Bee Awareness Week, August 14-22nd
by Dick Johnson 8.19.10

Many beekeepers, their associations, and environmental groups are marking this week and especially August 21st as a time for recognition and appreciation for the valuable contributions of honeybees. The purpose of this event is to encourage public awareness of the wonderful gifts from the honeybee hive. A few ways that non-beekeepers can support, help, and save the honeybee are listed here:

• Consider beekeeping as a hobby.

• Support local beekeepers-buy local honey.

• Attend and support your local bee club (Catskill Mountain Beekeepers Club).

• Use caution using pesticides at home.

• Recognize the honeybee compared to other more aggressive bees, like yellowjackets and hornets.

• Plant a bee-friendly garden with nectar producing blossoms.

• Understand that bees need dandelions and clover for spring build up. Save some for the bees.

• Consider allowing a beekeeper to place a hive on your property.

Know that beekeepers are always ready to help home owners by removing swarms and to remove bees from buildings. Be aware that your local beekeepers are involved in community educational nature activities for children and garden groups.

The devastating orange grove disease called “greening disease” has been spreading among the groves in Florida as reported in previous “Bee Corner” columns. This serious disease spread by an insect called a psyllid has caused some growers to cut down and burn diseased orange trees and replace them with new resistant varieties. Some growers are even giving up on oranges and planting wine grapes instead. Research on control of this insect invasion continues in DeSoto and Orange counties and the state “Florida Grower Organization” has presented the 2010 Citrus Achievement Award to Jerry Newlin. Jerry reports outstanding results in his work since 2007 with spraying dimetholate in various concentrations on those groves heavily impacted by the disease... By limiting the treatment to night time they reduce the hazard to honeybees in the groves. During the Honeybee Awareness Week our club celebrates 15 years of continued growth by counting record membership of 100. The next meeting of the Catskill Mtn Beekeepers Club will be held on Tuesday September 14th at 7:00 PM at the Agroforestry Resource Center on Rt 23 in Acra.

Feeding the Birds and Bees
by Dick Johnson 8.13.10

A phone call arrived a few days ago complaining about the honeybees. It seems that many bee calls are attracted to my phone. This guy told me that the bees were crowding out the humming birds at their feeder and scaring them away. I have noticed a few bees at my feeder but they don't seem to deter the hummers. Bees love any thing sweet and the 25% sugar syrup used in the feeder is just the same as nectar in the flowers to the bees. Beekeepers sometimes feed sugar syrup to build and to sustain a bee colony when they are low on honey. Since the tongue of the hummer is about one inch long and the tongue (proboscis) of the honeybee is only 1/8", the way to discourage the bees is to arrange in some way to keep the syrup level to far away for the bees to reach A hummer feeder with a longer reach would solve the problem or any feeder can be fixed with a "spacer" to lengthen the flower tube or even a piece of tape with a small hole big enough for the hummer bill but too small for bees to enter. Hummer information also suggested keeping the feeder clean, the syrup fresh, and use only sugar, -not honey. Baby birds need protein and the hummers do supplement their feeding with small insects. They cannot open their bill widely and so they can only catch tiny insects. It is suggested to invite those pesky, tiny fruit flies for the hummers to feed on by leaving a banana peel near the feeder.

Variable length of tongue is an important factor for feeding habits of birds and bees and the design of bird's bill is even more important for their feed choices. Honeybees have short tongues compared to bumblebees. In the higher mountains, most of the nectar bearing blossoms have a long corolla, too deep for the honeybee to reach. The bumblebees with a longer tongue (about ¼-3/8") can reach deeper into those long blossoms. This difference in floral habitat results in limiting honeybees to lower altitude and favors the bumblebees that thrive in the mountains.

Birds feeding habits are widely diverse. They may be grouped into feeding habits as VEGETARIANS, OMNIVORES, and CARNIVORES. The shape and size of a birds' bill varies with the type of food that each species favors. Vegetarians are equipped with a strong, heavy, short bill suitable for cracking hard seeds. These birds can be observed opening a sunflower seed and extracting the kernel by using only their bill. The omnivores, (mostly eating insects and grubs) show a longer, sharp pointed bill that is best for hunting for bugs and eggs in bark crevices. These birds also like seeds from a feeder but cannot crack hard seeds and must grab a seed and take it to a perch where they hold it with one foot and hammer away to split out the kernel. The strict carnivores include those larger birds with sharp, hooked bills for tearing meat.

Vegetarians include: Goldfinch, Purple finch, Rose breasted grosbeak (with striking white bill contrasting with the black head) Evening grosbeak, (our winter visitor), Cardinal, Junco (with pink bill) and most Sparrows.

Omnivores include: Chickadee, Tufted titmouse, both white breasted and red breasted Nuthatches, Spring warblers, Woodpeckers, Kingbirds, Phoebes and all flycatchers, Purple martins and Swallows (their bill is short but with a wide mouth they catch flying insects on the wing). Kingbirds are a large type of flycatcher and together with Purple martins and Catbirds are often seen eating honeybees. Beekeepers are warned NOT to install a Purple martin, apartment type birdhouse near their hives.

Carnivores include Hawks, Eagles, Ospreys and Shrikes Although the Blue jay and Grackle have big sharp strong bills they may not be able to crush hard seed as well as the "Grosbeaks" They are often seen stuffing a dozen or so sunflower seeds in their big mouths and flying away to munch them in private or to hide them for future feasts.

Early Migratory Beekeeping
by Dick Johnson 7.29.10

In 1878 C O Perrine, of, Chicago, planned to operate a floating apiary on the Mississippi River by moving the bees north with the spring. A crew of 15 workers were needed to manage the bees and boats as they sailed from New Orleans in May hoping to reach St Paul by the end of July. A steamboat pulled the barges loaded with 2000 hives and the outfit stopped along the way to give the bees access to the local flowers that were blooming. Apparently the honey flows were insufficient to produce a good yield during the few days the boats were docked each stop. Drowning in the river lost many bees and repairs delayed the trip causing them to reach only St Louis by late summer. The following year Perrine tried the trip again but heavy bee losses resulted in failure to make a profit. Later he was successful only by moving bees by rail.

Other beekeepers continued to try to transport bees by boat seeking out better foraging for their bees. In the late 1880's O O Poppleton sailed on the Indian River in Florida and was able to harvest some large crops from palmetto and other plants. He would move the hives all along the river and leave them to forage till the bloom was finished. Another successful beekeeper, W J Stahmann reported $45,000 pounds of honey by touring the St Croix and White Rivers in Florida.

