B-PLUS
BEEKEEPING REPORT FROM MICHIGAN STATE UNIVERSITY
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VARROA UPDATE

The latest survey results that I have (Dec. 1988) indicated that there are now 20 states where the varroa mite has been found. In some of these cases, for example, Michigan, those colonies where the mite was originally found have been killed, and there have been no new colonies found within the state.

MASKING EFFECT OF CHEMICALS

In his December, 1988 newsletter Dr. E. R. Jaycox comments on "The greatest change in beekeeping history?" His concern is over an apparent shift in attitudes among beekeepers. This change is from a complete dislike of pesticides as a threat to their livelihood, to one of embracing and using pesticides. This use is of chemicals whether approved or unapproved, even some believed to be carcinogenic, in colonies of bees. Of course it is because beekeepers see parasitic mites as a real threat to their livelihood. A threat that may be greater than the extensive use of pesticides by agriculturists. However, what is the gain if we contaminate the honey and it can not be sold? Dr. Jaycox also brought out the problem that even our state and federal agencies have changed their attitudes about pesticides around honey and wax. For example, most states used fluvalinate impregnated strips to sample for mites when the ether-roll method is faster, cheaper and does not contaminate the colony. Some field tests have shown that the ether roll method is not significantly less effective than the pesticide strips. Why then do these agencies use the strips? It must be that they also have gone through a great change. In one California county the inspectors took a beekeeper to court because he opposed the use of pesticides in his colony.

It may be that there is also a serious side effect of using chemicals to reduce mites within our colonies. This effect is not the contamination of honey and wax, but the masking of any possible genetic resistance that a colony might have against these pests. If a chemical is used to reduce the numbers of mites, there will be no way to assess a natural reduction. It may be that beekeepers will have to rely on state and federal laboratories to "sacrifice" their colonies for this purpose. The real difficulty that I see with that is the small number of colonies that these labs may

have for this purpose. The probability that some resistance would show up in these colonies is very low. As I indicated in a previous B-Plus, the real gene pool is in the hands of the beekeepers. The dilemma that occurs with varroa mites is that by the time that their numbers become obvious the colony is in serious trouble. (Which is not true for foulbrood disease, as a beekeeper should be able to detect even one or two diseased larvae.) The sampling period and number of bees has not been worked out to perfection. However, I would think that before long we will know that, and thus a
routine sampling could tell us the state of the pest within the colony before it was too late. Then a beekeeper could have the option of treating or resampling at a later date to see if the colony might have some natural resistance.

Now to quote Dr. Jaycox again. "Perhaps this big change in beekeeping is only temporary, induced by fear of the unknown: what will tracheal mites and varroa do to the beekeepers livelihood? But if we don't act rapidly to institute some long-range plans for some genetic controls, either breeding or bringing in resistant stock, we could lose the honey market and all that goes with it. We cannot allow ourselves to become pesticide junkies after correctly opposing their misuse by everyone in the rest of agriculture. Let's look for new and safer ways to live with the mite pests --we will not eradicate them but we can keep them from forcing us into sacrificing our ideals and our belief in the purity of our product."

MANAGEMENT TIPS FOR SPRING

1. Feed the antibiotic fumagillin (Fumidil-B) to your colonies, either within a pollen supplement patty or in syrup. Nosema disease probably costs more in terms of honey lost than any other thing that occurs in beekeeping, with the possible exception of winter losses. Since the patent has expired on Fumidil-B the price has fallen to almost half of its previous cost, further reason to use this material. Nosema infected bees live only half as long as normal adults. In the spring a colony needs all of the bees it can possibly produce so any help will be more than made up in colony strength later in the season.

2. Add terramycin to colonies as early as flight begins. Most American foulbrood disease is probably transferred early when there is no nectar to attract bees and foragers will travel long distances to rob dead colonies. The reason some colonies die over winter is that they had reduced populations due to AFB. It is often the strongest colonies that contract the disease for the very reason that they have the foragers that can find these dead hives and rob the honey containing the spores.

