bee colony typically consists of three kinds of adult bees: one queen, many workers, and some drones. Each member has specific tasks to perform. Worker bees, are sexually underdeveloped females. Basically, worker bees and queen honey bees are the same female bees and each female honey bee has the possibility to become a queen bee. Queen bee nutrition consists primarily of royal jelly which is secreted from the worker bees. Normally, royal jelly is fed to all bee larvae, whether they are destined to become drones (males), workers (sterile females), or queens (fertile females). Queen larvae are fed royal jelly throughout their growth while drones and worker larvae are only fed royal jelly for three days. The queen bees, therefore, grow much larger than the other bees.

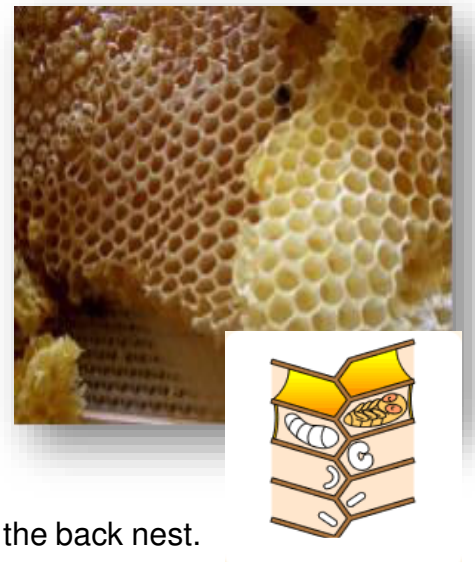
A queen honey bee develops in a special chamber known as a “royal cell” and worker honey bees develop in hexagonal cells. Their respective destinies are decided depending on the locations where their eggs are deposited. The queen honey bees’ primary purpose is to lay eggs and they provide about 1,000 eggs each per day. Worker bees are also female but have distinct functions. The crucial difference between the two is that the queen honey bee has a 6- year life span while the worker bee lives for about one month. This is a rare ecosystem in entomology.

Drones do not assist worker bees. Their primary function is to fertilize a virgin queen bee during her mating flight. During the Spring mating season, hundreds of drones are attracted to each hive and once they find a virgin queen, they fight desperately to mate. Drones actually die right after mating. The queen bee mates with numerous drones during this period and thus the number of mates are equal to the number of dead drones. This is the destiny of most drones although those idle drones which have not mated and try to remain in the hive are considered useless and are forced out the hive. Since idle drones cannot feed themselves, they starve to death.

B) Beehives

Beehives are composed of densely combined mass hexagonal cells (‘honeycomb structure’), having hexagon columns and/or hexagonal shaped holes.

A hexagon which has the exact same perimeter as a triangle or a square, nevertheless has a larger area, therefore providing the maximum amount of honey storage while using a minimum quantity of honey wax to build it.



It is well-known that honeycomb structures are strong and durable. Beehive structures include back nests and front nests which are very precisely divided by walls. Each cell has six vertical walls, as well as a "floor" and a "ceiling" composed of two angled walls. The crossing joint points of the hexagons in the front nest, is the center of the hexagon in the back nest.

The cells slope slightly upwards, between 9° and 14°, towards the open ends.

Beehive structures are well-organized and highly functional for honey bees. The hexagonal wax cells are partitions for bee broods and food storage and are also used by honey bees to communicate with each other by vibrating the hexagonal wax cell walls. Swarming is the process by which a new honey bee colony is formed when the queen bee leaves the colony with a large group of worker bees. In the prime swarm, about 60% of the worker bees leave the original hive location with the old queen.

C) Bee Products

i) Honey

The most common bee product is honey. Worker bees suck the nectar from flowers and store it in a stomach-like organ known as the "honey crop". When the honey bee returns to the colony, another bee takes the nectar and spreads it over the wax honey comb to help the water evaporate. The second bee also adds enzyme known as "invertase", to help break down the sugar molecules. Once it thickens, it is sealed in a cell with a cap of wax.

ii) Royal Jelly

Royal jelly is comprised of protein, fat, sugar, amino acids, vitamins and minerals. It is the queen bee's primary nutrition. Worker bees collect pollen eating and absorbing it in their intestines thereafter secreting it from their pharyngeal glands. Royal jelly also contains resistance enhancing acetylcholine which is provided over the long term to queen bees and to bee larvae over the short term, thus explaining why the queen bee grows three time larger and lives 30 times longer than worker bees.

iii) Propolis

Propolis is a mixture of beeswax and resin containing antibacterial and antifungal properties. It is collected by worker bees from leaf bark and twigs to line hive cavities, brood combs, seal cracks and reduce the size of the hive entrance to protect against harmful bacteria and viruses.

2) BEEKEEPING AND FLOWER POLLINATION

A) Beekeeping

Mankind's beekeeping activity has a very long history. Beekeepers have had to learn bee characteristics in their natural as well as mankind's artificial environments. The primary purpose of beekeeping has been, and continues to this very day to be, agricultural crop pollination as well as bee product harvesting.

B) Beekeeping History

In 1919, a now famous cave painting was discovered in Araña, Spain, depicting a famous honey-gathering scene. The dating of this cave art is not firmly established, but it is believed to be epipaleolithic and is estimated to be around 6,000 to 8,000 years old. Pictorial and written references to honey bees have also been found in numerous other ancient civilizations including, but not limited to Sumer, Babylon, Hittite and India (Veda period).

