B-PLUS
BEEKEEPING REPORT FROM MICHIGAN STATE UNIVERSITY
Dept. of Entomology, E. Lansing, MI 48824-1115

No. 20 Winter, 1991 Roger Hoopingarner, Editor

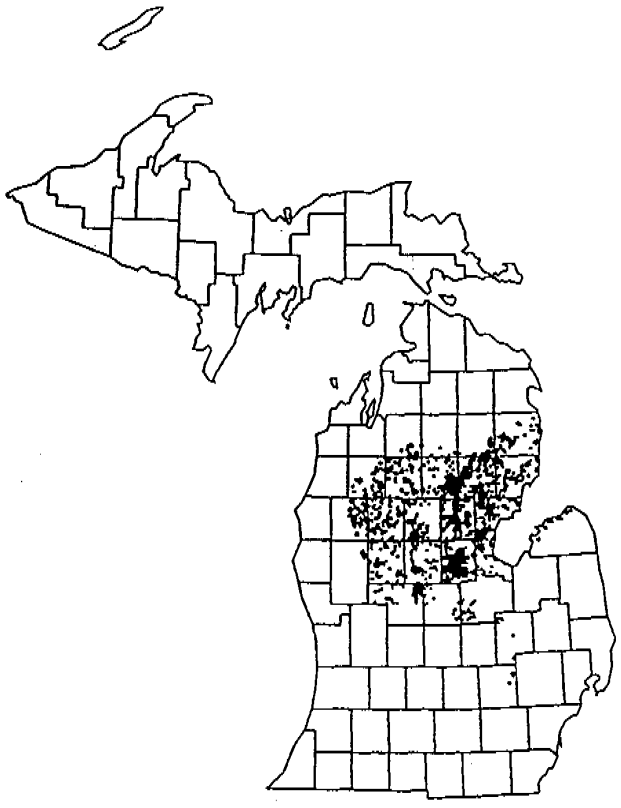
SPEEDING WITH PESTICIDES?

It would appear that many beekeepers have been caught in a real dilemma. Their colonies have been killed by tracheal mites and they have not felt that the control provided by menthol has been satisfactory. Rather than suffer the potential losses of another year they have tried other means of control - mostly the use of the pesticide amitraz. All of the early reports were that this pesticide did an excellent job of controlling both mites. However, amitraz was not registered for this application. The company, Nor-Am, expected that registration would happen at any time during the year (1990). It did not, and has not yet happened, as of this writing. To use amitraz in this way is against the laws of the U.S. and of Michigan. I think we could use an analogy to some other laws that are generally abused. For example, that there are many persons who drink alcohol and drive their car, or drive faster than the speed limit. What happens if we are caught driving over the speed limit, or with a high blood alcohol? We may be fined, or in some cases we may have our license suspended. However, if even one beekeeper is caught with amitraz in their honey we could have everyone's potential license to use this chemical revoked; not just one driver's license.

Nor-Am Chemical Company has indicated that if this material is misused they will not seek a label. Even if amitraz is given a National label the State of Michigan could deny its use if they felt the chemical was being misused. Without a label we can not use a material that will provide a very effective control of the mites. While it may not be "fair" that the public can speed in their cars with some immunity, the laws on pesticides are very clear. The effect of misuse could have severe consequences. In addition we could jeopardize the good name of honey as well. It is the good (pure) name of honey that is our best selling point. As beekeepers we have often seen the effect of misuse of pesticides - when our bees were killed. We have asked, pushed and even sometimes have had the labels changed because of the misuse of pesticides. We should not now be guilty of the same abuse of the law - for any reason. We can't have it both ways. We must control our frustration with what appears to be un-necessary delays in the registration of amitraz. The pesticide laws were designed to protect us, and the consumers of our products.

GYPSY MOTH

The gypsy moth has been spreading throughout Michigan since it was first found many years ago. There are many areas that have complete defoliation of the trees. The map below indicates where defoliation was at least 50 percent or more in 1990.



Gypsy moths have been captured in traps in all but three counties of the U.P. and the spread of this pest has been quite spectacular. The reason that I highlight this pest is the potential problems that private spraying may have on honey bees. Currently, the cooperative spray programs are using the bacterial spray, Bacillus thuringiensis, (B.t.) and this material is harmless to bees. (In fact, Certan(R) the product that once was sold for control of wax worms was also B.t., only it was a different strain.) The cooperative programs will spray many thousands of acres in 1991. About 30 counties are planning on spraying for this pest in 1991. The only concern that I have is that some private land owners may choose to use a different material. Sevin is often selected. It may be worthwhile to be aware of programs within your county. Ask the district MDA office or your county Extension Office if they know of any private applications of pesticides for the gypsy moth.