Several beekeepers in California moved many hives of bees by rail taking advantage of later blooms in the foothills of the Sierra Nevada Mountains after the flowers in the lower region were finished. In 1918 a large beekeeper ran 3000 hives and would ship 161 freight cars all over California following the honey flow. He reported collecting120 tons of honey one season. Moving of the hives on and off the rail cars and loading them on horse drawn wagons was very labor intensive and as soon as the automobile became available, shipping by rail was discontinued. The improvement of interstate highways and the use of 18wheelers with trailers has moved the shipping of bees to a different level. 500 hives can be carried per truck and the cross-country trip can be made in 3 days. Commercial migratory beekeeping is carried on both the East and West coasts still following the bloom as they have been doing for about 150 years.

The next meeting of the Catskill Mountain Beekeepers Club will be held at 7:00 PM at the Agroforestry Resource Center on Rt 23 in Acra.

Floral Diversity and Bee Health
by Dick Johnson 7.22.10

Commercial beekeepers who pollinate our nations crops often transport their bees for long distances. For example, to pollinate the almond crop in Northern California during January, 1.2 million hives are needed and they come from the Gulf States, the Midwest, East Coast and even from Australia. After the almonds many of these hives travel to Oregon and Washington to pollinate cherries and then the apple crop. While in transit and also while waiting for days for the next crop to bloom, the bees need good feed supplements to prepare them for the job ahead. Carbohydrate needs for the bees are met by feeding sugar syrup or the cheaper HFCS syrup. The protein and mineral supplemental feed generally used is an artificial pollen substitute, often made of soy, and dried yeast. Over the years there have been dozens of recipes for artificial pollen but none are really as nutritious as natural floral pollen. If the bees are not properly fed with quality substitute foods the colonies will not have sufficient frames of bees for effective pollination and the grower will reduce the price per hive paid to the beekeeper. To stay healthy bees will need to be in a multifloral feedlot region at least part of the year.

Recent studies have shown that the quality of dietary protein fed can affect the immune resistance of the bees and also influence the bees production of the glucose oxidase enzyme (GOX). The GOX generates hydrogen peroxide needed to sterilize the entire colony as well as the food that is fed by the nurse bees to the young brood. The study found that while bees are pollinating a single crop, the pollen available to them is “monofloral” and is inferior in nutrition to the pollen obtained from a variety of floral sources. This diverse (or polyfloral) pollen contains a more complete and varied selection of amino acids and minerals for better bee health. These results suggest a link between protein nutrition and immunity in honeybees and underscore the critical role of resource availability on pollinator health.

The next meeting of the Catskill Mountain Beekeepers Club will be held on Tuesday, August 10 at 7:00PM at the Agroforestry Reesource Center on Rt 23 in Acra.

Honeybees Need Water
by Dick Johnson 7.2.10

To sustain a healthy colony, honeybees require large quantities of water in addition to nectar, pollen, and propolis. It is estimated that a typical hive colony gathers and uses 44 pounds of water per year. Water is used to dilute ripened honey by nurse bees as they feed the developing larva (brood). Water is also used to air condition the hive especially important during hot, dry weather (like we had last week). Water brought into the hive is distributed in a thin layer among the empty wax cells and the bees generate a vigorous movement of fresh air by "fanning" their wings. The resulting evaporation results in an "evaporative cooling" effect. The division of labor between foraging bees separates some bees that collect nectar or pollen or propolis or even water. Water gatherers have an easier job than the others as they usually find a large water source and can quickly fill their "nectar stomach" and return to the hive. Observers have measured up to 100 water trips per bee per day.

Bees will use any water source that is convenient and this includes a dripping faucet, the dew forming on lawn furniture in the early morning, or even a muddy puddle. In suburban neighborhoods bees often find birdbaths and children's wading pools and this can cause neighborhood problems. Polarized sun light is reflected from pools and ponds and the bees are attracted as their eyes can recognize these water sources. Pools are often located in the sunlight. The beekeeper needs to take steps to divert the bees away from neighbor's pools and there are several ways that this may be done. An alternate water source such as dripping faucet or wide pan with stones or floats (to prevent bees drowning) should be furnished closer to the hives. In extreme cases it may be necessary to cover temporarily the entire pool surface until the bees are diverted. It appears that bees prefer water that contains some minerals as they choose tap water to filtered or distilled water and probably get more minerals than they need from that mud puddle. Another extreme way to discourage bee visits to a pool is to spray only the edge with a repellent such as "Deet". During the cold winter weather, while bees are not flying, plain sugar or a soft sugar candy is often fed right on top of the frames. Bees need water to eat this carbohydrate for their survival. Otherwise it's like licking a lollipop without saliva. They can glean some of the water from their respiration that condenses on the cold hive walls for this purpose.

The next meeting of the Catskill Mtn Beekeepers Club will be held on Tuesday August 10th at 7:00 PM at the Agroforestry Resource Center in Acra on Rt 23.

Chinese Laundering
by Dick Johnson 7.2.10

Remember years ago when most city workers wore business suits, neckties, and white shirts and local Chinese laundries washed them at a low price and only asked “starch or no starch”. Well, the Chinese are still “laundering” and instead of starch they are “stiffing” the US for $200 million in uncollected duties in 2008 and 2009 while threatening the entire US beekeeping industry.

The label says “USA Grade A” so you assume that in some way the US government has inspected and approved of the honey in that jar. Actually that description has no relationship to the quality of that honey. The important criteria for buying wholesome and pure honey is elsewhere on the label. Look for the “country of origin” required by label law. This law is poorly enforced and so if the information is missing it is probably poor quality honey imported from an unknown country. Cheap honey is often contaminated with antibiotics, pesticides, heavy metals or diluted with corn syrup. Honey from China has been labeled as coming from other countries to avoid tariffs of up to %500 imposed after exporters there were “dumping” it in the US. Selling it at a much lower price than its cost- about one half of what it costs to produce in the US has almost ruined the market for domestic honey. For example the international bulk honey price of $US 1,600/metric ton in 2003 fell dramatically to $US800 in 2005 due to “dumping”.

Chinese honey has been transshipped through to other countries including India, Vietnam, Cambodia, Indonesia, and Laos. Most of these countries do not have enough beekeeping industry to produce the quantities that is exported. Texas A&M University has recently developed inspection criteria to determine the true country of origin for imported honey. The study of pollen in honey is called “Melissopalynology”. The identification of pollen grains present in all natural honey is now used to track down the origins of honey with questionable heritage. Different shapes of pollen grains in honey can ID the original producing country.