Bees and honey collection, have also been depicted in ancient Egyptian hieroglyphs dating back to 3,500 BC as well as in Greek artifacts, sculptures, coins and jewelry dating back 450 BC.

C) Modern Beekeeping Techniques

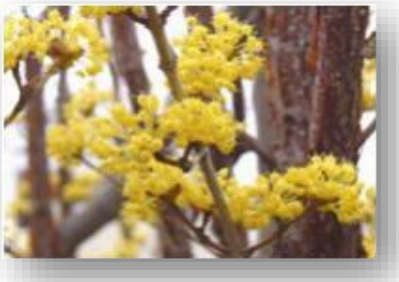
The Langstroth bee hive configuration patented in the USA in 1852, is now used in many parts of the world for beekeeping, and it ensures that bees build framed honeycombs which can be moved with ease.

D) Honey Source Plants

The types of flowers which honey bees collect pollen and/or nectar from, differ greatly depending on a number of factors including, but not limited to, the plants and areas where they are grown. There are approximately 120,000 kinds of honey plants in the world and honey bee natural functions have led to numerous varying pollination business enterprises and methods.

According to the US, National Honey Board (NHB), there are approximately 300 kinds of honey available on the market based on various kinds of honey plants, such as alfalfa, bass wood, soba (buck wheat), avocado, blueberry, clover, orange, eucalyptus, sourwood, and fireweed, etc.

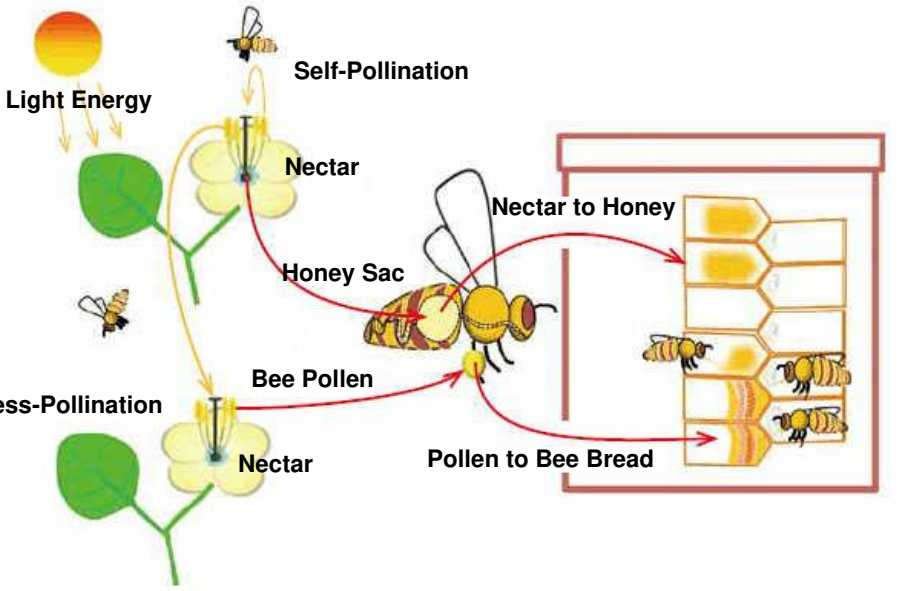


E) Honey Bees and Plants

Plants are classified into the gymnosperms and angiosperms. Gymnosperms do not grow flowers or fruit but do grow seeds. Gymnosperms include ferns, cycads, conifers, and ephedra genus. Angiosperms on the other hand, are seed-bearing vascular plants known as “flowering plants”. Their reproductive structures consist of flowers in which the ovules are enclosed in an ovary and the carpels are protected by developing seeds which develop into fruit. Angiosperms are pollinated by wind and by insects. It is interesting to note, that scientists now theorize that flowering plants and insects appeared simultaneously on our planet earth.

Flowering plants provide nectar by converting sunlight energy to sugar. Honey bees derive nutrition from nectar and this fuels bee flight, bee hives and bee hive construction materials. All types of bees including honey bees and flower bees depend on flower nectar and pollen. Flowers require pollination and pollen is indispensable for food production for honey bees - both can exist in harmony so long as a healthy balance is maintained.



3) HONEY BEE BEHAVIOR

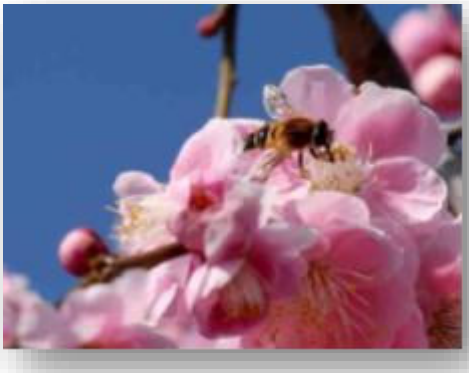
The first and foremost pressing duty of colony honey bees, is to reproduce. As already indicated, they live together in large, well-organized family groups and each member of the colony has a clearly defined function and duty. The worker bees assist drone bees to mate with the queen bee. The queen bee lays numerous eggs to maintain the colony and the development of a new colony.

The activities of each honey bee outside of beehive are different depending on the respective duty of each type of bee. For example, a queen bee leaves the hive to mate with drones in flight and also during the 'swarming' period when it is time to withdraw from the hive to establish a new bee colony (generation).

