

# Stahlman beekeeping notes for 2021

## **Issue # 19 So many things going on with beekeeping right now!**

My head is spinning with topics concerning beekeeping right now! Package bees have for the most part been started – so questions are being asked about problems with these new hives and then issues about honey crops, adding boxes to hives and beekeeping management issues. And still swarms and nuc management – it is never ending – May is absolutely a month with a lot happening. For those with established hives management is a bit more complicated than getting a colony started.

**Let's begin with hive inspections: everyone keeping bees needs to be checking their hives often at this time of the year. A hive inspection doesn't have to take long.**

**Every hive must have a laying queen.** If one opens a hive and there are no signs of brood in various stages of development – an issue is going on with that hive that needs to be addressed!

Established hives are at risk of swarming! If one opens up a hive and identifies a frame with open queen cells, a good amount of capped brood, but no sign of eggs or larva – the assumption can be made that the hive swarmed. It is not a time to panic! Most likely the hive will have a virgin queen that has not begun laying eggs. The hive population may seem strong but without new eggs being laid, the colony will be going thru what is called "brood interruption" which is not all that bad! One benefit of brood interruption is it will slow down the reproduction of Varroa mites.



**It is also a natural event in the life of a colony of bees. Rushing out to buy a new queen may be a mistake!**

A new queen introduced to a colony of bees with a virgin queen is sure to result in the new queen being killed by the bees in the hive. Many beekeepers will be seeing this situation during a hive inspection. What action is required – wait a week and do another inspection of that hive.

**Let's take a look at the biology of what is happening within the hive.**



The old queen and older bees have left the hive as a swarm!

**Left behind in the colony is a generation of bees** --about ½ of the original population of younger bees including a virgin queen that survived the royal battle against rival virgin queens.

The last egg laid by the departing queen will emerge from a cell in 21 days (a worker bee)

or 24 days (a drone bee).



This is a frame of brood without eggs. If a number of open queen cells are found in a hive with a frame of brood containing larva and capped brood, one can assume the hive swarmed approximately 5 or 6 days previously.

Finding a virgin queen in a hive well populated with bees is very difficult. Also note the bees have not constructed any emergency queen cells any place on this frame.

A young virgin queen may be a week old at this point. Virgin queens are smaller than mated queens and move about the hive – often seen running on a frame if spotted.



Within 9 days after a queen has left a hive with a swarm, all brood will be capped over. (No eggs – no larvae) However a young queen will most likely be in the hive. At this point in time the new queen will have matured and left the hive to mate. Over a period of the next 11 days, worker bees will be emerging from these capped cells.

It will take a virgin queen approximately two weeks from the time she emerges from her queen cell to the day she starts laying eggs. Often this might be a bit earlier but could be delayed with weather conditions.

When eggs are observed being laid in empty cells, it is a sign that everything is okay! One might say the hive has recycled itself. If a beekeeper has not been inspecting a hive often, this event may never be observed.

If eggs are not observed after this two-week period the beekeeper can do either of two things:

- 1) Take a frame with eggs and young larva from another hive and place it in the hive without eggs. If the bees begin building emergency queen cells – we can observe that the hive does not have a queen. If the bees do not build emergency queen cells we can assume the hive has a queen.
- 2) If the bees begin to build emergency queen cells the beekeeper has two choices:
  - a) Let the bees raise a new queen (the delay will set the hive back)
  - b) Buy a new replacement queen.
    - i) Remove the frame with queen cells or cut down the queen cells.
    - ii) Then introduce the new queen to the colony.

**This time line is critical for the hive and the beekeeper!**

**If the beekeeper is not aware that a problem exist, it may be weeks before a problem is recognized and then it may be too late to save what was a good colony of bees.**

**What happens if something goes wrong!**



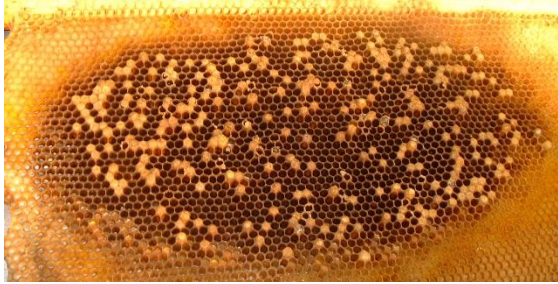
This is a worker cell enlarged but something is not right. This cell contains three eggs! It should contain only one egg.