Reputable US honey producers and packers have recently formed the Honest Honey Initiative pledged to help protect the quality and reputation of the US honey supply and the sustainability of domestic beekeepers and the honey industry. The group unveiled a website www.HonestHoney.com as an educational resource providing information about where honey comes from and ways that consumers can take action to eliminate illegally imported honey. Anyone interested in learning more about beekeeping may attend the monthly meetings of the Catskill Mtn Beekeepers Club.

Manuka Honey For Wound Healing
by Dick Johnson 6.17.10

There are many therapeutic products from the honeybee hive including propolis, bee pollen, royal jelly bee venom and honey. The study and practical application of these products is called “apitherapy” and their beneficial use has been known for thousands of years the world over. As a result of overwhelming clinical evidence of its antibiotic properties, the FDA has recently approved the use of a special type of honey from New Zealand called Manuka honey. released on 04/23/2008 for “wound dressing, drug”, and classified “for use in general and plastic surgery”, the Manuka honey is available for use now in the US. This is made by bees from the nectar of the pink blossoms of the shrub Leptospermum from the mountains of NZ. The main benefit of this honey is its superior antibiotic properties. Some of the pathogens controlled by Manuka honey include MRSA (that drug resistamt Staphylococcus aureus) and other full spectrum bacteria.

Well known to honey researchers are the several different mechanisms that contribute to these antibiotic properties. Honey contains 82% sugar resulting in a high osmotic pressure that simply ruptures bacteria cells. Saturated sugar solutions have similar properties and are sometimes used for their antibiotic benefit. Another unique property is the presence of the enzyme “glucose oxidase” produced by bees during honey curing. When exposed to moist tissue, this enzyme produces a continuous supply of hydrogen peroxide, a recognized powerful antibiotic. The Manuka honey has one other healing property not found in other honey. Until recently the effect of this property had been recognized but not actually identified. It has been called “the unknown Manuka factor” or UMF. Researchers from the University of Dresden have now identified and isolated the UMF as a known powerful antibiotic aldehyde called “methylglyoxal” (MGX). Some grades of Manuka honey contain MGX levels as high as 700 ppm which is 70 times higher than the amount found in ordinary raw honey. This discovery will be useful for clinical practice but is disappointing to the New Zealand producers of Manuka honey who have an exclusive patent on their commercial NZ product.

In the journal “Wounds”, an article recommends the use of honey in surgical wards and suggests that surgeons should encourage patients to apply raw honey to their incisions post op. “The International Journal of Clinical Practice” encourages the use of raw honey not only for nutrition but also for wound healing. Other therapeutic uses of honey include gastro-intestinal disorders, heartburn, and burn therapy. As we learn more about that sweet amber syrup that we use in our tea it will be known even better for its health properties.

The Catskill Mtn Beekeepers Club invites all who are interested in those amazing honeybees or anyone with swarm removal problems to visit our website at www. catskillbees.org.

Clover is Blooming
by Dick Johnson 6.10.10

Well, the dandelions have finished their heavy bloom and now there is another “weed” that the pure grass zealots are trying to eliminate from their ”pristine grass only” lawns. The beekeeper looks at these two early spring flowers in a different way. The dandelions provided the first important nectar and pollen nutrients for spring start up in the honeybee hive. Now is the time that several types of clover are in bloom and it is the most important honey plant amounting to about 30% of the honey sold in the US. Considered by most consumers to be the premium grade table honey, clover is light in color, mild in flavor, and preferred for cooking as well as the popular sweetener for tea. Recent publicity that dark honey is ”more healthful” has changed the opinion of many customers as there are now more requests for the dark honey. Clover hay is used as a forage crop in many areas and like alfalfa, it is rich in protein. The ideal soil condition is a “sweet soil” meaning alkaline rather than acid.

Clover comes in all sizes and many colors-mainly white, pink, and red. The lowest growing includes the White Dutch type often used in lawns and the slightly taller alsike type that has a slight tint of pink. The alsike clover contains an alkaloid and should not be fed to horses. Honeybees make good use of both of these low clovers. The bright red blossoms of the red clover are displayed a foot above the ground and you may see honeybees visiting them. Unfortunately for the honeybee their tongue is too short to reach the sweet nectar and so they cannot make honey from this plant. Some races of honeybees have longer tongues and may reach a little nectar. Also some honeybees cut a hole in the side of the blossom to reach the sweet stuff but they cannot make much honey from the red clover. Like the red clover, there is another native variety that grows 3 to 4 feet in height and is commonly seen in the poor soils along roadsides. This is called the sweet clover and the yellow variety is now in bloom . The white colored sweet clover will start to bloom in a few weeks but both types continue to flower all summer long right up till frost. In the Mid West, sweet clover is grown as a cultivated crop where it is considered as an important honey nectar crop. The blossom on sweet clover is different from the low growing types as the tiny flowers form a small spike several inches long held high above the plant instead of the spherical arrangement as in the low clovers. Clover is a type of legume and all legumes have the ability to “fix nitrogen” meaning that it enriches the soil wherever it grows. The growing of clover in your lawn gives your soil free nitrogen fertilizer and helps make your lawn greener. Growing clover also helps the honeybees to make a honey crop.

Any one who is interested in honeybees or needs help to remove a swarm should visit the website of the Catskill Mountain Beekeepers at www.catskillbees.org

June Strawberries
by Dick Johnson 6.3.10

June is a special time because of strawberries. Starting with those tiny wild red berries that grow in the lawn and also those luscious extra sweet berries now in the marketplace. Soon the local farms will allow for "pick your own" to save money and entertain all the children. The real sweet varieties will only be available for about a month so be sure to get them soon. Among the 40 different varieties on the Cornell list for New York State, the cultivar "Earlyglow" is the most popular berry grown. This variety contains 7.7% sugar and is the sweetest of all the June berries. Local grown strawberries are available all summer long but those summer berries have different texture and are never as sweet as the "June berries".

Late April the weather turned unusually warm for about a week. This resulted in encouraging the early sprouting of the dormant strawberry plants. Despite later frost, the berry plants continued to mature and the crop was ready for harvest a couple of weeks earlier than any time in recent history. Farms in NJ also harvested 10 days early because of the April warm spell and they report only minor damage from the following freeze. The average strawberry contains 200 seeds and each seed must be pollinated for the berry to attain maximum size and sweetness. Commercial growers contract with beekeepers for honeybee hives to furnish pollination. Misshapen berries or berries with green tips are the result of insufficient pollination.