The bee drones leave the hive just to mate with the queen while she is in flight. Worker bees frequently leave the bee hive in order to forage for and collect pollen, nectar, honeydew, propolis, water, etc.

Worker bees conduct well organized trail food collection surveys and very carefully select from the optimal flowers. They also communicate with their adult family worker bees conveying positional information regarding the exact location of pre-selected, targeted flowers and they also teach younger worker bees how to collect nectar and pollen. They also observe and discriminate whether the flowers they have surveyed are optimal to collect from or not. The adult worker bee's ability to study, memorize, and communicate is truly indispensable.

During surveillance flights, worker bees use their senses of sight and smell to very carefully investigate and identify optimal flowers to collect nectar and pollen from. Their surveillance flights extend over several kilometers/miles from the bee hive. They necessarily depend on their sense of smell to distinguish between different natural and man-made chemicals as well as their sense of sight, to recognize flowers during flight. Bees have compound eyes which reflect and are composed of over 6,000 single lenses. Bees have poor eye sight and can only see clearly within a few cm of their location but they sense wavelength colors which humans are unable to. Bees can, therefore, easily perceive flower petals since these reflect UV rays and this greatly assists them optimizing nectar and pollen collection sites. Once having collected nectar and pollen, these same homing capabilities function to help them find their way back to the bee hive.



Worker bee flights are believed to incorporate continuous non-stop landscape snap shots. This capability assists in foraging and mating flights, escorting the queen bee and the colony as a whole during swarming flights. Worker bees are attracted to flowers by their color, shape and form as well as their aroma. Their sense of smell differs from that of mammals given that their olfactories function as antennas and the vast number of smell receptors located on the antennas' surfaces, detect aroma, touch, temperature, as well as moisture.

While visiting flowers, worker bee behavior resembles that of horseflies and butterflies. Worker bees however, have a specific habit known as 'Flower Constancy', which entails visiting the same kind of blossoming flowers during foraging flights. For worker bees, learning the flowers' aroma takes priority over learning the flowers' forms and colors. The destination and timing of worker bee flower foraging flights are planned with precision. Bees recognize their exact locations during flight. They perceive scenery, target flower formations as well as available pollen and nectar quantities.

By performing a "waggle dance", bee foragers communicate with other colony bees indicating direction and distance to nectar and pollen yielding flower patches. The direction of the bee's waggle in relation to gravity, is the same as the direction of the source of nourishment in relation to the sun's horizontal position. Flowers located in the direction of the sun, is communicated by dancing in a down-up direction in the bee hive. When the sun and the flowers are on opposite sides of the bee hive, the direction of the dance is in an up-down direction. Other directions are indicated by either waggling right or left from a vertical starting point at the same angle as where the source of nourishment is located in relation to the sun as seen from the bee hive. Honey bees sense terrestrial magnetism which they require in order to communicate direction and location using sunlight as a compass. It is evident that honey bee foraging performance requires a highly developed senses of vision, hearing or sound, taste, smell, and terrestrial magnetism detection.

4. COLONY COLLAPSE DISORDER (CCD)

A) Bee Disappearance

Since 2006, vast numbers of artificially raised worker bees have been dying and/or disappearing in the USA, Canada, the United Kingdom, Germany, Switzerland, Spain, Portugal, Italy, Greece and other countries. It is estimated that 25 % of the total number of the honey bees have disappeared from the Northern Hemisphere. This phenomenon is known as "Colony Collapse Disorder" (CCD). Great numbers of honey bees abandon their bee hives from one day to the next. CCD usually results when 30% to 90% of the worker bees disappear from the beehive and leave the queen bee and a few nurse bees behind to fend for themselves. Since worker bees are responsible for taking care of the queen bee as well as nursing bees, their absence has serious detrimental consequences for the remaining colony. In addition, it is perplexing to note that after most CCD events, there are no dead worker bee bodies to be found in the vicinity. The causes of such massive worker bee disappearances have remained elusive although various theories abound.

Bees produce honey and also pollinate which is indispensable for agriculture. Even though a plant may flower, it cannot produce unless it is first pollinated. Farmers normally purchase or rent honey bees from honey bee suppliers or beekeepers to dispatch the honey bees to their farm fields or green houses to pollinate.
CCD has also been very detrimental for pastures and grain crops, and this has led to the shortages in milk, chocolate, coffee, bio-fuels, cotton, etc.

B) Causes of CCD

Scientists now studying the CCD phenomenon believe it is caused by several complex factors working in unison such as the presence of harmful insects, disease, insect extinction and loss of habitat. In particular, 'Varroa Destructor' which is a parasite mite which preys on bees, is thought to be one of the primary contributing causes of CCD.
Most farmers that have harmful insect problems use insecticides. Insecticides have been developed to exterminate mites although the Varroa Destructors mite, has been very adept at developing resistance against them.

Present Day Causal Theories for CCD

① Pesticide / Insecticide theory
② Genetically-modified crop theory
③ Disease-causing germs and parasites
④ Mite theory
⑤ Malnutrition theory
⑥ Bacteria theory
⑦ Stress theory
⑧ Electromagnetic wave theory

The causal theories listed above are in fact, intrinsically interrelated. To give a few examples, large scale monoculture farming (single plantation) which requires intensive pollination is problematic for bees since the monoculture provides only one type of pollen and when fed to bee larvae, it leads to malnutrition as well as immune deficiencies. The use of neonicotinoid-based insecticides has led to a decrease in bee homing instinct. Parasite Varroa mites and Nosema are known to induce Israel Acute Paralysis Virus (IAPV). IAPV has been detected in numerous CCD infected colonies. However, it does not mean that IAPV always causes CCD in infected bee colonies. It is thought that CCD occurs when a colony is weakened resulting from a number of complex factors. RNA interference is being developed to counter CCD but some time will be required until it can be fully developed and effectively implemented.