**This is what we would expect to find when checking eggs.**

One egg is laid on the bottom of the cell.

Several eggs laid in a cell may and most likely indicates that more than 20 days have gone by and the colony has been queen-less for that period of time. Worker honey bees have the ability to lay eggs when a hive has no queen pheromone present for a period of time. This is called a "laying worker" hive. Because the eggs laid by a laying worker are not fertilized eggs – worker bees do not take mating flights – only drones are the result. It is very difficult to successfully introduce a new queen to such a colony of worker bees.



This is a frame from a hive with a laying worker bee. It is best to take a hive in this condition and combine it with a strong hive.

If the hive is combined with a strong hive, the problem of laying workers will be taken care of by the strong hive. In a few weeks, the laying worker hive can be split off the top of the strong hive and

then a new queen can usually be introduced successfully.

## From time to time, I am going to write about getting honey.

**An old adage in beekeeping is strong hives make honey! Two equal hives will not make as much honey as a single hive with the same bee population.**

## Some honey crops this time of the year!

I am seeing a lot of berries in bloom along the roads I travel here in North Carolina. Bees love visiting almost any variety of the berry family. I thought it time to review some of the plants that produce honey. Plants produce nectar and pollen depending upon weather conditions and location. Those plants that bloom earlier in the south are often finished blooming by the time beekeeper in New York, Ohio or Michigan start seeing blooms.

The following slides are from a power point presentation I did maybe 10 years ago. Plants are listed alphabetically on the slide presentation but I will be placing them up on these pages according to blooming period. Goldenrod and aster will be the last because they will bloom in the fall season.




**Berries: Blackberries, Raspberries, and blueberries are common over a vast area of eastern United States. All are good honey crop producers.**

Blackberries, dewberries  
and raspberries (*Rubus*  
*species*)

These are all closely related plants and are good sources for honey. It is a member of the *Rosaceae* family. They are widely scattered growing in many parts of the United States and Canada. These plants are grown commercially and are found growing wild. In the Southern states Blackberry can be found growing in vast areas of recently cut timber land. All can be found growing in waste land, along stream and creek beds, and can become a very evasive pest. This plant blooms from April thru June depending on climate zones.

**Description of nectar**

Honey produced from the nectar is light amber and very mild in flavor. Honey bees in certain areas produce large amounts of blackberry honey or raspberry honey. Pollen grains of this family are oblong when viewed from the side and triangular when view from the top of a grain. Pores are quite evident.



**The need for pollination of these crops provide some beekeepers with an opportunity to earn money.** Raspberry flowers are not single blooms but are comprised of 100-125 pistils. Each pistil must be pollinated to create a mature seed and resulting drupe. It takes about 75-85 drupelets to make a fruit. Although raspberry flowers are self-pollinating, bee activity is still responsible for 90-95% of pollination. 2 hives per acre are recommended to California growers. I am often asked what to plant for honey bees. This plant takes up a lot of room but it is ideal for honey bees.

**Blueberries do require pollination. When I see a blueberry patch, I look for bees that have been brought in to pollinate them. Generally, the honey bee does not do a good job pollinating the flower of the blueberry plant—thus, more hives of bees are required for each acre of crop grown.**

Blueberry [Vaccinium Cyanococcus]

There are a number of varieties of blueberries. The blossom requires vibration for the fruit to sit and as a result, the bumblebees is a preferred pollinator. However, the honey bee is an important pollinator. Blueberries will also produce a honey crop of blueberry honey.

Blueberry honey is an amber honey. It is has a distinctive taste that tends to be a bit stronger than mild



Blueberry plants rank high on the need for pollination. Cross pollination is very important to successfully raise blueberries. Blueberries ripen over a two-month period depending on the variety. Blueberry plants require insect pollination. Recommendation for honey bee hives to pollinate blueberry crops varies from one to four hives per acre.

**Black Locust --- An outstanding water white honey "Early season honey flow"**

I have not seen any black locust in the Raleigh area but that doesn't mean it is not here. But those beekeepers in the mountain regions of North Carolina will see it as well as those beekeepers reading these notes further north of us.

