

Stahlman beekeeping notes for 2021

Issue #41 Winter survival -- Feeding bees and frame manipulation

Feeding bees has been a topic in almost every book about beekeeping I have read. For the fun of it, I took a look at a copy of The ABC and XYZ of Bee Culture for 1913 published by the A.I. Root company. The article on feeding in that edition covers 9 pages including topics on a number of different feeders, feeding outdoors, feeding back, feeding in freezing weather, feeding in the spring, feeding at night and fall feeding.

Feeding is a big topic and much too detailed to be covered by these notes:

To me there are only two reasons to feed:

- Prevent bees from starving and getting them thru winter
- Stimulate brood rearing and wax production

As fall approaches, our thoughts are on feeding bees for winter survival. A large population of bees in a hive at this time of the year will require food to survive even now! The sugar content of syrup makes little difference to a hive of bees starving.

If the beekeeper is expecting a honey flow from goldenrod and aster to answer the hive's food requirement for winter storage, that hive may be in a lot of trouble if the weather turns sour.

Prevent bees from starving: (Now is the time to feed bees)

Winters provide bees little opportunity to gather necessary food resources. As a keeper of bees, the responsibility of keeping a hive alive may require feeding. The only way to know for sure a hive needs food is to examine the hive for surplus honey stores. These frames are usually found to the outside – the frames near the sidewalls of a hive or in supers above the brood nest. Most bee books indicate that the food needed for winter survival is somewhere in the neighborhood of 60 pounds of surplus honey per hive. Picking up a hive to determine if it is heavy enough may indicate the amount of honey stores within a hive but it will not solve the problem of where that honey is located.

Those that remove honey from a hive of bees are disrupting the natural placement of stored honey. Bees store honey above the brood nest and on the outside of the brood nest. When cold weather arrives, the honey stored to the outside of the brood nest becomes less

available except during warm periods. It is much easier for a winter cluster to move up rather than sideways. Heat rises!

It is not uncommon to find a strong hive of bees dead during the winter season. Often in Ohio where I kept bees for many years, I would find a strong cluster centered in the brood nest with several frames of capped honey near the outside wall of the hive – dead! That was simply mis-management on my part. I took their honey stored above and extracted it. I did not consider that in a double deep hive that honey in outside frames could not be reached in cold temperatures.

Have you ever placed your hand above the inner cover hole on a very cold day? If so, if the hive is alive you will feel heat rising.

One feeding method in cold temperature regions is to pour granulated sugar around the inner cover hole. It is not the most ideal feeding method but it will provide food for starving bees. The bees are able to use the moisture within the hive to moisten the dry sugar.

Another emergency feeding method is the placement of fondant patties on the top bars directly above the cluster.

Both methods provide the bees food where they can reach it!

I move honey frames from the outside walls of the hive next to the winter cluster. Heat escaping from the cluster provides bees with enough ability to gather honey from those moved frames. Any frames without brood and honey are removed from the hive or are moved to the outside positions.

I have always looked at October 1st as the beginning of my planning for next year.

Most of this years beekeeping has been done [at least I have done everything possible to get them ready to survive the winter!]

This past week was spent checking all hives for laying queens and winter stores. My goal has been to make sure I have one full medium hive body of surplus honey for each hive. Any hive with a brood problem is combined with a stronger hive. I will be visiting my bee yard (a 30 minute drive) about once every two weeks. As winter approaches I will spend even less time in the bee yard.

Over many years I have learned that counting the number of hives I have in the fall is not that important. What counts is how many do I have when spring rolls around.

Over the past week I have been watching a hive that had a lot of bees, no brood and no sign of a laying queen. I checked the hive a week ago thinking I might find a swarm cell or evidence of one but with no cells found. It is rather late to try to introduce a new queen to the hive. Fortunately, I do have several weak splits in the bee yard for such an event.

When I split hives late in the season, I hope they produce queens that can produce at least 4 or 5 frames of brood by mid-September. Rather than count them as new additions to my hive numbers, I consider them as resources to help failing hives prior to the winter season. They can be combined to make a very strong hive but they also have queens and frames of brood to combine with other hives needing help.

The trip to the bee yard this week had one thing to do—work with the hive with no brood and a large population of bees. I did not have to worry about honey stores because the hive with the large population of bees had honey.