Many residents have been wondering about the appearance of a wide belt of brown colored trees on the higher mountains of Mt Pisgah, Cave Mtn (Ski Windham) and Huntersfield Mtn. Investigation has revealed that in the range of 2500ft altitude where there are mostly sugar maple trees, the tender emerging leaves were frozen during that late frost that occurred the evening of May 9th. Anyone climbing to this area can readily notice on the tips of these maple branches small dry, brown leaves that were killed by the frost. It is interesting to note that above this "belt of brown" the ash, oak and other deciduous trees are green and in full leaf. This rare occurrence can be explained as those green leaf trees normally do not start their tiny, delicate leaf bud emergence until after that May 9th freeze and therefore were not damaged.

Some folks were alarmed when they saw "brown mountains" as they recalled the same appearance during the caterpillar invasion of 4 years ago. Although no caterpillars have been observed at these higher levels we have seen some large forest tent caterpillar populations in and around Windham including Rt 10, Mill St, Rt296 and Maplecrest. Any person who sees this type of caterpillar with polka dots instead of lines should report their location to the Cornell Cooperative Extension at 518-622-9820.

Anyone interested in beekeeping may contact the Catskill Mtn Beekeepers Club. at the website. Members checking on delivery of the club ordered packages need to visit www.catskillbees.org.news

Pests in Australia and Hawaii
by Dick Johnson 5.13.10

Last year the Honeybee Corner reported that Australia had found an incursion of Asian honeybees (Apis cerana) in one isolated port area. This Asian bee carries both the varroa parasitic mite and also the Nosema cerama pest. The Australian bee inspection service, Queensland Biosecurity had taken steps to eliminate the Asian hives and pointed out that this region was 1000 miles away from the location of the beekeepers who breed and export Queens and packages. Recently there is evidence that the Asian bee has traveled much farther inland and is spreading through the Innisfail region. Thousands of packages of bees have been exported to the US for the annual almond pollination in California each January and if the incursion cannot be controlled, the US Dept of Agriculture Animal and Plant Inspection Service (APIS) will not allow importation of bees in our country.

The Australian Honeybee Industry Council is concerned about the effects of export restrictions as queen and package business are worth $7.5 million /year. The Asian bee is a poor honey producer so there may be 80% honey loss once it's established in a region. Poor pollination by the Asian bee means twice as many hives are needed for the same effects. They will also weaken the European hives by robbing both managed and feral colonies. The Asian bee is also more aggressive and harder to manage than the European bee. A year ago the first incursion of varroa mites were found on the Big Island of Hawaii. Previously that state was the only one free of the parasitic mite and queens and packages could be imported without mites. This April, another different honeybee parasite, the "small hive beetle" was found on the Big Island and the Hawaiian State Agriculture Department is worried about the potential effect on bee colonies and pollination of crops across the state. Melons, pumpkins, cucumbers avocados strawberries and squash all need honeybee pollination. Native to South Africa, this beetle has been proving difficult to control on the mainland US for about 10 years. More common in the southern states, this flying beetle invades honeybee hives and eats honey, pollen, wax, and larva. It contaminates the honey and makes a stinking mess while killing the colony. Most other parasites will die after they kill a honeybee colony but the beetle lays eggs to raise another generation without the live bee colony. The beetle can survive without honeybees as it also can fly off and feed on decaying fruit or vegetables until it finds another honeybee colony. In addition to the threat to honeybees for pollination of Hawaiian crops, the business of exporting Queens and packages is also an important industry now threatened by this new parasite. During the past 30 years the increase in international trade by sea and air has made it impossible to control the spread of honeybee parasites anywhere in the world. The next meeting of the Catskill Mtn Beekeepers Club will be held on Tuesday June 8 at 7:00 PM at the Agroforestry Resource Center on Rt 23 in Acra. The program will be on making a Bee Friendly Medicinal Herb Garden. Anyone interested in honeybees is welcome to attend. For more info visit www.catskillbees.org Anyone interested in beekeeping may contact the Catskill Mtn Beekeepers Club. at the website. Members checking on delivery of the club ordered packages need to visit www.catskillbees.org. news

Winter Colony Losses
by Dick Johnson 5.5.10

The Apiary Inspectors of America (AIA) and USDA-ARS Beltsville Honey Bee Laboratory conducted a survey to estimate winter colony losses for the 2009/2010 season. Over 22.4% of the country's estimated 2.6 million colonies were surveyed. A total loss of 33.8% of managed honeybee colonies was recorded. This compares to total losses of 29%, 35.8% and 31.8% recorded respectively in the winters of 2008/2009,2007/2008 and 2006/2007.

Responding beekeepers attributed their losses to starvation (32%), weather (29%), week colonies in the fall (14%), mites (12%), and poor queens (10%). Only 5% of the beekeepers attributed CCD as the major cause for their losses. Although the press and some observers continue to exaggerate the widespread incidence of CCD, by definition, CCD or "disappearing disease" as it has been called for many years, can only be identified during the warm months while bees are flying. During winter while bees are in a tight cluster they cannot suddenly leave the hive. Winter losses are often a result of poor management by the beekeeper. This 2009/2010 season has shown the lowest production of honey nationwide. Shortages are apparent, as many local beekeepers have sold out their inventory months ago. Although it has been customary to harvest and to extract honey in all the filled honey supers late August or September, there is a different way to schedule harvesting appropriate for this year especially considering the current shortage. Instead of waiting for each super to have filled out all 10 frames, it is better to remove part of the frames that are filled out and to harvest it early. In this way the prized light colored "clover" honey can be extracted and kept separate from the later "fall" honey that is usually darker. Early harvested honey will also be more precious due to the current shortage. This season the weather appears to be favorable for a good honey year (so far) and the clover crop should provide a generous nectar flow. The next meeting of the Catskill Mtn Beekeepers Club will be held on Tuesday May 11 at 7:00 PM at the Agroforestry Resource Center on Rt 23 in Acra. The program will be the timely topic of preventing and collecting swarms. Anyone interested in honeybees is welcome to attend. For more info visit www.catskillbees.org Anyone interested in beekeeping may contact the Catskill Mtn Beekeepers Club. at the website. Members checking on delivery of the club ordered packages need to visit www.catskillbees.org.news

Spring Package Shortage
by Dick Johnson 4.28.10

For the past several years, the scheduled delivery of packages of bees has always been late a week or two from the Southern states of Florida, Alabama, and Georgia. Experienced beekeepers are used to these delays but beginners may not understand the complex logistics involved in managing to assemble hundreds of 3# packages of bees and queens. Preparations for a commercial bee package company begin in February as the over-wintered colonies need to have suitable foraging resources and favorable weather to build up bee population. New queens are produced by "grafting" newly hatched larva and using small mating nucs to assist mating and to test for a productive queen capable of producing brood. Each of these steps require suitable weather conditions such as early season rain to help the flower bloom and warm sunny days for the airborne mating with the drones. Special management and nutrition is also needed to raise sufficient numbers of healthy drones to assure proper mating.