5. ENVIRONMENTAL BALANCE DEVICE (EBD) TECHNICAL SUMMARY

A) Nature's Balance

We are all composed of, as well as surrounded by, positive (+) and negative (-) energy. EBD systems have been developed taking into account that our planet Earth, including all of its material, is actually one piece of aggregated negative particle (-) and that the Universe surrounding our Earth, is composed of positive particles (+). Positive ultra-elementary particles (hereafter referred to as "PEP (+)", are present in Earth's atmosphere and migrate downwards towards our Earth's surface. Negative ultra-elementary particles (hereafter referred to as "NEP (-)", contain a slightly higher concentration than the positive particles (+) and are present in our Earth's core and migrate upwards towards our Earth's surface.

The PEP (+) and NEP (-) particles are dispersed throughout our Earth extending c. 50 km into the stratosphere above, as well as c. 50 km downwards into its crust below. In natural environments undisturbed by pollution, both sets of said energy particles (+ & -), are normally equal or very close to being equal (balanced), thus providing for balanced ecosystems. Since the onset of the industrial revolution however, NEP(-) energy concentrations have been gradually increasing resulting in an accumulative deterioration of the balance between both types of energy fields. This in turn, has led to a detrimental impact in the atmosphere as well as on our planet Earth - in both cases negatively affecting atomic frequencies in all matter located within such imbalanced areas.

Some of mankind's activities which are directly linked to altering the environmental balance include, but are not limited to, mining, construction, electric power generation & consumption, industrial processes, extracting and burning carbon based fuels, agricultural chemical use, mass production, mass consumption, mass waste disposal as well as nuclear bomb detonation testing, etc. Widespread global contamination has caused significant decreases in microbial population densities as well as microbial diversity which in turn has negatively affected the food chain for all living organisms.

Our planet Earth is itself, a life form and plants have very important functions in nature assisting and maintaining it. Using sun light for photosynthesis, plants absorb carbon dioxide from the atmosphere and emit oxygen during their life cycles. During these life cycles, enzymes are secreted from plant roots and these secretions are critical for microbial propagation in the soil. This process provides a natural harmony for the propagation of small life forms in soil promoting fertility.

In order to enhance plant cell metabolism, plant cell atomic rotation is key. Securing energy concentration balance between PEPs (+) from space and NEPs (-) from our Earth's crust is indispensable for plant growth promotion. The structure of plants

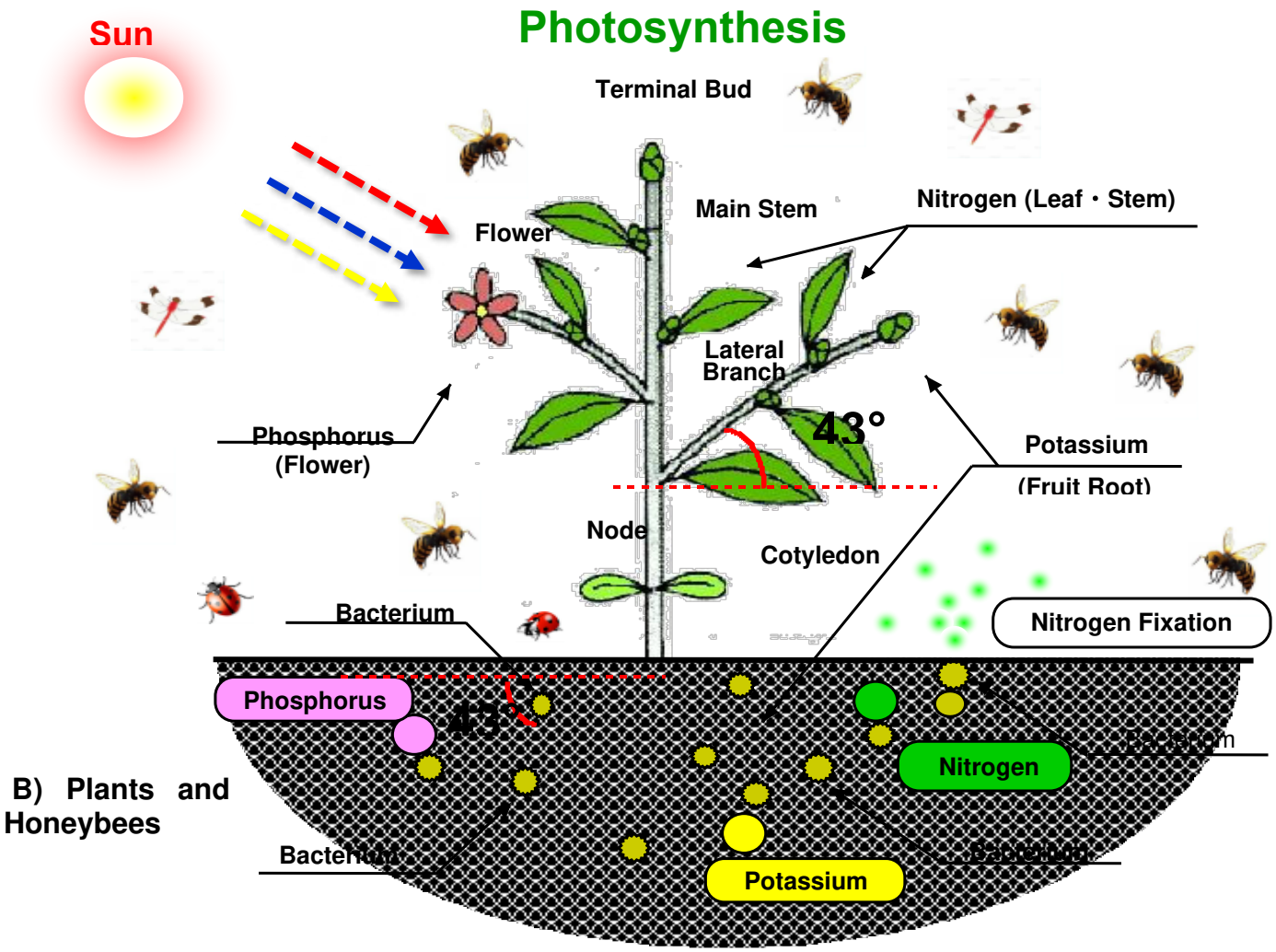
actually provides us with important hints regarding absorption of both of these sets of energy particles.

