Stahlman Beekeeping Notes For 2022

November

Leaves are falling from trees and it will not be long before they are gone.

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I know it is early to look back, but! After one has gone thu a season of beekeeping, some of us are looking back to see why some bees died out before the winter season. It has been said "if our foresight could be as good as our hindsight, we would do a better job of beekeeping." This is a nest of honey bees before cold weather sets in. They did a poor job of finding a suitable place to build their nest. If you look around, you may find a colony of bees that might still be saved because they failed to find a proper shelter.

We are human! We make mistakes but our goal is always try to improve whatever it is that we do. As an experienced beekeeper I still don't know what is around the corner and that is what makes beekeeping so interesting.

Extremes in weather are becoming more common. There is no silver bullet for managing hives. Experienced beekeepers are challenged just as are those who begin – maybe less so because experience is a great teacher.

I have been communicating with a beekeeper who had a hive of bees die in the past week.

He wrote: "Hi Dana. Yesterday my son and I did our final inspections before buttoning up for winter. His two hives have lots of bees and look really strong. When we opened my hive we were astonished to see near zero bees. We removed my Apivar strips on Oct 3rd and the hive was full of bees. So we assume my hive swarmed in mid-October? What would cause this to happen? I fed two small batches of 2:1 syrup in early October and they took it well.

My only thought was what else did this person see? Nothing is said about brood or signs of robbing. For many, this is the classic sign of CCD. I mentioned that feeding could have resulted in the hive being robbed.

He wrote back, "I did not see any overt robbing activity. No fights on the landing board, plenty of guards. There are still resources in the hive, capped honey and syrup, no shredded or torn comb. The super is still weighty with stored food. There were probably 100 bees in the hive when we opened it. I had two brood boxes and a medium super above it!"

I have heard stories like this before. Our questions usually involve did you treat for mites or as I asked with the robbing situation. But many beekeepers have faced the issue of looking in their hive and finding almost no bee population at this time of the year. I have written about bees absconding from hives short of food. But, this dead hive begs the question "Why?"

This situation is repeated over and over every year. Beekeepers check hives often, feed their bees, treat mites, and check on hive conditions with the same results as the beekeeper above. I have experienced it and so have many others. We called it CCD which really is no answer at all. So the colony collapsed! It is dead! – No bees, sometimes the hive is robbed and at other times the hive is full of honey stores. All efforts on research have pointed fingers at a number of causes – but still it is hard to put a definite answer to the question of why my hive died? My suggestion was: clean up the equipment and store it in a dry place. Be careful about wax moth if the comb is stored in a warm location. Wax moth can cause a lot of damage to comb if the comb is stored in a dark warm place.

It is time to order bees to put back into the hive equipment which is far more valuable than the bees that occupy it. I understand the loss of a hive of bees! I also see beekeepers lose far more by ignoring the equipment. Each drawn frame of comb is valuable – more valuable than foundation. As long as the frame does not look like this:

Drone brood cells take up about ½ of the cells on this frame. The bees did not draw the foundation evenly to get the maximum number of worker brood cells.

I will be writing about comb management in an upcoming issue for late winter. One task of beekeeping is to evaluate comb in a hive. New beekeepers usually have frames with comb a year old unless one buys a nuc with comb like this! A dead-out hive allows the beekeeper plenty of time to develop a plan of action.

Another point I would like to make is this: A package of bees installed on drawn comb will develop quick enough during the bee season to gather a honey crop. Starting beekeeping with foundation to be built requires a tremendous amount of work for honey bees. If comb is present and the hive has some honey stores from the previous bees, the new bees will exert their energy into brood production rather than drawing new comb.

We worry about the bees! Bees can be managed to over winter in a number of different types of hives. Above is a picture of four 5 frame nuc boxes (20 standard deep frames) with a colony of bees in it. Is this better than a standard double deep hive with 20 frames? What about a Langstroth long hive with 20 standard frames? The decisions made on hive selection is an individual choice. Thus, the management style of the beekeeper will depend on the selection of hives chosen.

I personally do what my grandfather did. He kept all his bees in 10 frame single deep hives with a medium super full of honey above. He used two inner covers on each hive. He could, he believed have space above the frames to use dry granulated sugar to do emergency feeding if it was necessary. He found that two inner covers provided an air space above the brood nest for better ventilation and a winter entrance for bees to fly if snow covered the bottom entrance. I am sure that he had reasons for doing that because he kept bees from the 1880's.