The condition of the hive with all the bees had not changed. No sign of a laying queen and no queen observed as each frame in the hive was examined. I waited the extra week to see if I had overlooked a virgin queen. If the hive had a virgin queen, I would have expected her to be laying eggs and maybe even see some larva. My experience has always been to wait until worker bees emerged from cells – a period of 21 days. This is almost the same thing observed when a hive swarms and the new queen begins to lay. Often a beekeeper jumps the gun and buys a new queen to put into the hive only to have the bees kill the new queen because the virgin queen is still in the hive. That was my problem! The solution was wait an extra week to carry out the effort to make this hive queen right.

The first step was to remove all frames from the double deep queen-less hive looking for any evidence of a laying queen or seeing a queen – setting aside only the frames with honey stores.

These frames were then returned to the bottom deep hive body sitting on the bottom board.



It shows the hive of bees with frames put back into the deep bottom brood box and frames resting outside the box with bees on them from the upper deep box. There was no queen found.

The next step was to lay paper over this hive to form a temporary barrier when the laying queen and her bees were added to this hive.



Once the paper was added the next step was to move the queen right hive body with the queen and brood frames to this hive.



It is great to have friends help with hive manipulation. This is Keith, who has worked with me for at least the past two years and has about 40 hives of his own. He is also a mentor for Wake County beekeepers Association.

He has just picked up the hive with the queen. He had removed all frames without honey or brood. His job was to move this hive to the strong hive and set it on the paper I put down.

I might note here that this hive was not more than a five frame nuc – it had five frames of bees, brood and a queen. It was light on honey stores. Shown below is the queen and her bees being located on the strong hive.

Both hives had been treated for mites. As a combined hive, this queen has a good chance of being accepted by the bees in the hive box below the paper. Another check in a week is required to satisfy me that all is still okay with the hive. If I did miss a virgin queen in the bottom hive, there is a chance that she will inherit the brood and bees of this queen. My hope is that this queen will provide the needed brood to a hive already well set for fall. Frames with honey replaced the empty comb frames minus the bees. They were shook on the ground at the entrance. Nothing is really guaranteed when we work a hive of bees but this I know:



- The nuc had a good laying queen.
- The strong hive without brood and a queen would most likely have been a target for robbing bees as the adult bee population began to die.
- The nuc with a queen has a strong enough population to protect their queen.
- If the strong hive has been queen-less for very long -- laying worker bees would develop.
- Had I moved the strong hive to the nuc hive location, many of the bees in the strong hive would have returned to their old location and drifted about the apiary locating other hives to enter.
- This is one reason why it pays to inspect hives on a regular two week basis for eggs and larva. I got lazy when I saw capped brood a few weeks earlier and assumed the hive was okay.
- In the end, the bees will solve their own issues.

I am now planning for 2022. For 2021, I increased my hive numbers to more than I could handle. I can remember the days when I had a saying, "God only gave me two arms, two legs, and 24 hours in a day. I am adding to that, endurance! I can only endure so much lifting and hot weather.

In up coming notes, I will discuss keeping my hives alive thru October, November and December. I agree with A.I. Root's comment about not bothering the bees during cold weather.

Visits to the bee yard will be brief – The weather will determine when it is feasible to open hives for inspections. Already daylight hours are shrinking. The bees will find foraging time lessen as each day passes. When the goldenrod and aster honey flows are over in the coming weeks, about the only issue involved in bee management is [IS THE HIVE WELL SUPPLIED WITH HONEY STORES?]

Mouse guards need to be put on hives now! Cooler nights will encourage mice to look for making winter preparations for their own survival and they especially like a dry warm place to make a nest.

I was asked about mouse guards on hives and it is easy to make a very inexpensive mouse guard out of ¼" Hardware cloth sold at most hardware stores. Just make a "L" shaped strip to fit in front of the entrance reducer. The internet search I did to check on mice guards for bee hives turned up a number of them on the market ranging in price from around \$5.00 each to over \$16.00 each. One can make any number of mouse guards from a single 1 foot X 36" hardware cloth for so much less. We still have a few authentic hardware stores that sell many items such as chain, wire, & fencing by the foot. If you can not find one, I would suggest several beekeepers getting together to buy a 25 foot roll and use it for other hive equipment uses.