Plant branches branching from their main stems, function to absorb PEPs (+) from the airspace with the branches growing diagonally at approximately 43 degrees from a horizontal line. Plant roots on the other hand, which branch from plant rhizomes, function to absorb NEPs (-) from the Earth's crust. Such roots grow diagonally below ground at approximately 43 degrees from a horizontal line. Plant metabolism is enhanced when both types of energy particles are optimally absorbed and thus, photosynthesis and the coexistence between plants and microorganisms is thereby maintained.

Plants have additional important functions. They not only absorb NEPs (-) from the Earth's crust, but they also absorb excess NEPs (-) energy which has increased and accumulated on Earth. In particular, plants absorb NEPs (-) which are emitted by human beings.

In prehistoric times, Earth maintained the required and necessary amount of forests in relation to human population. Plants absorbed NEP (-) energy emitted by human beings whose incidence levels of stress and disease was kept relatively under control through NEP (-) energy absorption by plants.

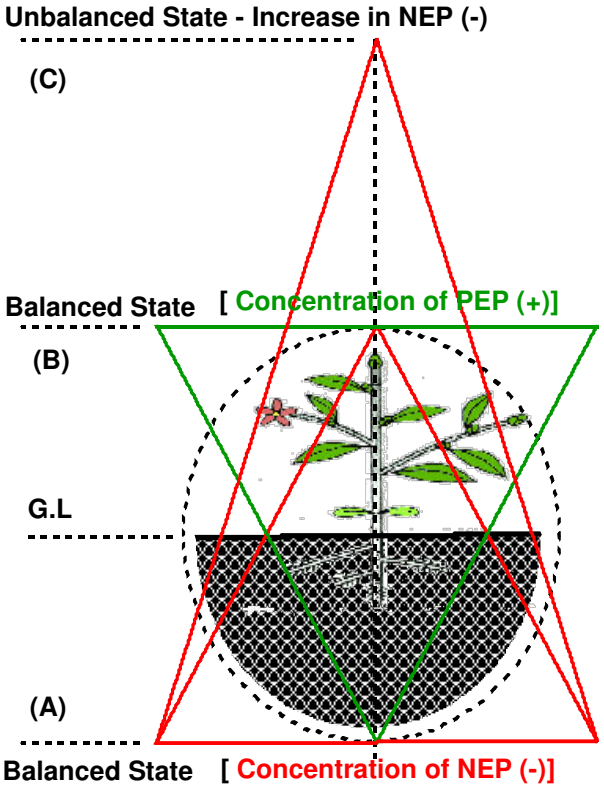
The current global population now exceeds 7 Billon and it is continually increasing. In addition, the ratio of deforestation through human economic activity, has exceeded the ratio of NEPs (-) energy emitted by human beings. The concentration of the NEP (-) energy has, therefore, increased on Earth. According to the United Nations' Food and Agriculture Organization (FAO), an estimated 18 million acres (7.3 million hectares) of forest, are lost each year. This land mass is about the size of Panama. If such levels of deforestation continue, NEP (-) energy levels will continue to increase since there are fewer and fewer NEP (-) absorbing plants on Earth with each passing year.



B) Plants and Honeybees

Honey source plant flowering is indispensable for bee colony breeding and good health. Modern agricultural practices and increased urbanization has resulted in a decrease in honey source flowers. In the numerous countries where CCD is now present, it is interesting to note that their respective volumes and varieties of honey source plants have been decreasing over the course of the last 40 years. Furthermore, the devastation of natural forests has been ongoing and there is no doubt that the natural environment, which has been protecting humans throughout the ages has been rapidly deteriorating. Maintaining natural environment diversity is essential to balanced biodiversity including those of insects and plants to work and coexist together in harmony.

As already mentioned, plants have been absorbing NPE (-) on Earth in order to sustain a balanced state in nature. NEP (-) concentrations however, have increased by vast amounts and have exceeded the levels which plants are able to effectively absorb to sustain and maintain the necessary balance.



