

# **STAHLMAN BEEKEEPING**

## **NOTES**

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I pulled the January page off my calendar and can hardly believe it is February already. On January 31<sup>st</sup> I spoke to the Franklin County Beekeepers in Louisburg, N.C. I made a presentation on what beekeepers should be doing during this period of time. (North Carolina weather). An outline of my presentation is listed below.



### **The Keys to Winter Survival:**

- **Hive losses have always been an issue for those keeping honeybees. At one time 10% was considered acceptable – today it might be more like 50% being acceptable.**
- **Getting bees ready for winter started during summer. Things that could be done then are not options today.**

**So we are in for another month or more of winter and what can we do to help our bees?**

- **Make winter inspections of hives on warm days.**
- **It is still possible to combine weak hives with stronger hives.**
- **Hives still need to have a good queen and plenty of stores to feed the expanding population of bees in the colony.**
- **Check for Varroa mites – take a sample to determine the level of mite populations.**
- **Check honey stores and feed if necessary.**
- **Have some fun trying new things - raise a queen**

**or two, make increases, or how about exploring what you can do with the products of the hive.**

**Feeding is extremely important for bees short of winter stores. I pointed out that one cannot tell what is going on inside a hive without doing a hive inspection. We have been fortunate to have**

some April like weather and temperatures above 60 °F. During warmer weather the winter cluster moves to frames so a few frames can be removed and checked for brood and/or honey stores.

If a hive has died out, one can clean up the equipment and order a package of bees or a nuc to start over.

First of all, it is important for one keeping bees to hear about issues other beekeepers are dealing with. The cost of joining a club is well spent. New beekeepers are eager to get started and were asking about where to get (packages or nucs). We need to remember that when giving a beekeeping talk, there are individuals that have not yet opened a hive, been stung, or started building equipment. I am always reminded that my goal is to communicate with everyone.

Thus, I ask for help. I am going to answer a few of the questions put to me when I asked individuals to fill out a card with questions they wanted answered.

I was asked:

### **How do you treat mites in cold months? Is it too early?**

**Fact:** Varroa mites are at the lowest population point now but they are in our hives. They survive and as soon as brood is available they will begin to reproduce. They will be in package bees as well as nucs. (No hive is safe from Varroa mites)

Mite treatment falls into a category called [Preventive Maintenance] If you think you do not have them – you soon will. Prevention is better than putting bombs (As Kim Flottum called chemicals) into hives to kill mites. There are a number of chemicals and acids used to treat bee hives to control mites. None is 100% effective. An alternative to chemicals is the development of certain lines of queen bees bred to have resistance. Resistance does not mean complete control.

Don't get me wrong about chemicals – If mite populations grow to the point that a hive is on the verge of failing (Chemicals may be the only way to save the bees). I might mention that I was fortunate in the 1990's to be involved in some research USDA was doing with formic acid. Franklin Industries in Columbus, Ohio was given a contract to develop a Formic acid jell that could be used in bee hives. Franklin Industries contacted me because I had 36 registered bee yards in Ohio. They offered me 5 gallon buckets of the jell (free) to treat my bees. At that period of time we were not as concerned about all the effects that formic acid could cause. It was reported to work well in Europe. I was pleased that I was selected to get this product to test.

We used ice cream scoops to remove the jell from 5 gal. buckets. One scoop on a paper towel was placed over top bars in the upper hive body. We wore gas masks!

Long story short: I lost about ½ of the queens in my hives. This formulation drove bees out of hives and I guess the mites came out of the hive as well, because the treatment in my opinion cost me far more than almost anything I have ever done to my bees. Closing entrances subjects bees to

fumes that even I cannot breath. If a chemical reaction kills mites it might also affect bees if misused. Always read labels on chemicals put into hives.

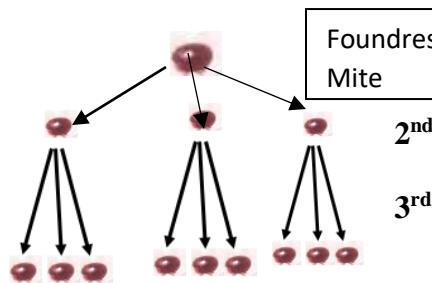
### Some facts about Varroa Mites:

- The mother Varroa mite is called a foundress mite. She enters a cell just before it gets capped over. This foundress mite prefers drone brood over worker brood.
- The first mite egg laid is a male and then daughter eggs are laid 30 hours apart.
- Males mate with their sisters in the capped cell and never leave the cell. They are killed by nurse bees cleaning cells.