3. Feed pollen supplement patties to stimulate your colonies. These patties should be put onto colonies by at least the 1st of March. I like to get them on about the last week of February. If they are added too late the bees are going to be out foraging on maple and willow and the patties will not be used. It is the early stimulation that we are after. It is estimated that a pound of patty will produce about a pound of bees. These are bees that will be especially important in the buildup of your colonies for the early honey flows, or to make divisions. (All

three of these first tips can be done with one feeding of patty by incorporating the antibiotics within the mixture. Write me if you need mixing directions.)

4. Replace all queens more than two years old. This can be done by rearing your own in division nucs placed above the parent colony, or by purchasing the queen from Southern breeders. The new queens will reduce swarming. Overall production should be improved by the increased oviposition of these young queens as well.

5. Add foundation to the brood nest. Most beekeepers remove broken or old comb from honey supers because they see them at extraction time, but neglect the brood combs. The new foundation will provide house duties to many young bees that would otherwise tend to swarm. Most swarm prevention methods that have been described over the years include having bees produce comb in the broodnest. You should consider removing all combs that you can not see light through when you hold them up to the sky. In general that means replacing the wax every four or five years. This removal will reduce disease spores of nosema and foulbrood, and also any chemicals that have had the chance to build up in the wax.

6. Reverse brood chambers. I like to do this about two times each spring. The first one is about mid May and the other one the middle of June. Sometimes it is earlier because of the season (1988 for example). The bees, or queen, have a tendency to move upward and therefore they neglect the lower combs to some extent. If you can keep the brood nest from being crowded you reduce swarming to a great degree. One thing that reversing allows you to do is look at all of the frames from the bottom. It is the bottom of the frame where most of the queen cells will be located. This is a quick and easy way to see them.

   One of the best management tricks that I have learned during my 40 years of keeping bees comes to mind when I think of reversing brood chambers. The method works only with two people after the colony gets more than three supers high. The trick is to smoke the entrance a little then remove the cover and add a little smoke there as well. By tilting, lean the colony back onto the ground. The hive bodies will not split apart because they have been stuck together with the propolis since your last inspection. The bees that come out are usually so confused that they do not know what to do and thus you get very few stings. The colony then can be put back into position one super at a time. This allows you to examine the bottom bars for queen cells, clean the bottom board, reverse brood chambers or supers, and generally shape up the colony. Try it...you will like it!

7. Watch for low honey supply. I have seen more colonies suffer and shut down brood rearing because they have not enough stores. A colony can use up a lot of honey during the build up period of spring. The brood take a lot of energy to produce. If a colony drops below about three frames of honey they will stop rearing larvae. Any reduction at this time of year is very serious. Even a single day can be important. If there is nectar coming in and then a rainy period develops a lack of food will cause the colony to stop rearing brood. I like to think of any extra honey in the hive as being like money in a bank as it will draw interest in extra honey during the main nectar flows of summer.

TALES FROM THE LONESOME HIVE

Things seem good at this time. But then few colonies die in January. It is late winter when most colonies either run out of honey or bees enough to keep a warm cluster. The yo-yo pattern of warm and cold have made this a warm January. The bees have even had a flight. This generally makes the bees quite "happy" as they get to move to new honey stores, and also get to void their wastes on occasion. There is a concern with some of the high temperatures that we have experienced. As soon as the days begin to lengthen the queen begins to lay eggs. When it gets very warm there is a tendency for the bees to expand the brood area, and then if it gets cold again they can not keep all of it warm. The chilled brood then dies. The colony is stressed trying to keep the brood warm, and wastes the food used to raise the now dead larvae.

The Lonesome Hive will be getting a pollen supplement patty sometime in late February. The fall population was good and thus the colony probably does not need real stimulation. However, if they are good and strong I have the option of running them as a two-queen colony if I desire.