I am going to use double inner covers this coming winter with some adaptation. He used migratory covers but my telescoping covers will do. I have noticed moisture above some inner covers I had made of Masonite causing them to warp. Thus, I am trying to give my bees an upper entrance and also allow that extra air space to protect the bees from any moisture that might collect or drop from the bottom of the inner cover.

I am still experimenting! 2 hives will have double inner covers and 2 hives will have top feeders filled with dry wood shavings that I have saved for that purpose. I hope to see if this makes any difference in how the hives survive.

As humans we do a lot of things to overcome the moisture problem. I picked up a bee catalog from Mann Lake with several items sold to reduce heat loss and moisture problems during winter. They sell something called a Moisture board: They don't say what it is made of but suggest it can be placed above the inner cover or it can be placed directly on the hive covered with a top cover. They also sell a top cover made of techno-polymer construction with an air space (double wall construction) and it is recommended for use with an inner cover. Many bee suppliers sell a vented box that is placed above the hive with the idea of providing ventilation holes to allow for air ventilation.

I have four very strong hives for this winter. Each will have the wire screen bottom board closed off with a small entrance reducer. Air can enter the hive (I don't have to worry about heavy snow blocking the bottom entrance.)

Now is a great time to plan for 2023 and study and read books. I have no idea of the price for bee equipment, packages, gasoline, or anything else for 2023 but I would recommend that if you are interested in buying equipment – now would be a good time. If hives have died, it is important you get an order for packages in early if you plan to replace them. Pick up all dead hive equipment and get it ready for next year.

I am sharing some of the winter beekeeping things I have tried over many years. Just remember I lived in Ohio for over 75 years – very snowy winters; owned and operated bees in Georgia – over wintered about ½ half of my bees there; and had close contacts with many commercial beekeepers including some in Michigan – with colder weather than Ohio.

I often spent the winters planning what new management ideas I would try after talking and working with beekeepers. Bee meetings were also helpful because topics sometimes helped guide me in a new direction. Commercial beekeepers are a different breed from a person having no way to load bees on a truck and a day later unload them in a warmer climate. Beekeeping practices are weather dependent.

Things I have learned:

Ventilation is important no matter where bees are kept! Langstroth was right when he emphasized this in his book written in 1853.

Facts I have observed:

1) **Active bees produce more moisture inside a hive of bees than quiet bees in a winter cluster. Below freezing temperatures can cause a frost to build up inside a hive if it is not properly ventilated.**
2) **Warm air rises and will carry moisture which condenses on cold surfaces.**
3) **Moisture inside a hive condenses mostly on the underside of the top cover and water drops down on bees making them wet and easily chilled. A very good reason to have an inner cover on a hive.**
4) **High moisture inside a hive will result in mold build up on comb.**
5) **Cold winter moisture dropping down on bees will chill them resulting in death.**
6) **Summer bees fan at the entrance of the hive to ventilate the inside of a hive. Winter bees do not have that advantage.**
7) **Bees use moisture to consume dry sugar placed around the ventilation hole in the inner cover.**

8) **My experience indicates that long winters with little chance for bees to fly results in more bee loss than those winters with years when bees could take frequent flights. That certainly applies to those who manage bees in the south.**
9) **Over wintered hives usually store pollen capped over with honey. This is important for early brood rearing.**

Modern beekeepers are trying to save every colony of bees because that is what we do! We try all we can do to keep them alive. We do not want to admit that some bees die every year due to natural causes. Any reading of old bee literature will discuss bee losses – queen failure, robbing, excessive swarming, low bee populations, and diseases.

Finally a quote from Langstroth's book of 1853. On the subject of dampness in a hive:
"This dampness, which causes what may be called a rot among the bees, is one of the worst enemies with which the apiarian in a cold climate has to contend, as it weakens or destroy many of his best colonies. No extreme cold ever experienced in latitudes where bees flourish can destroy a strong colony well supplied with honey, except indirectly, by confining them to empty combs. They will survive our coldest winters in thin hives raised on blocks to give a freer admission air, or even in suspended hives, without any bottom board at all. Indeed, in cold weather a very free admission of air is necessary in such hives to prevent the otherwise ruinous effects of frozen moisture; and hence the common remark that bees require as much or more air in winter than in summer."

Of course, Langstroth never had to deal with mites, viruses, small hive beetles and lack of foraging opportunities for honey bees! But, weather and moisture issues still remain a serious issue with keeping bees today.

He observed dry and lively bees live and survive if all provisions such as ample food and shelter exist -- this he observed in the 1850's.