In a "perfect world" all of these steps in the process would happen "on time" and during suitable weather. Unfortunately, March is when most of the colony increase is needed and it often turns out to be cold and windy cutting down on bees flying and foraging. Early April, when package deliveries are "scheduled" (and advertised for 1st week) often turns out to be cold and rainy and during the past few years Alabama and Georgia have suffered tornados blowing by. While writing this column this week, there are tornados in the area again, and the 200 Russian bee packages ordered by our bee club may be further delayed. They are already 3 weeks behind schedule. The delay is especially unfortunate for any beekeepers who will not receive new bees in time to pollinate the early fruit blossoms. Most bee package suppliers have been sold out early, demonstrating the shortage of these supplies as has been anticipated. All of the above factors are supporting evidence that honey production will be short again this year.

Unfortunately the (Federal) EPA has recently complicated the acceptance of one of the best medications ever developed to control the parasitic varroa mite problem. The NOD Apiary Products Co has produced a novel formic acid strip called "Mite Away Quick strips (MAQS). Formic acid is an organic acid that is found naturally in low concentration in all honey. Previously use of this material, with other delivery methods, has been limited to use only when no brood is in the hive and when no honey is being collected. Although very effective, the old method limits its use to only a Fall treatment for varroa control. The new MAQS strips are designed with slow mitacide release, allowing them to be used while there is brood rearing and also while honey is being collected. This means they may be used all summer. The denial of approval of this important new medication was based on an erroneous conclusion that there are "enough" other medications for varroa control. This is wrong as most other medications and methods are either too limited to use or have lost effectiveness through over dosage.

Anyone interested in beekeeping may contact the Catskill Mtn Beekeepers Club. at the website. Members checking on delivery of the club ordered packages need to visit www.catskillbees.org.news

Dramatic Changes For Bee Pollination
by Dick Johnson 4.22.10

Hundreds of acres of almond orchards bloom in Northern California every year in late January and February. The almond crop is one of the most important agricultural crops in the state. Blooming at this time when it is too cold for local bees to be ready to fly and pollinate, the industry must depend on over a million hives to be trucked into the state. Migratory beekeepers from warmer states and even from the Dakotas artificially stimulate the bee colonies by feeding sugar and pollen to assure strong, lively hives ready to pollinate the blooms when delivered to the orchards. In recent years there has been chaos among the beekeepers, pollination brokers, and growers as many circumstances beyond their control have complicated the best of plans.

Recently, the fast expanding planting of new trees have increased demand for bees and driven the price per hive higher. Following seasons more beekeepers flooded the market with hives just as drought and EPA restrictions cut back on orchards in need of bees. This season there were heavy losses in hives of bees trucked into California resulting in shortage again for the growers. Market prices for hives for pollination have ranged from $45 (several yrs ago) to $200 more recently, depending on the volatile supply and demand. There are a couple of brand new factors that will permanently change the tradition of annual almond pollination industry.

Because of the serious financial conditions in California, a new tax has just been announced to be assessed on the revenue paid to beekeepers who bring bees into the state for pollination. From now on a 7% tax will be assessed for out–of-state bees. Of course like all taxes, the increased cost will be passed on to the growers ($214/hive) who will need to raise their prices. This tax may discourage migratory beekeepers from sending bees to California. Some may choose to find other crops to pollinate and others may change their management methods to maximize honey production instead. This would be a good idea for the beekeeper, as the national shortage of honey should bring increased prices.

Another recent announcement will probably change the honeybee pollination of almonds more than any other factor. The Agricultural Research Service, (ARS) in Parlier, California has just developed a variety of almonds that is SELF POLLINATING! This means that no bees or any insect vectors will be needed to pollinate the crop from these trees. Self pollinating varieties have been well known and grown in Spain for centuries but due to the poor size, taste and thick shell they have not been successfully marketable. This new variety was developed by cross-pollination and selective breeding (not by gene splicing) so that they are a perfectly “natural variety”- not “artificially engineered”. The new variety has been accepted by the almond industry as having as suitable quality for marketing compared to the current premium “Nonpareil” variety. Of course any change over to this new variety will take many years but the future for honeybee pollination of California almonds looks dismal.

For any one interested in local beekeeping, please visit the Catskill Mountain Beekeepers Club at www.catskillbees.org

What Happened to Spring?
by Dick Johnson 4.15.10

Last weeks Windham Journal chronicled a report on the local weather April 30th, 145 years ago. The item read ”The Catskills were white with snow yesterday. Last week the thermometer read 82 degrees in the shade”. If this sounds like last week on the mountaintop then the “global warming” hoax has lost even more of it’s credibility! This year, while the neighbors were still collecting maple sap in their buckets and boiling away with huge billowing smoke from the sap houses, overnight the thermometer hit 80 degrees. The end of sugaring is usually marked by the formation of buds on the maple branches. Summer and winter seemed to overlap this year as the buds suddenly burst into blossom

Honeybees have been harvesting pollen from the willows and poplars but until the maple blossoms appeared, there was no nectar from native plants. Home gardens furnished limited pollen from crocus, snowdrops and other minor early bulb flowers but now that the forest is filled with sugar and red maples in bloom, their needs for carbohydrate have been met. The queen has been laying eggs since January and the brood larva demand both protein from pollen and sugar from nectar to develop into healthy mature adult bees.

Coltfoot is the earliest native flower and these may be seen along sunny roadsides as they push up bright yellow blossoms on plants with no leaves. Soon the abundant, shadbush will show their snow-white blossoms over parts of our hillsides. This name was used along coastal states as the tree blooms at the same time that the shad fish migrate up the freshwater rivers to spawn. This early blooming tree is also called shadblow, serviceberry, and juneberry and its small fruit is treasured by makers of delicious jams, jellies and pies. The berries are eagerly eaten by songbirds, grouse and other wildlife including skunks, raccoons and even bears. June berries were a main ingredient of the dried “pemmican” or winter food used by native Americans. Following soon, our lawns will by carpeted by those pesky dandelions that lawn admirers hate and beekeepers love. The dandelion furnishes the best pollen and nectar during early spring and summer. If you save mowing at least a small part of your blooming lawn you will be rewarded by helping feed the honeybees that can pollinate all of your fruit trees and garden vegetables.