TALES FROM THE LONESOME HIVE

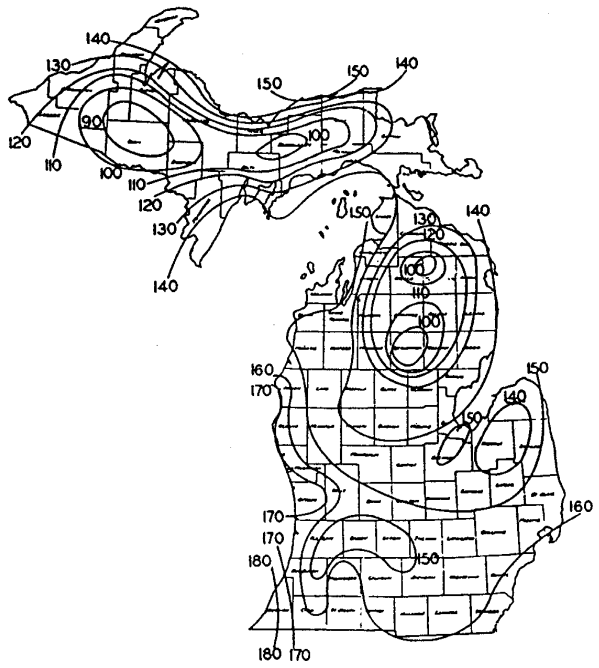
1990 was the best honey year in my 42 years of keeping bees, as the LH produced over 300 pounds! Actually the season did not start out as being that impressive. If you remember the summer issue I had tried to make a two-queen colony and basically had failed. I did manage to raise a new queen in the division after the first attempt had been affected by bad weather. However, when I joined the two colonies together via a queen excluder, the new queen was killed. The primary queen was laying very well, and the colony had 16 to 18 deep frames of brood and the colony did not want (need?) a new queen.

When the clovers started to bloom I put on extra supers. As the weather was favorable almost every day I kept watching the colony and adding supers as needed. It is difficult to predict what will make a good honey year. Beekeepers do know that the sun has to shine and the temperature needs to be relatively high. Just about the time I began to think that it was getting too dry we would receive about half inch of rain. The weather would then warm up and be sunny for another week or 10 days. About the middle of August I removed the honey and extracted over 125 pounds. Then I put the wet supers back on the colony to have them clean out the excess so I could store them. I then left for Europe for the VI International Pollination Symposium. When I returned in late September I was too busy to look at the LH for a few days. Then a colleague at MSU said that his scale colony had gained 70 pounds in the first two weeks after Labor Day. I decided that I had better look. All of the supers that I had put back on were full, and even one that I had put above the inner cover because it was partially full and wanted the bees to clean it out. Again I extracted 125 pounds, plus I left two 6.25 in. shallow supers on because I didn't know what I was going to do with all of the honey. The colony went into winter with more than 150 pounds of honey in two deep hive bodies and the two shallow supers. In this case I expect the extra honey to be like money in the bank - it will draw interest and the colony will come out next spring very strong.

We don't always know what makes for a good nectar flow. This was the first time that I saw yellow sweet clover die down after blooming and then re-flush after one of our rains. Then we had good weather during the goldenrod bloom. It doesn't matter if the plants are in good shape, and even if they are secreting nectar, if the bees can't fly they will not make any honey. Obviously we had enough rain but not too much. My understanding was that much of the rest of Michigan had too much rain. Maybe that means they will have a good year in 1991, as sweet clovers are biennial and need a good start the previous year.

GROWING DAYS, HONEY PLANTS AND APIARY LOCATIONS

I took the average length of the growing season chart (below) from the 1941 edition of "Seasonal Management of Commercial Apiaries" by Russell Kelty.



Maybe with global warming the seasons are now longer. They appear to be so in my garden. I suspect the trends have not changed. The number of growing days depends upon many things. In Michigan the effect of the lakes is most important. You can see on the chart that as you move away from the lakes the number of frost-free days is reduced by a significant amount. It can be as much as two months! Such changes in a growing season could mean that one apiary would have a fall honey flow from goldenrods and asters, whereas another one only a few miles away would not.

Differences in a growing season would have significant effect on the type of honey plants that could grow successfully in a particular area. The length of season chart would also reflect to some extent the plant hardiness zones. That is, lower winter temperatures, for the most part, would be found in the areas where the shortest growing seasons are found. For example, the only place in Michigan that is in plant hardiness zone 6 is in the extreme southeast and southwest. These areas can grow some plants that would not survive in zone 5. The lower winter temperatures would also affect honey bee colonies found in those areas.

Honey plants and honey flows are also affected by the rainfall, soil type and length of day. One of the interesting things you may notice as you travel through the Upper Peninsula is that the growing season is compressed. You can see clovers and goldenrods blooming at the same time. With the longer day length the bees can forage for nectar for a longer time each day.

How can you use this chart? You can only use it if you have the ability to move your colonies to new locations. It is possible that a short move could put the bees into a longer season or warmer winter location. By moving closer to the lakes the bees would also have more snow cover during the winter. Often the "lake effect" snow is much greater. A bee hive covered with snow is probably in an ideal winter location.

ALTERNATIVE METHODS TO CONTROL MITES

In case some of you missed reading the article, or do not receive the American Bee Journal, the January, 1991 issue had a report on using vegetable oil to disrupt the dispersal (reproduction) of the tracheal mite. We have been hearing reports that seem to indicate that extender patties were causing some effect on the mites. Extender patties have a large amount of vegetable shortening, and thus the logical conversion to oil. The study, which was mostly a laboratory study with bees in a cage, showed that the oil treatment gave almost 100% control. They did extend the study to one colony, however it was not quite the same as treating within a colony. In the study they used filter paper, soaked in vegetable oil, that came in contact with the young bees. When these bees were put into together with older, infested bees the young bees did not have mites, whereas 25-33% of the control bees (no oil) became infested.

Formic acid seems to be working quite well in studies to control varroa mites. It might not take too long to get formic acid registered since it is a natural product than can be found in honey. It may be still a little while before we will be able to use this treatment. The problem with formic acid is that it is extremely corrosive. It may be preferred by those people that do not like pesticides near honey.

A varroa control method that works to some extent for small beekeepers is the use of a drone-trap comb. Drone comb is inserted into the middle of the broodnest and after the cells are sealed the comb is removed and frozen. The comb can then be uncapped and returned to the hive for another trapping sequence. I suspect this could be done on about a 3-week rotation, or you could have more than one comb that would be used on alternating visits to the hive. Such destruction of brood is not without consequences to the hive since the bees have put energy into rearing the drones. The method has merit since it does not use any chemicals. Maybe once we have some resistance to varroa within our bees this method might be fairly effective as a once yearly treatment.

"Every man owes a part of his time and money to the business or industry in which he is engaged. No man has a moral right to withhold his support from an organization that is striving to improve conditions within his sphere"

-Theodore Roosevelt

I saw this quotation in another trade journal. I have always felt very strongly in this regard, and so I decided to pass it along. It is always so easy to not take part or support an organization. Maybe beekeeping is just a hobby and you don't want to spend the time, or money, that it takes to join. I have always thought that the rewards of belonging to a beekeepers club, or association, far outweighed any effort that I had to expend. I think back to my first visits to the old Wayne County Beekeepers Association (now SEMBA), and how the beekeepers there helped me learn about bees. I will always be appreciative of their efforts on my behalf. If you don't like the programs and meetings that an association has, then become active and make changes.

There have been many, many problems and challenges within the industry the last few years. The American Honey Producers Association was responsible for the rapid registration of menthol. The American Beekeeping Federation was the prime mover in starting the National Honey Board, and both national organizations have been active in retaining the price support and honey loan program. All of these efforts have benefitted most beekeepers. Yet I am shocked at how few beekeepers belong to either national organization. I found out last week that the largest group using the honey loan-buy back program are small beekeepers; almost the largest group by percentage as well. While some of the programs of these organizations appear to be directed at commercial beekeepers, in some cases the "trickle-down theory" does work. It would be a shame if the beekeeping programs here in Michigan, or more national bee labs, were closed simply because there was not a strong voice giving support.

Many of you belong to a local, state and national beekeeping organization. That is great. Your job now is to recruit more members into each level because it is with large numbers that the organizations have strength. It is with large numbers that the programs become better, and there are more experiences to share.