It is important to understand the PEP (+) and NEP (-) input and output mechanism in nature. In a balanced environment, plants absorb NEPs (-) from their surroundings and the same concentrated amount of PEPs(+) is simultaneously absorbed into their plant tissue. This ensures that the plants themselves maintain a balanced state. However, if the plants have to absorb excessive amounts of NEPs(-), the necessary energy balance between NEPs (-) and PEPs (+) in the plants cannot be maintained. Therefore, plants themselves fall under an imbalanced state.

In the Diagram on the upper right, the area marked "B" reflects PEPs(+) present in the airspace which push downward towards the surface. The area marked "A", reflects NEPs (-) in the Earth's crust which push upwards towards the surface. Both "A" and "B" areas mix at ground level (G.L.) as indicated by the green and red equilateral triangles. In the current global environment, the concentration of NEPs (-), has increased as reflected in the "C" Area, which has caused an imbalanced situation on Earth. **Reactive Oxygen Species (ROS)** is produced when excessive NEPs (-) energy is present in the environment.

Reactive Oxygen Species (ROS) is an element which is produced by electromagnetic waves, chemicals, high temperatures and air pollution. These factors cause one electron to spin off from the outermost orbit of the stable form of oxygen (O2). Some stable oxygen (O2), thus becomes unstable, which turns into an activated radical state. ROS itself takes electrons away from other substances and this process is known as "oxidation reaction" which takes place continually on an ongoing basis.

ROS production radicalizes nitrogen and hydrogen present in the atmosphere and large amounts of microorganisms which exist around plants are thereby eliminated by the ROS reaction. This interferes with plant growth and in some cases causes an increase in the number of harmful insects present since they are attracted to, and propagate in, highly concentrated NEPs (-) areas.

Honeybees which gather nectar from flowers instinctively react to slight environmental changes taking place in plants/flowers. When the concentration of NPEs (-) increases in plants/flowers, the bees immediately sense this change and avoid foraging in such unbalanced areas. Today, however, most honey source flowers in the Norther Hemisphere contain increased NEP (-) concentrations. Honeybees have, therefore, lost healthy foraging areas in which to colonize and thrive.

Colony Collapse Disorder (CCD) has become a global issue, and the ① Pesticide theory, ②, Disease-causing germs and parasites theory, ③Mite theory, ④Malnutrition theory, ⑤Bacteria theory, ⑥ Stress theory, and ⑦ Electromagnetic wave theory have each been seriously considered as being the root cause of CCD. The disappearance of the honeybees is not due to just one or two of these theories. In fact, it is each one of these theories, combined and acting in

unison, which has led to an increase in NEPs (-), which in turn has so seriously affected the honey bees.

Current environmental problems such as global warming, ozone layer depletion, abnormal weather, deforestation, and an increase in global population has also contributed greatly to an increase in NEPs (-) on Earth and said increase has also contributed to CCD.

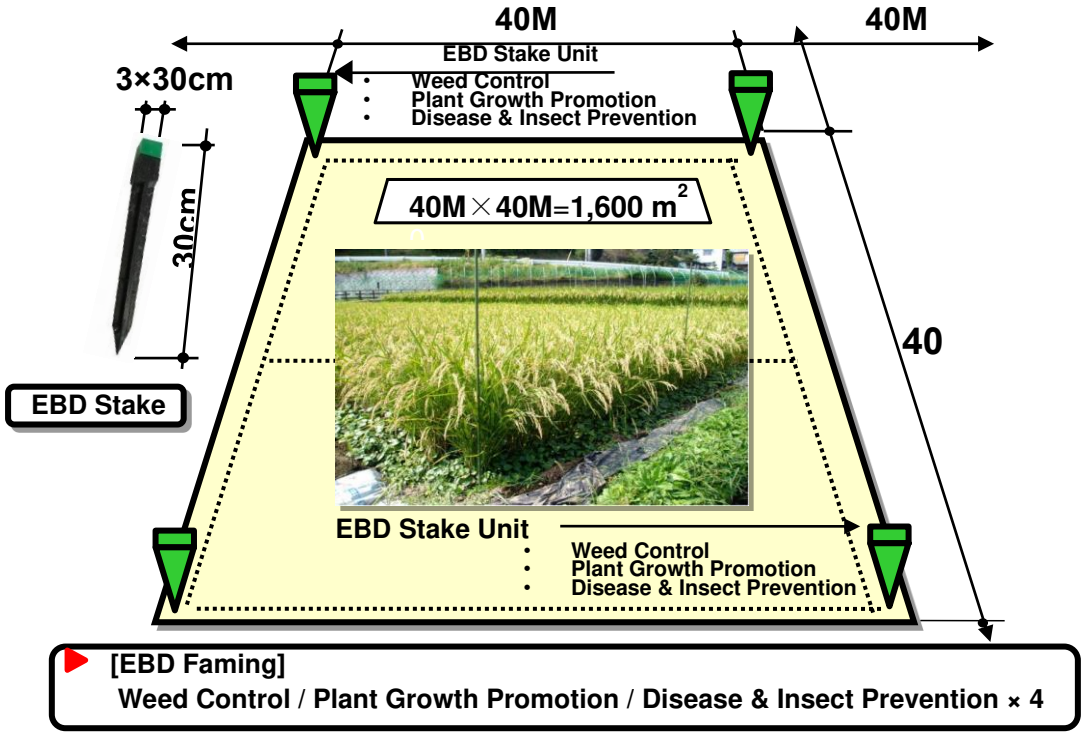
Honeybee instincts instruct them to avoid foraging in and around high NEP (-) areas and plants. If, however, all of their surrounding foraging areas have excessive NEP (-) levels, they have no choice but to forage there in order to survive. They, therefore, collect nectar from the high NEP (-) concentration honey source plants.