Swarm season will be with us soon and everyone who needs help with a swarm or is interested in honeybees is encouraged to visit the website of the Catskill Mountain Beekeepers Club at www.catskillbees.org.

April Hive Inspection
by Dick Johnson 4.8.10

Now is the start of the busy spring beekeeping season. The sudden sharp change in weather- from winter last week to summer this week is typical here on the mountaintop and it now requires the beekeeper to expedite important management tasks. Immediately remove all packing insulation or wrapping as the bees must be prevented from overheating and need plenty of ventilation. On a sunny warm day it is easy to observe the frenzied bee activity from the entrance on the strong surviving hives. Don't be mislead by robbing activity that usually occurs in dead outs or weak hives. Look for the brood to check its quality and quantity and pull a frame for the obvious signs of foulbrood disease. Determine location of where the brood is located and reverse brood boxes if needed. If the top box has the brood and the bottom is empty you need to reverse them to relocate the brood. If there is brood in both boxes leave them alone.

Remove the screened mouse guards and while at the entry be sure to clean out dead bees that always pile up and may restrict essential airflow. Scrape clean the bottom board to clear all the debris accumulation. If you find weak hives with poor brood don't try to save them but combine them instead with another hive. Split strong hives that might swarm by separating boxes each with brood and enough bees to cover the brood. When you find dead outs, do a quick diagnoses of the cause of the loss. This is the time to repair and power up the electric fence to protect your hives from the black bears. A bear was tearing up a garbage bin already this year in "downtown" Hensonville. Bears can smell the delightful aroma of bee brood and if your bees are not protected, eventually you will suffer losses if you live in Greene County. Medications used for bee disease prevention as well as pesticides used in the neighborhood may build up as traces in the wax comb brood foundation. A good way to counter these effects is to remove some of the oldest dark comb on a rotation basis. Each spring remove 2 or 3 of the darkest old combs and replace them with fresh wax foundation in new frames. Consider also replacing one brood comb with a special large cell "drone comb." This is a technique to help control Varroa build up by removing infected drone larva.

Here are some tips for quick diagnoses of losses:
Varroa Mites: Look for piles of dead Varroa mite bodies along with dead bees.

Starvation: If the cluster was dead with all bees headfirst in the cells they starved. If honey is still in the hive but some distance from the cluster ,consider that a long deep freeze prevented bees from breaking cluster and gaining access to the food.

Dwindling: If the colony of bees entered winter too weak or too old it cannot produce enough heat to survive deep cold.

Tracheal Mites: no evidence of a tight cluster and some disoriented bees crawling about the hive with deformed wings.

Nosema: Brown spots and streaks from dysentery on top bars and outside the entry.

The next meeting of the Catskill Mtn Beekeeping Club will be held on Tuesday, April 13th at 7:00 PM at the Agroforestry Rresource Center on Rt 23 in Acra The program will be presented by Bill Ferris on the topics of "Splitting and Swarming". We also hope to learn when the Russian bee packages will be scheduled for pick up.

Worst Year For Honey Production
by Dick Johnson 4.1.10

The figures are now available from the USDA on the honey production for the 2009 season and they are even worse than the estimates reported in the Honeybee Corner just last month. Although the number of colonies was at 2.46 million and was up 5% over last year, (2008), the yield per colony was down 16% compared to last year. The total US honey production has been called the record lowest in recent history. How can we account for this unusual honey shortage this year? There are many factors that impact the ability of honeybees to produce a good yield of honey.

Some folks blame CCD and the use of pesticides for poor crops. Actually the CCD "disorder" is not fully understood, has always been poorly diagnosed and poorly defined and so it is an unreliable statistic for blame this year. The "scare" theory supported by some environmentalists of suspecting every medication and agricultural pesticide has no real scientific basis. General decline of the health and stress of bees used by migratory beekeepers is possibly a factor but probably the most likely reason that this years bees did not produce well goes all the way back to that "lousy summer season" that happened in 2009. Starting with a cold and wet early spring, it seemed that it rained all during June and July last summer. This meant that 75% of the productive, sunny, warm days to gather nectar were lost. Combined with a resurgence of parasitic varroa pest problems, the bees just were limited in their ability to produce

Looking ahead to the current (2010) season, we have not yet accounted for the normal over winter losses. Some colonies simply did not have time last year to build the "fat bodies" so essential for winter survival and these will not survive this cold snowy winter. We are hearing about some large migratory beekeepers who have lost many hives while trucking them to the Almonds. Rain storms have delayed the blooming of the Almond crop and the muddy fields have prevented trucks from delivering bees. Quickly the anticipated surplus of hives for pollination has turned into a shortage of sufficient hives and growers are scrambling for replacement hives. Premium prices are being charged for good strong hives and the quantity of Almond crop may be reduced from the shortage of bees. Contracts for next year's pollination are reaching all time record fees up to $160 per hive of 8 frames of bees. Those who are able to deliver strong, healthy hives next season will benefit from this shortage.

This is the normal season for the major suppliers of bees and queens in Georgia and Alabama to be filling orders for shipments to the northern states. A few weeks ago notice was given by beekeepers in that region that unsettled weather will delay all shipments for a few weeks. As this column is written, the southeast region is being hit by tornados. This often occurs at just the critical time when the shippers need clear, sunny days to process the orders.

The next meeting of the Catskill Mtn Beekeepers Club will be held on Tuesday April 13th at 7:00 PM at the Agroforestry Resource Center on Rt 23 in Acra. The program will be presented on the topics of "Swarming and Splits" by Bill Ferris. Bill is an experienced beekeeper who has been active with the Southeastern Beekeepers Club for many years and is also a good source for bees, queens and beekeeping supplies.

West Coast Bee Losses
by Dick Johnson 3.18.10

Pollination of the California almond crop has been going on for several weeks. Although some beekeepers from southern California furnish hives, most of the hives are furnished by out of state migratory beekeepers that truck them from states with warmer weather. There is a report that there have been sudden die-offs of 400 to 600,000 hives intended for almond pollination. Presumably there is a shortage of hives caused by these losses and the price of rental hives will go up. Canadian beekeepers report increased winter losses and on Vancouver Island some reports tell of 90% losses. Speculation as to the reason for these losses range from the mysterious malady, Colony Collapse Disorder (CCD) or poor nutrition during feedlot preparation or weakened bees still suffering from the unusual poor conditions last summer. Experts from ARS labs and several universities have not yet found the actual cause of CCD but several clues are apparent since the problem was identified in 2006. Some have suggested that after a few years of less CCD there is a three-year cycle of increase this year. Whenever there is a high level of the varroa mite infestation combined with a high level of the newly identified cerana virus there is a tendency for more die offs like CCD symptoms. The theory is that the varroa mite bites and penetrates the body of the bee allowing for entry of the virus leading to infection and death from the virus. The evidence that extremely high levels of either varroa or high levels of the virus by themselves without the combination are found to be healthy and productive does supports this theory.