Black Locust (*Robinia pseudo-acacia*)

This is an outstanding honey tree. It is native from Pennsylvania to Iowa and southward according to Frank Pellett's *American Honey Plants*. It grows best in hilly and waste land areas. According to John Lovell's book *Honey Plants of North America* it is native from Pennsylvania to Georgia and westward to Missouri and Arkansas. It has been naturalized in Canada, New England, and in Northern California. We have found abundant growth of Black locust stands along the Ohio River Valley and south into the mountains of Northern Georgia.



Honey produced by the bees from the nectar is almost water white. It granulates very slowly. It does not consistently produce a honey crop year after year. Weather conditions can have quite an effect on the amount of nectar collected.



Black Locust

Because it is grown for a durable long lasting wood for posts, it has been planted in areas outside the map. When this has occurred it will naturalize in those locations.

The tree blossoms from late April to early June starting in the South and progressing northward as the climate changes. The flowers are white pea shaped hanging in a pendent cluster. When in full bloom, the fragrant smell is quite noticeable.

Its blooming period is short (about 10 days). This tree often reaches 70 to 80 feet tall.



Black locust grows in fence rows, and if left in undeveloped land will grow in large clumps of trees. It can produce a good honey crop early in the year. Bees are attracted to it in large numbers.



A very mild good tasting water white honey

Note that Black Locust is located in western N.C. and north all the way to Canada. It blooms for a short period (10 DAYS) and often rainy and cold weather result in no honey crop. Large drooping flowers can measure between 4 and 8 inches. Do not confuse black locust with honey locust (*Gleditsia Triacanthos*).

## Clover



**There are a number of varieties of Clover plants grown in the U.S.** (White and yellow Sweet Clover belong to the family group called Melilotus and are quite distinct from the clover family called (Trifolium – Crimson clover, red clover, white Dutch clover etc.) All are very good honey plants. The Trifolium clover plants are generally early flowering plants and are found along roadsides and yards in all areas of the U.S. Blooming a bit later are yellow and white sweet clover – yellow usually first and then white. The honey is generally a light amber with a mild taste. It is often blended with other honey varieties. Because its taste is sweet, clover honey is mixed with other sources.

**Wild flower honey is collected from a variety of plants.** Each region of the U.S. has its own version of wild flower honey. Early honey is usually very light in color and will vary in taste from region to region. Late fall honey is generally darker in color. All pure honey granulates – some faster than others. Tupelo is one of the slowest to granulate and canola is one of the fastest to granulate. Fortunately, we do not live where heather honey is gathered by bees. It usually granulates in the comb before it can be extracted.

**Tulip Tree (*Liriodendron tulipifera*) is often called the Tulip-Poplar Tree or Yellow Poplar.** It is a very large tree growing to 100 feet or more. In North Carolina, bees build up on tulip-poplar only to become strong after the flow is over. Strong colonies in late April and early May can get very good honey crops. It is a very showy tree. The taste of Tulip-poplar honey is somewhat stronger and is considered a dark honey. Here in N.C., the honey my bees have gathered from the many tulip trees in bloom is not so dark and is rather mild tasting. Thus, it is more of a wild

flower honey (Wild flower honey contains nectar from many sources). Tulip poplar trees are currently in full bloom as I write this article.

**Tulip Tree (*Liriodendron  
Tulipifera*)**



This is a large magnificent tree growing from the New England states west to the Mississippi River and south to Florida. It is grown as an ornamental tree in many areas. This tree grows in large numbers in areas of the Appalachian highlands and Piedmont. It is considered a reliable source of honey in the Piedmont regions of the United States. In southern states the tree comes into bloom in late April and extends its blooming period into the north till mid-June. The leaf is rather large with a distinct shape and the blossom is bell shaped with the three sepals being yellowish-green and the petals are large yellowish-green with bright orange-yellow spots. The tree has a two week blooming season during which it produces large amounts of nectar. Lovell reports, " when the blossoms are late in opening and the weather is warm and dry, the honey flow is very much heavier than when the bloom is early."

**Description of nectar**

- The honey made from the nectar of the tulip tree is rather dark. It is a strong tasting honey with a pleasant flavor.