As a result, the amount of NPEs (-) increase in their bodies and this in turn causes deterioration in their sense of direction, smell, sight, and touch which they instinctively possess. In particular, it is believed that a great number of the honey bees lose their homing instinct. When the honeybees deviate from a '***Group Sharing a Common Destiny',*** they cannot survive on their own in nature and they die.

There are approximately 15,000 ~25,000 honey bees per colony during the winter season and more than 60,000 honeybees per colony during Spring and Summer. CCD is causing their disappearance in huge numbers and it is having a devastating effect on beekeepers and farmers alike. Their disappearance is seriously threatening food crops which are indispensable for maintaining human lives. If CCD cannot be resolved, it will develop into an existential threat for mankind.

C) Plant Balance Improvement

The increase in NPE (-) concentration in honey source plants is THE primary factor for causing CCD since honey bees and plants coexist in the environment. We must be aware however that it is not only the honey source plants, but also all types of plants which have an increased NEP (-) concentration. It is estimated that there are over 400,00 different kinds of plant species in the world and over 4,000 of them are honey source plant species. Environmental Balance Device (EBD) technology resolves CCD by increasing PEP (+) concentrations to counterbalance excessive NEP (-) concentrations and thus attain nature's original balance.



EBD Systems are offered in a number of different configurations, shapes, sizes and materials to correct NEP (-) and PEP (+) imbalances in different environments and applications. To resolve CCD, we offer two different types of EBD Systems. EBD Stakes are engineered and designed for vertical installation below ground at 45 cm in depth, each at 40 meter (131 Feet) equidistant intervals around the perimeter of the area of land to be treated and balanced. The EBD Stakes will absorb PEPs (+) from the airspace located within the EBD perimeter and will amplify PEPs (+) to the degree necessary to balance out the excessive NEPs(-) concentrations present within the EBD treated perimeter.

When the balanced state is created within the EBD treated land area, oxidizing ROS will convert into a stable form of oxygen by collecting free electrons from the atmosphere. ROS levels will greatly decrease and the absolute amounts and varieties of natural indigenous microorganisms will increase. Once the EBD Stakes have been installed and sufficient time has elapsed to enable nature to adopt corrective balancing measures, all beneficial indigenous plants, animals and lifeforms present within the EBD treated perimeter, will once begin to significantly propagate. The average honey bee foraging area is 2 to 3 km (1.2 to 1.8 miles) in radius around the bee colony. We recommend that EBD Stakes be installed at 40 meter (131 feet) intervals around the bee hive radial perimeter.

If the perimeter contains farm land, the farmer will also benefit greatly given that EBD Stakes will cure agricultural diseases, increase crop yield, reduce soil salinity concentrations, balance soil pH levels, remediate organic and inorganic pollutants in the soil and also improve the composition and crumb structure of the soil. The farmer is encouraged to cease using agricultural chemicals, herbicides, insecticides, pesticides. Chemical fertilizers will not be required after the EBD Stakes have been installed but if the farm land in question is not fertile, the farmer should apply 10 % of the normal fertilizer dosage and we recommend that organic fertilizer be used instead of chemical based fertilizers. The EBD ecosystem restoration within the perimeter, will attract microorganisms, small animals, beneficial insects and birds and the EBD area, will be converted into a safe haven for the natural food chain. Such an optimal environment, will attract honeybees. The honeybees which enter the EBD treated environment will assist the ecosystem by collecting nectar and pollinating as a member of a ‘Group Sharing a Common Destiny’. Colony Collapse Disorder (CCD) will be resolved.

D) EBD for Colony Collapse Disorder (CCD)

On average, honey bees weigh approximately 80mg each and each honeybee visits more than 200 flowers in one single flight which takes about 30 minutes. Each honey bee brings nectar back to the colony and the nectar weighs almost as much as the honey bee. A honey bee forages approximately 10 times per day.

