

Stahlman Beekeeping Notes For 2022

**Pests that destroy drawn comb
And treatment suggestions**

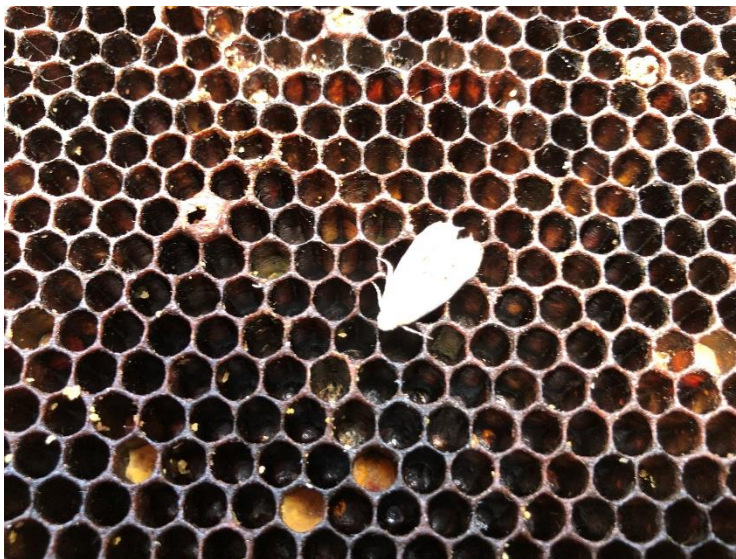


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Last week I introduced the subject of some pests that visit our bee hives. This week I would like to expand on that topic and discuss how I treat my hives to prevent these pests from causing stress and possible death.

In many cases a beekeeper may notice the damage too late. That is why I stress making hive inspections on a regular basis. I have heard it said that pests do not kill hives of bees, the hive was already in trouble before the pests found them. There is truth to that statement.

Weak hives are more of a target for pests than strong hives!



Wax moths: Wax moths have been a scourge to beekeepers in the U.S. since the very early days of beekeeping. Beekeepers often found hives filled with worms. In fact some hives were designed with sloping floors so the worms would just roll out of the hive.

That was a time before movable frames were used in hives. But even hives with movable frames did not solved the problem beekeepers had with wax moths.

The damage is caused by the larval stage. Wax moth larva tunnel through drawn comb leaving behind debris and webbing. By the time this damage is done, the bee population has dropped to almost no bees in the hive. Thousands of worms of various sizes can be found on the remaining comb and webbing. Nothing can be done at this point to save the hive. Some comb in frames may be salvageable.



This is total destruction of comb in a hive.

To cause this much damage there were earlier signs that all was not going well for the bees in the hive!

An inspection of the hive would most likely have found the bee population declining.

Thus, the beekeeper might have prevented this from happening.

How?

First – deal with the problems facing the loss of bee population. A number of things could be causing bee populations to decline – disease, a queen issue (poor laying queen, laying workers [loss of the queen]), pests or disease. **There is a narrow window available for the beekeeper to discover and recognize problems.**

If one finds wax moth already beginning to cause damage:

- Comb/frames can be stored in a freezer. Temperature at 0 degrees F for several weeks should kill all adults, larva, and eggs.
- Bee comb can be exposed to light. Often supers stored outside under a protective roof with open sides will deter wax moth.
- *Bacillus thuringensis* is used as a control in stored supers.
- Para-Moth is sold to put into stored honey supers/bee comb.
 - You will need to follow all directions on the container.
 - As the crystals dissolve the fumes of the Para-Moth is distributed among the combs exposed to the fumes. Thus, the comb being treated must be sealed in the boxes to prevent the fumes from escaping.

Putting comb into a black plastic bag will not get rid of the moths. It will only allow the moths to do greater damage. Moths love warm weather and darkness.



Another pest that can destroy comb and frames is the small hive beetle!

First reported in the U.S. in 1998, the small hive beetle joined the list of pests that found their



way into the United States since the 1980's. A beetle is well adapted to living in a bee hive. Its small size and its ability to pull in appendages and crawl into corners make it difficult for honey bees to grab. Its size allows it to scurry into cells, cracks, and crevices allowing it to hide from the bees. The hive beetle is a pest of opportunity. It picks on bee hives, especially weak ones. If present in a hive, it is easy to spot

as it moves quickly on inner covers, top bars and cell to cell on the face of comb.

The male and female mate, and the female lays eggs in brood and pollen. After three to four days, the eggs hatch, and the larvae burrow through the combs eating brood and pollen. They defecate and this makes the nectar and honey go sour. It has shown that it can survive cold winters in the north and was spread around the U.S. mostly as commercial pollination hives



were moved from place to place.

The major damage is done by the larvae feeding on honey and pollen in the bee hive.

The surface of comb takes on a greasy look. One will find adult beetles hiding or being herded by honey bees on the inner cover lid or bottom board. If not treated hives can be destroyed by small hive beetles. The bees will not work on comb that the beetles have been feeding and reproducing on.

Beetles are the first sign the hive has a problem!



I want to note that pollen patties attract small hive beetles. If hive beetles are present, it is advisable not to use pollen patties. A better method might be to set out dry pollen feeders.

Treatment:

Trapping Small hive beetles has proven effective to reduce adult beetle populations.

There are a number of traps on the market. Every bee supplier has a selection to offer.

Traps like shown below work because beetles climb into the trap and are drowned.



This trap above goes by several names. [Beetle Blaster, Beetle Jail, Beetle Jail Baitable]

The trap is filled with mineral oil, Vegetable oil, apple cider vinegar or other baits to attract the adult beetles.



Beetle towels – they are placed in a hive where beetles congregate.

The cheapest and most available are Swiffer dry sweeper cloths. Make sure you get the dry cloths. Beetles try to hide in the towel or swiffer cloths and get trapped. Sheets can be replaced when full of beetles.

Other treatments are available such as old CD cases adapted as traps filled with bait such as pollen. Holes are drilled into the sides of the case and the case is slid onto the bottom board often with a handle attached to it.

Beetles seek hiding places especially on the bottom board or under the top cover. The hole cut into the cd case must be large enough for mites to enter and small enough to keep bees out! Another trap of sorts is corrugated cardboard cut into strips. Beetles enter the tunnels and when the cardboard is removed from the hive, one must place the cardboard strips in a bag

that can be sealed and then burned. Small hive beetles are unique in their ability to fly and move from hive to hive.

Some beekeeping literature suggest treating with chemicals. I am not so sure that a treatment with CheckMite + will work but it has been reported to kill adult small hive beetles. Check with those more experienced in using chemicals in hives. I like the non toxic methods and the best defense is a strong hives of bees.

Ground Drenches Two ground drenches are available to kill adult small hive beetles as well as ants. [Gardstar® and Permethrin SFR] Small hive beetle larva leave the hive to reproduce in the ground. **At no time should these harmful insecticides be used inside a hive.**

Permethrin is highly toxic to bees and other insects. It is suggested that moving hives from infected locations would be advisable.

Other Observations:

I also have a friend that raises free range chickens. I have seen chickens effectively clean up frames of wax moth larva and go after small hive beetle larva around bee hives.

Hanging a frame with wax moth damage in a tree will attract birds to move in to kill wax moth larva. I have not yet seen what birds will do with small hive beetles.

Wax moth larva make good fish bait. Check out the prices charged for wax moth larva at your local bait shop – you might want to go into raising wax moths!