Some folks are blaming CCD for winter losses but the specific symptoms of this disorder can only be identified during warm weather while bees are flying and are brood rearing. Most winter losses can be traced to poor management such as lack of sufficient honey and pollen to last through the long winter. Although pesticides have sometimes been blamed for CCD there are actually no studies that support this theory. Supplemental feeding of sugar and pollen substitute is necessary to build up migratory bee colonies prior to pollination services, and often this practice of “feed lot“ bunching of thousands of hives in a small area leads to spread of disease among the colonies. More research is being conducted at the ARS labs for the development of disease resistant honeybees.

As more beekeepers inspect their hives during the warmer weather we will be better able to assess the actual numbers of winter loss this season.

Honey Shortage Ahead
by Dick Johnson 3.11.10

March is the month that weak and hungry hives die without proper management. Even though we may see bees flying from some hives this does not mean that they are not running out of food. On a sunny day when the temperature is in the 40's, open the hives and look inside to assure that there is enough honey and pollen to last until flowers bloom in your region. This is the time to feed sugar candy or dry sugar and pollen patties for colony survival and to raise brood for the spring nectar flow. It is normal to see brown spots on the snow as the bees void their waste. Many bees also drop into the snow as they are disoriented by the lack of familiar landmarks and cannot find their hive. On the mountaintop, the heavy snow cover will delay the spring flower bloom and even more supplemental feeding may be required.

Twenty-four years ago, before the destructive Varroa mites arrived in our country, 220 million pounds of honey were produced by about 7.5 million colonies. Recent USDA predictions expect only 119 million pounds from 2.2 million colonies. Domestic demand for honey is increasing each year as it is used in more products like cereal, breads, salad dressing and BBQ sauces. 60% of the honey consumed has usually been imported and this will probably increase. Major exporters of honey to the US are Canada and Argentina. Canada has just suffered the same poor weather and poor honey crop as we had last summer. Argentina has had drought and is converting to soybean farming that yields very little nectar. China has seen domestic consumption increases and is selling most of their product to Europe. All of this evidence points toward a severe shortage of both domestic and imported honey. Local honey in the Northeast is in short supply and some beekeepers have already sold out last summers' crop. Prices will continue to increase, as the supply will simply not meet the demand. The only advice for people who like local honey is to "buy it now."

Bees In the Snow
by Dick Johnson 3.4.10

Watching out the window at the swirling snow, I can't even see my hives because of the whiteout! Four days of heavy snow dropped four feet on the back porch and when I can see the bee yard I'm sure that the hives are buried in a deep drift. European races of bees and especially those that originated in mountain regions, have become accustomed to this kind of weather and they have survived by forming a tight cluster and slowing down their metabolism to ration the food supply. Glad that I was able to open the hives two weeks ago on the only day that bees were flying, and I dumped a pound of sugar on each hive.

Even though completely buried, I expect that the strong colonies that have enough food will survive this weather. Bees circulate warm air and usually are able to keep open the hive entrance for fresh air. Any hives that are populated below the critical mass to hold heat in the cluster or any hive that runs out of food will die. This happens whether snow covered or not. We are expecting delivery of Russian bee packages shipped up from "Dixie" in about a month. This timing is fine for those who are located at low altitude, by the river and even halfway up the hill (like Cairo). Those of us on the mountaintop however, must recognize that we may still have snow cover and frozen ground that will delay the spring dandelions till May. Bee packages can be installed in hives at any time BUT until the flowers bloom the beekeeper must feed heavily both pollen and sugar. The sugar feeding must be continuous until the bees are able to forage on their own.

The USDA has just released data collected on honey production in the US for 2009 and the results are disappointing. Called the "worst honey crop ever" figures show 119 million pounds produced from 2.22 million hives. These figures are significantly below any previous year on record. The cold, rainy weather last June and July limited foraging in many parts of the country last summer. 60% of the honey consumed in the US is imported. Canada is the leading supplier with Argentina also a major exporter. All of these countries have good quality honey but the other major supplier is China who has quality problems and constantly tries to hide the "country of origin" by trans-shipping honey through other countries. Fortunately we are able to identify Chinese honey and refuse acceptance. Examination of the pollen in honey can identify where the product comes from.

Different Honeybee Races
by Dick Johnson 2.25.10

When ordering honeybee packages or individual replacement queens, the beekeeper may choose between several races to suit their needs. The Italian variety (Apis melifera linguista), is the most common race, and is a relatively gentle and non-aggressive, yellow colored queen and is recommended for beginners. The Italian bees build up fast in the spring and continue to raise young late into the fall resulting in a large cluster that needs plenty of honey stores to feed them through the winter. They are raised in volume in the Southeastern states and are the lowest cost of any type queens. Most early spring packages ordered for fruit pollination are supplied with Italian queens.

The next most popular race is the carniolan (Apis melifera carnica) type honeybee that originated in the mountain region of the Austrian alps. These are dark brown in color and better suited for wintering in cold climates as they stop raising young in the fall and go into winter with a smaller cluster. They do not need as much honey for winter survival. Carniolan bees forage in colder and wetter weather as they are used to changing mountain weather conditions. With longer tongues, they are able to feed on deeper blossoms often found at higher altitudes. Carniolan bees have better resistance to disease but are more prone to swarm if congested conditions exist.

Russian honeybees came from the far eastern Primorsky region of Russia and have evolved traits of resistance to local mites common in that region. The Russian bees winter well in small clusters and if kept away from other races in the same apiary, they give significantly better protection from tracheal and varroa mites. One of the members of the Catskill Beekeepers Club regularly orders a truckload of 200 Russian packages to arrive in April for selling to our bee club members. Orders this year must be placed promptly as unusually cold (global cooling) is reported “down south” and packages may be scarce and late again this year. To place orders for Russian packages phone 518-299-3145. This program of Russian packages was oversold last year. Russian bees tend to swarm and the queens must be introduced gradually to assure acceptance.