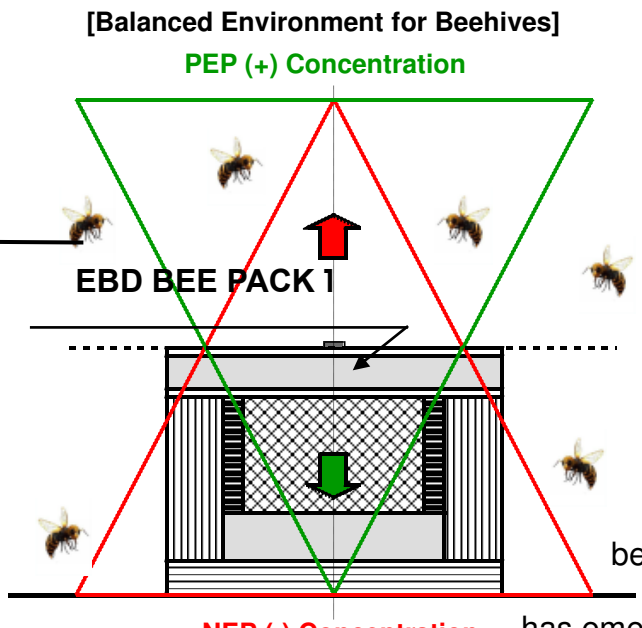
If we assume that the honey bee foraging flight radius is approximately 1.8 miles (3 km) from its beehive, the location of the EBD Stakes will be 1.8 miles (3 km) from the beehive to the cardinal points. The EBD Stake installations will be at 131 feet (40 meter) equidistant intervals along the entire perimeter of the radius. In this case, the perimeter will be 3.7 miles (6 km) long and 150 EBD Stakes will be required. Although the EBD Stake System installation around the 6 km (3.7 Mile), beehive radius is exceptionally beneficial to beekeepers and neighboring farmers alike, in some cases, financial resources may be limited, thus limiting the beekeepers' ability to implement. Another option is to install 8 EBD Stakes at equidistant intervals along the perimeter of the radius. This will help reduce excess NEP(-) concentrations in the flowering plants located within the perimeter thus improving the environment for honey bees as well as all other life forms within. With only 8 EBD Stakes installed however, farmland and crops located within the perimeter will benefit somewhat but not the same degree as would be the case were EBD Stakes installed at every 40-meter (131 ft.) interval.

E) Environmental Balance Device (EBD) Treatment for Beehives

NEP (-) concentrations have been increasing at accumulative and alarming rates on a global basis including around beehive locations. Free radical oxidizing ROS (O1) levels which are created by such excessive NEP(-) concentrations, are present in the beehives and cause ecosystem imbalance. Such imbalance, negatively affects honey bees to the point where they are not able to function normally. As already indicated, such imbalance directly interferes with their sensitive sense of direction, smell, sight, touch as well as their instinctive homing abilities.

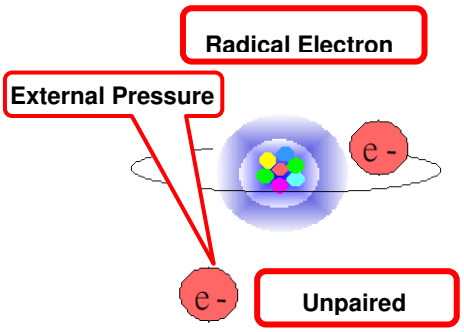
Although EBD Stake unit installation around the 6 km (3.7 Mile) beehive radius, represents the optimal way to remediate and improve the entire environment surrounding the beehive, this proposal, also aims to educate and provide private and commercial beekeepers alike, with effective green and sustainable technological solutions, to effectively resolve and cure CCD on a long term basis within their own property line perimeters. The photo provided below, reflects a typical man made beehive with an EBD Bee Pack placed on its top surface. Please note that the EBD Bee Pack may also be placed horizontally on the floor inside the beehive for added security against theft and vandalism. Beehive and honey bee natural balance will be produced within a number of months following EBD Bee Pack installation and once produced, will be sustained for years.

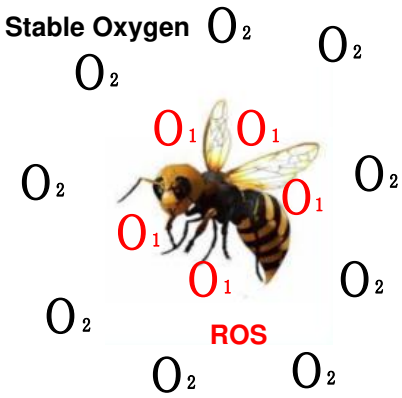
EBD BEE PACK 1



We believe that CCD has emerged and continues to expand in an accumulative fashion worldwide, due to the following factors:

1) Agricultural chemicals used in pesticides, insecticides, fertilizers etc.
2) Pathogens and parasites
3) Mites
4) Malnutrition
5) Bacteria
6) Stress
7) Electromagnetic waves.
8) Global warming
9) Increase in CO2
10) Air pollution
11) Acid rain





There are high NEP(-) concentrations around beehives and this creates oxidizing ROS which is inhaled by the bees causing damage to their cells.

By placing one EBD Bee Coaster horizontally on top of or inside the beehive, NEP (-) and PEP(+) concentration levels will reach a balance over time, causing unstable ROS to revert back to its stable healthy O2 state. The bees will fully recuperate and regain their full functions.

1) EBD technology creates a balance in the positive and negative energy charges present in the beehive and in the bees themselves. Due to pollution, there is an excess in negative energy charge which causes one of the two oxygen electrons, to spin off creating oxidizing and destructive Reactive Oxygen Species (ROS). ROS is unstable and robs oxygen electrons from the immediate surroundings - including from the bees themselves. This electron depletion in the bees, causes their immune system to weaken and this is why so many bees are dying all over the world.

2) EBD Systems emulate a balanced energy environment which in turn causes unstable ROS to combine once again with another oxygen molecule thus providing for healthy oxygen (O2) in the bees' environment. With healthy non-oxidizing O2, indigenous microorganisms which have positive symbiotic relationships with the bees, will greatly increase in population densities and varieties and will in turn, boost the bees' immune systems and overall health.

3) Restoring the NEP (-) & PEP (+) energy balance in bees and in beehives, will lead to an increase in the number of honey bees, as well as an increase in honey and royal jelly yields. In addition, honey and royal jelly quality, taste and nutritional value will also be improved.

4) Bee propagation will increase significantly.

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