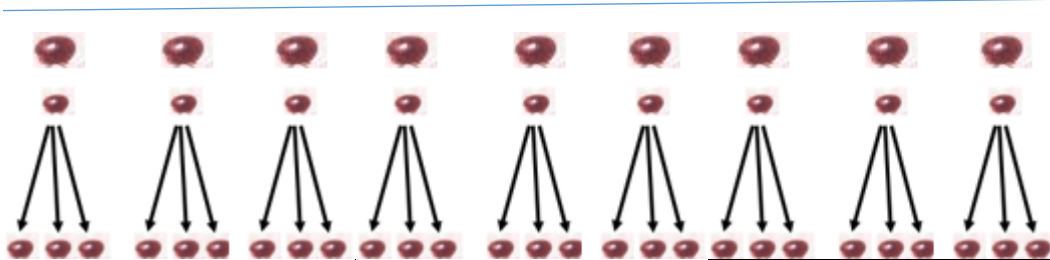


Each of these female mites will leave the cell when the bee emerges from the capped cell and the mites will find three cells ready to be capped over.

This is what one finder mites does.



What happens when these 9 bees emerge from their cells.



And the 4<sup>th</sup> generation from just one female mite:

I could have gone to the next generation but it would have filled the rest of this page!

**If you are going to manage your hive to survive – Stopping Varroa mites early is important!**

### How to treat in Winter to Early Spring

Research completed by Dr. S. Ramsey found that varroa mites feeds on the fat bodies of honey bees (both pupal and adult stages of development and growth). Mites are spread by attaching themselves to honey bees that carry the mites to other locations by robbing, drifting, and human transportation. It explains pretty well how the mites spread across the U.S. so quickly.

Many experts indicate this happened because the package bee industry distributed mites in shipping cages all over the U.S. In fact, Canada would not allow packages to be shipped into the country – Fred Rossman, a major package producer, shared with me that embargo almost put him out of business. Of course, honey bees are transported on our highways for pollination of crops. It was noted by beekeepers living and keeping bees in areas where crops were being pollinated they suddenly reported Varroa Mite issues.

I want to make it clear, that treating a hive does not remove the threat of Varroa Mites. A beekeeper not treating for varroa mites has bees that may carry mites into your hives.

The question “What do you suggest for winter mite treatment?”

The first thing is to do a mite count. You can see just what one mite can do. I have read that one need not worry if the mite count is below 5. My opinion is that even one mite indicates a problem.

There are many options for mite treatment. There are advantages and disadvantages to the various products being sold for mite control. A hive with brood limits the treatment to be used for several reasons.

- If the mite count indicates a large population of mites, hard chemicals most likely need to be used. ApiVar might be justified and the beekeeper might consider introducing a new queen in April. Resistant stock is available by mid-April. Some suggestions I have would be – buy from breeders of long standing raising and selling VSH (Varroa Sensitive Hygiene) stock. Many ads promote “Survivor Queens.” Don’t count on that word “Survivor” because any queen sold is a survivor. It is one way sellers hype queen sales. Queens called “Ankle biter/leg chewers” produced by the Purdue University breeders program have a good reputations.
- If the mite count is low, one has some time to determine what other treatments might be used to reduce mite population growth. The best solution in this case is to continue monitoring the hive every 21 days or so (This is one life cycle for the development of worker bees).

To me the only real solution to the varroa mite problem is to buy new queens to replace non-hygenic bees – weak and poorly performing hives are easy to identify because they will have large mite populations or a poor queen.

Let me close out this issue with several observations I have made over many years of trying to manage bees to do what I expected of them.

- We can teach bees nothing!
- We must learn to read the bees – do what they let us do!
- There is just too much “fussing” from “experts trying to tell us what to do.”

**Beekeeping management is learning to do what works.**