

***Apis m. Esoteria* 17**

Hive beetles & nematodes

This is a synopsis of what I know on 26 Nov 2012. I hope it is informative and maybe useful.

Until recently I thought a few beetles in the top of a hive were no problem. That is probably true. I am talking up to maybe 12 beetles being controlled by the guard bees.

Toward the end of this summer, I was seeing beetles and saying, "Wow, that is a lot of beetles". The guards were not controlling the beetle clusters on the periphery of the colony area. I would see them a lot in empty brood areas. Okay, a good place to hide. But I had not heard that beetles do more than pester and stress the workers. Laying eggs in honey was the big problem.

Then I found out the beetles were eating the honeybee eggs and larvae. As the hive gets weaker there are not enough interior bees to keep herding the beetles to the periphery. SOON, the beetles are eating the larvae and eggs faster than the queen can lay them. Now you are set up for colony collapse in 60 days.

Without using strong chemicals in a trap, I can determine no way to reduce the beetles once they get to be too many. Too many is when you go wow there are a lot of beetles here.

There are several traps that use vinegar attractant and mineral oil killer. There are entrance traps that divert the beetles from going in your hive. There are traps that use Checkmite. There are UNAPPROVED variations of purchased and modified traps that use "Combat" roach killer. The active ingredient in "Roach Hotel" (phipernel sp?). The entrance of roach hotel is too large and will let bees come in and get killed. Combat is approved for food storage and preparation areas in restaurants. That does not mean it will not contaminate the wax in your hive. It will kill the beetles and not kill adult bees if used in extremely small amounts. Use it in corrugated traps or "beetle barns" where the bees cannot enter and come in contact with the phipernel. Only next year will you know if your wax is reusable as no brood might grow in it.

Dr Hood (Clemson UofSC) says the economic threshold for too many beetles is around 300. Good counting. In reality when you see lots of beetles you have time to use approved traps to winnow the beetles. A key to success is to have a very large, strong population of bees in the hive. They will control the beetles so they cannot lay eggs. You may have to add bees to the hive to bring the population up to “strong enough”

The best, most ecological technique is to squish the beetles manually. This is time consuming and you cannot let the beetle population get ahead of you.

A heavy fumigation of oxalic acid will kill some of the hive beetles also.

Tell me better ways and good luck.

You mix the beneficial nematodes (they come in a fine clay powder) with water in a garden watering can and sprinkle the mixture around and under the hives, out to about 3 feet will help break the hive beetle’s life cycle. The beetle larvae will be eaten by the nematodes when they enter the ground to pupate. But the larvae have already damaged your comb and honey by then. This is also true when using “Star Guard” ground drench.

Two types if nematodes recommended by Jamie Ellis (UofFL)?????

Nematodes:

5 million nematodes will do 10 to 11 hives using the watering can method

First source (I used):

Bugs for Growers

PO Box 13685

Fairlawn OH USA 44334

Phone: 1-800-690-6233

Second source:

Mailing Address:

ARBICO Organics

P.O. Box 8910

Tucson, AZ, 85738-0910

Arbicoorganics.com

We need to figure out how to trap the beetles before they enter the hive. There are entrance traps

I am going to experiment with field traps. The beetles can smell honey 3 miles away. Hence, we should be able to attract them to a trap where they are killed.

In the early days of tracking beetles, they were attracted to traps using melon slices. The beetles will lay eggs in melon besides honey, syrup, and pollen patties.

I am going to try a paste of honey (attractant), pollen patty (egg laying medium), and phipernel (sp?) (as a killer). Since this concoction is away from the hive it will be okay to use the phipernel. Bees will not be able to enter the trap because the entrance holes will be under 3/8 inch. I want to trap and kill the flying beetles before they arrive at the hive.

Another treatment for beetle larvae around the hive is salt on the ground, under and around the hive. I use red granulated livestock mineral salt. This kills the grass, so you don't have to weed eat. It desiccates the larvae when they exit the hive and burrow into the ground.

Honeybees need salt to make the enzymes and minerals that are used to convert nectar into honey. Dew and rain make this mineral salt readily available to the bees.

Now, spring 2018 we can use oxalic acid fumigation. It kills beetles immediately. 3 times a year ought to keep beetles in check.