Another type of honeybee is the Caucasian or Georgian bee (Apis caucasisca) found in the central Caucasian mountains. This variety is also well suited for cold country and is by far the gentlest bee of all. This light gray colored bee is good for beginners but has one major disadvantage. The Caucasian is prone to gather large quantities of that sticky substance “propolis” a nuisance to beekeepers while working in the hive. “Hygienic bees have been bred by researchers from the University of Minnesota by selectively choosing certain traits and these bees are shown to be effective for prevention of brood diseases.

Propolis—The Magic Bee Glue
by Dick Johnson 2.18.10

Propolis is one of the most unique and misunderstood products of the honeybee hive. Its sticky properties that "gum up" the hive parts cause some bee keepers to avoid certain strains of queens that have the habit of collecting too much of this messy material. Others value the many therapeutic properties of propolis and harvest it with a special panel and sell it for pharmaceutical processing. Propolis is a strongly adhesive resinous material collected by bees from plant buds and the bark of trees. Although the composition varies with the season and according to the vegetation available, propolis generally has a composition of 30% wax, 50% resin and balsam, 10% essential oils and 5% pollen. More propolis is produced when the hives are located in an area that has an abundance of conifer and poplar trees. It is used by the hive bees to caulk crevices and to varnish the entire inner surfaces of the tree cavity or hive box. Certain bees are designated as propolis collectors and they do not forage for nectar or pollen at that time. As they collect the resinous material it is masticated, and as the bee chews it, salivary enzymes are added. When the propolis collecting bee returns to the hive the sticky material is removed by the hive bees during a slow and tedious process. The hive bee bites off a small amount and deposits it on the hive wall or seals off cracks and crevices. Certain types of bees including the Caucasian and the Russian bees use more propolis than other types. These two types originated in cold winter regions and will often build up a barrier of propolis blocking entry except for a tiny hole. This restricts entry of cold air and marauders. The propolis serves the bee colony as a protection from various bacterial and viral diseases and enables a hive of 60,000 bees to live together in a small space and to stay healthy. These same therapeutic properties have been used by physicians for thousands of years for treating wounds and disease. Propolis is not very soluble in water, however when dissolved in alcohol its uses both topically and internally are almost limitless. Propolis is commonly used in the following therapies: Antibacterial, anti-viral, anti-fungal, anti- mold and anti-inflamatory. Other uses include: As a local anesthetic, strengthening capillaries and healing gastric ulcers. Propolis tincture is also effective for healing gum infections and treating sore throat symptoms. Propolis is only one of the several beneficial products found in the honeybee hive.

California Gold Rush
by Dick Johnson 2.11.10

By the middle of February,250,000 acres of almond orchards will start to bloom. In order to produce a good yield of nuts the harvest will require 1,200,000 honeybee colonies to be spread out throughout the orchards at "just the right time" This will vary according to the variety of tree and the local weather conditions. Bees delivered too early may find other flowers and not go to the almonds. If delivered too late some blossoms will not bear nuts. Since northern California does not have locally raised hives ready for this early crop, they depend on hives from warmer climates that have been groomed and fed over several months. A few years ago the growers were expanding the orchards so fast that beekeepers could not keep up with enough hives for good pollination. That year 40,000 hives were needed to be shipped from Australia to make up for the shortage and the price per hive was up to $165 per hive. The high price caused by the shortage was a "gold mine" for migratory beekeepers who were able to get their hives to California in time for the crop. Last year was a bad year for the almond industry and also the traveling beekeepers. Growers cut back on acres of cultivated trees for lack of water and they did not need as many hives for pollination. The water shortage caused by the several years of drought in California, was made worse by low annual snow fall and worse yet by EPA restrictions and rationing of irrigation water. Beekeepers that were used to the high prices previously paid sent too many hives causing a drop in price and a glut of hives. This season, new problems have occurred. Wide spread brush fires last year removed the vegetation from the hills. For the past several weeks there have been torrential rain storms. The rain has caused major mud slides throughout the state and has also created problems and delays for beekeepers loading and unloading hives. A flat bed truck loaded with 500 hives is not easy to manage in the muddy orchards. The migratory beekeeper faces many challenges while pollinating the huge almond crop. The race for the "gold" is always a gamble and can be compromised when unexpected weather and other factors are considered.

Langstroth- Father of American Beekeeping
by Dick Johnson 1.7.10

Several beekeeping organizations are honoring an inventor of an important scientific discovery and are celebrating the 200th birthday of Rev. Lorenzo Langstroth. While serving as a minister in Andover, Mass. and studying beekeeping, Langstroth determined through experimenting precisely the specific bee space between combs that led to the design of a unique bee hive with removable frames. Langstroth's invention in 1830, gave beekeepers a way to raise large quantities of bees, keep them healthy and collect their honey in a truly sustainable way without destroying their home. Recognizing this work he has been hailed as the "Father of American Beekeeping". Dr Tom Seeley, a honeybee researcher at Cornell Univ suggests, "without Langstroth's invention, the honeybee would not have become the best studied insect on the planet". Most beekeepers in other parts of the world have also benefited from using the principle of the efficient movable frames. Prior to this development, the several types of hive designs required destroying of the hive and killing of the bees and queen while removing the honey harvest. The traditional beehive used in Europe and Asia was a woven straw "skep" that was torn apart while harvesting honey. In Africa and many 3rd world countries a hollow log (called a "gum") is hung from a tree limb but this colony must also be destroyed during the harvest. In the Langstroth design, 10 or 12 wooden frames are suspended within the hive box in a manner that they may readily be removed for inspection without disturbing adjacent frames or killing bees or brood or the queen.

The "bee space" identification between the frames is an essential part of the invention as this space allows bees to build straight vertical wax comb conveniently separated from the adjacent frame. This space of 3/8" is just the right space that the bees need to do their work of raising brood and storing their food supply of pollen and honey. They carefully maintain this space above, below and along side the drawn wax combs. The observant beekeeper can notice that any space within the hive greater than 3/8" will be filled up with messy "burr comb wax". Likewise any space in the hive smaller than the bee space will be caulked with the sticky material called propolis. Bees show their discipline by carefully maintaining this space for the most efficient operation of their hive activities.

Honeybee diseases have always been troublesome but until this invention there was no way to identify or treat diseased frames. While harvesting honey from a Langstroth hive, the frames that are filled with honey may easily be removed during the harvest without disturbing the queen or the brood comb. After the honey frames are removed, they may be replaced with empty frames to allow for a new crop of honey. Efforts to recognize Langstroth for his landmark bee science development have been started by a drive for the issuance of an US postage stamp in his honor.

The next meeting of the Catskill Beekeeping Club will be held at 7:00 PM on Tuesday, Jan 12, 2010 at the Agroforestry Resource Center on Rt 23 in Acra.