

Stahlman Beekeeping Notes For

2022

Taking off honey crop



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To a honey bee nectar is like income is to a human family. In order to survive and live a comfortable life some form of income is essential. We as humans have a number of sayings such as "SAVE FOR A RAINY DAY".

Our bees do something similar – they save honey for a time when it will be most needed! They spend a huge amount of nectar/honey and pollen raising larva and store excess nectar converting it to honey. Their honey gathering ability has made it possible for the honey bee to be one of two insects considered by humans as valuable. Although the pollination they do is actually more valuable. If you are wondering, the other insect is the silk worm.

It has been long recognized that honey must ripen before it is taken from the bees.

When should honey be removed from a hive and how much should be taken?

Honey stored in comb is either uncapped or capped! Honey is not gathered from flower sources! Nectar is gathered. The nectar goes thru a process that converts it to honey. From the *Hive and the Honey Bee* published by Dadant & Sons, "Chemically, nectar is a solution of sugar concentrations in water. Sugar concentration in nectar may vary from 4 or 5 percent to more than 60 percent. Chromatography indicates that the main sugars present are sucrose, glucose and fructose."

Honey is not "bee poop!"

It is an involved process to convert nectar into honey. First, nectar is gathered from plants. The nectar taken in by the bees is stored in the honey stomach where enzymes break down the complex sugars into simpler sugars. This process is called inversion.

When a foraging bee returns to the hive the nectar substance is passed to house bees and again enzymes continue to break down the sugars into simpler sugars.

"Of all enzymes added by the bee, the sucrose-splitting enzyme invertase (sucrose) is most important." Again taken from "*The Hive and Honey Bee*" book. It is all a complicated process.

Bees circulate air in the hive which reduces the moisture content of the sugar solution down to an acceptable level. Keep in mind that the inside temperature of a hive is a constant level of about 90 to 93 F. The standard for honey is 18.6 % moisture or lower.

When a cell is full of thickened honey, the bees cap the cells where it remains protected from moisture.

I have heard it said that one honey bee collects only 1/16th of a teaspoon of honey in its lifetime. Think about that! It takes a lot of bees to produce honey!

Fortunately for beekeepers a hive of bees generally gather more honey than they will use. However this is not always the case. A wise beekeeper will not take all the honey from a hive of bees.

That was done in the “old days.” Some say modern beekeeping began with Langstroth but I would argue that it actually began when mankind decided to save the bees from the sulfur pit. All kinds of hives and beekeeping methods were written about from the early 1800’s imploring beekeepers save enough honey in a hive for the bees to survive.

So with that lecture out of the way:

Here in North Carolina some beekeepers are experiencing a good honey crop. Harvesting honey is an interesting topic. The question of how to remove honey from a hive has a number of different answers. I have seen how some brush the bees off frames (one at a time) to those that use a bee blower to remove bees from an entire super in less than a minute. Very early in my life going to the bee yard to harvest honey was a dreaded task. It was hard work, heavy lifting and the bees filled the air – they were not too happy with our visit.

Removing honey from a hive is only one half of the job! The other half is getting it ready to market.

This is one area of beekeeping that has changed little over the years. Honey bees store honey! The flow hive came along but in reality it has not been accepted by beekeepers who want to produce a lot of honey.

A few facts about honey:

- There are many varieties or sources of nectar that honeybees convert into honey.
- In most samples of honey many floral sources can be found. There is no set standard in the U.S. such as found in Europe. In order for a honey to be identified from a common source it is accepted that the honey sample must be at least 51% of one variety. Thus sourwood honey can contain other sources of nectar and vary in color.
- Most of us think of honey as a liquid, but it can also be a semi-solid.

- The moisture content of honey is very important. If honey is removed from a hive too early (when not fully capped) the honey will sour (ferment).
- Honey is hygroscopic. That means it absorbs moisture and how it is stored can influence its moisture content.
- Warm honey flows easily while cool honey is stiff and slow to flow. This is a reason to remove honey from comb when the honey is warm. Some beekeepers store honey in a hot room prior to extracting it.

When honey is removed from a hive it should be free from all bees. If a honey flow is over any exposed honey will become a target for robber bees. It is important to make sure honey supers and comb are stored in a bee tight location.

All of these things must be considered when removing honey from a hive.

- Is the honey capped?
- How long will it be before the honey is extracted or processed? Honey in supers should be extracted or processed as soon as possible!
- Is an extractor available? For those that want to get liquid honey there are several ways to get it. Honey can be pressed out of comb. It can be exposed to the sun in a solar wax melter resulting in both honey and wax. I prefer an extractor to remove honey after frames are uncapped.
- Are containers available to store the harvested honey?
- Is the weather suitable? Warm days without pending showers in the forecast.

Usually, a beekeeper will see frames with honey that is not capped over. The question often is “Can I take this from the bees?” My answer is “NO!” Anytime uncapped honey is taken from a hive it will spoil and sour. The reason for this is the honey has a high moisture content. This honey is thin with a high moisture level. When placed in containers, this high moisture honey will expand causing buckets to leak and plastic jars to bulge. Glass jars with high moisture honey can actually explode.

A quote from The Hive and the Honey Bee published by the Dadant & Sons, Inc. 1992:

“Most ripened honeys are about 18% water. Only a slight increase in water is required for fermentation to proceed. Therefore, high moisture (greater than 18%) allows fermentation to proceed.”

When a beekeeper bottles honey and later ask the question, “What is wrong with my honey? It taste sour!” The answer is really the honey was taken from the hive before it was ripened.

A frame full of capped honey looks like this:



Shown here is a frame almost 99.9% capped honey. The white capping make light bees wax when processed. The heated knife shown is used to remove the cappings.

One general rule is a frame should be 2/3 capped to avoid fermentation. This should not be a problem if the honey is capped.

It is generally accepted that the higher moisture content of the not quite ripe honey lower moisture level. The easy way jar of honey is to turn the jar jar will rise to the top. The speed estimated guess of the moisture high moisture level. A more exact may be too expensive for a hobby them available for members that moisture level is in their honey



will be absorbed by honey that has a to determine the moisture content of a upside down. The bubble of air in the of the bubble rising can give an content. If too fast the sample has a way is to use a refractometer. They beekeeper but many bee clubs have want to know precisely what the sample.

Getting bees off the comb can be

done in a number of ways.

Often several hives can be checked individually for capped frames of honey. Frames may be saved by being placed in a freezer if they are to be held for any length of time.

- One method to remove bees is brushing them off frames as the frames are taken from a honey super. This takes a little time and often results in irritating bees.
- I have a neighbor that uses his power blower to blow the bees off the frames. It works remarkably well.
- I often take off a full super using an acid cloth. Several products are used for this. It requires a lid to cover the super. This is called a fume board. Several products such as Honey Bandit, Honey Robber, or Fischer's Bee-Quick drive the bees out of the honey super. Care must be taken that when using this process that the fume board is not left on the hive very long especially on a hot sunny day.

Other Points

- Quick action is required when one begins removing honey from a hive.
- Warm days with low moisture conditions are good days to remove honey.
- After the honey flow is over, all honey removed from hives must be protected from robbing bees.