



B-PLUS

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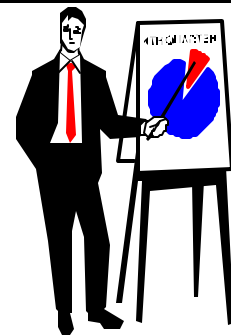
Roger Hoopingarner, Editor

MSU's ANR-Week Beekeeping Program Set for March 7-8, 1997

The Friday and Saturday program will follow the pattern that has been established for the last couple of years. Each day's program starts with a video at 9 a.m. The featured speakers this year will be Anthony Jadcak from Maine and Kim Flottum and Dr. Diana Sammataro from Ohio. We all hope the weather allows Tony to get out of Maine this year, as some of you will remember he was scheduled to speak at our meeting last Spring but could not get into Boston because of all the snow.

Registration for the two days will be available starting at 8:30 each day, and the cost will be \$5. On Friday we will have a special Luncheon with a speaker. Tickets for the luncheon will be \$12. Reservations

for the Luncheon are needed by 1 March.



International Symposium

Apiculture For The 21st Century

The Department of Entomology decided that the best way to send me off into retirement was to sponsor a symposium. I am giving you a preliminary announcement now so that you can mark your calendars, if you wish. The symposium will be Friday and Saturday, June 27-28, 1997. Talks will cover four different subject areas: Behavior, Genetics, Mites, and Populations of Bees. There certainly could be other subjects covered but in order to fit into a reasonable time frame

these were the subjects I selected. Speakers are being invited now and an official announcement will be out soon. There will also be submitted poster-paper subjects that may cover additional areas of apiculture.

The costs and details of the symposium have not been completed, though there may be a two-tiered fee structure. One cost for those that want to participate fully in the program and receive the book form of the proceedings of the symposium, and a lesser fee for those that want to drop in for part of the sessions.

The symposium should be of interest to many beekeepers as it would be a way to meet some of the world's leaders in apiculture research. To put the symposium into a calendar context, the MBA summer meeting will be the next day (Sunday) at the new Bee Biology building on the MSU Farm.

Tales From The Lonesome Hive

From just about every angle the 1996 bee season was different and hard to assess. The spring was cold and late, and I can not remember a season when the honey flows were more out of timing from what we normally would expect.

Some of you will remember from the last issue that the LH was off to a reasonably early start with a 3-lb package that was installed in the middle of April. It snowed the next day and I don't think the bees had a chance to fly for almost three weeks. Though with all the honey that was left in the hive, because the bees died so early the previous fall, the package did not have any trouble. They did surprisingly well, maybe emphasizing a fact about a large store of honey. The honey acted as a heat sink and moderated the day-night fluctuations in temperature. This stability allowed the bees to expand their broodnest and to grow into a good colony in spite of the weather. I have always liked to think of a store of honey as being a good bank account -- while it is sitting there it is still ~~win~~ ^{win}g interest.

For our area of the State we were quite dry most of the summer. However, being on the cool side we never really dried

up like in 1988. The nectar never came in with any great speed it just kept coming in. It seems we never had the down periods that we normally expect between Spring and Summer flows and Summer and Fall honey flows. I indicated in the last issue of *B-Plus* that I was putting on a couple of supers of Half-comb cassettes. I did this even though I thought that the honey was not coming in fast enough for comb honey boxes. I have always thought that we needed a relatively fast honey flow to fill the sections well. I may have to change my thinking. