



# B-PLUS

BEEKEEPING REPORT FROM MICHIGAN STATE UNIVERSITY

Dept. of Entomology, E. Lansing, MI 48824-1115

**No. 26 Fall 1992 - Winter, 1993**

**Roger Hoopingarner, Editor**

## **TALES FROM THE LONESOME HIVE**

This has been a year of re-grouping for the LH. As you remember it lost almost all of its bees sometime between the first week and the end of April (very late from most others' experiences). All that was left of the original colony was about 500 bees and the queen, plus lots of dead brood which such a small number of bees could not keep warm at that time of the year. I helped the colony along during May by giving it a small swarm that I ~~capt~~ed.

The LH did pick a fairly good year (for me) to take a "sabbatical", since it was not a particularly good year for honey production here. I estimate that we might have had 50% of a normal honey production year. It was just too cold and rainy for good a good crop. I think that bees do best when it is fairly dry and quite hot during the honey flow. The honey plants need to have moisture up until they start blooming, but then it doesn't need to rain much after that.

The LH did manage to put in a little honey and they are now set for winter with one deep, and three 6.25" shallows. Maybe more honey than needed, but it wasn't enough for me to start up the extractor. The extra honey will provide for a good buffer and it also is like putting money in a bank, it will gather interest.

My winter management for the LH continues to be the 3/8 to 1/2 in. wedges under the inner cover to provide ventilation and a winter flight exit. The only concern is if the tracheal mite population is low enough to have the colony make it through the winter. Previous research has shown that if the mite prevalence level was below 20% then the colonies would survive with only "normal" winter mortality.

## **RESEARCH REVISITED**

In my thinking, one of the most outstanding bee scientists of this century has been Dr. John Free of the Rothamsted Experimental Station in England. In the last 30+ years he has been one of the most productive. He has conducted research on almost all aspects of beekeeping, colony behavior and pollination. One of his classic papers (at least in my ranking) is:

Free, J. B. and P. A. Racey. 1968. **The effect of the size of honeybee colonies on food consumption, brood rearing and longevity of bees during winter.** *Ent. Exp. & Appl.* 11:241-249.

I have written about this paper before as it has so many meaningful graphs and figures. The article contains two tables and six graphs on the subject of bees and wintering. One of these is the relationship of the number of bees in the colony in the fall, to the number of bees found in the spring. The trend line is a very positive one. That is, the larger the colony in the fall the more bees that will be present in the spring. Maybe that is not surprising, but it gives values in real numbers. And while the relationship is not a perfect 1 to 1 it is very significant.

Another important graph is the relationship of size of the colony and the amount of food consumed by the bees. The curve (line) for this is a curve that increases consumption of honey per bee at a greater and greater amount the smaller the colony. A colony of 10,000 bees in the fall would use about three times as much food per 1,000 bees as a colony of 30,000, during the following winter. Total consumption may be more in the larger colony, but the efficiency would be much greater.

Almost all of these type of figures show the same thing, the larger the colony the better they will survive winter. You can take the same reasoning and apply it to most of beekeeping...the larger the colony the better things will be. In addition to wintering you can add foraging and honey production, pollination, defense of the colony, stress related diseases such as chalkbrood or European foulbrood. All of these will be better with larger colonies.

## **Miticur<sup>®</sup> STRIPS RECEIVE GENERAL USE REGISTRATION**

Hoechst-Roussell Agri-Vet Company was granted a Section 3(c) general use registration for these amitraz impregnated plastic strips. Thus, Michigan will not have to continue under the Section 18 emergency route in the future. Hopefully, Hoechst-Roussell will also follow with a more reasonable packaging size for beekeepers in 1993.

## **RESEARCH PLANS FOR 1993**

The 1993 season promises to be an exciting year for us. I have a new graduate student from Saudi Arabia, Ahmad Al-Ghamdi. He will be working on a comprehensive approach to varroa control. He has been getting orientated and has begun the first part of his research program.

The Michigan Department of Agriculture has also expressed interest in funding a research project. We have submitted a proposal to them for consideration.

There is a possible change in apiary sites at the MSU farm since the University has begun plans for a new animal science education center, and there is a survey stake in the middle of the apiary. We hope this does not interrupt our research plans, and that the move may be a positive step for the future. That is,

we may be able to get a new honey house and research facility. No real plans as yet as sometimes these things start and stop for years.

Tracheal mite studies will continue as this pest is still not subdued in Michigan. Resistance probably will be the best answer and we plan on continuing this research.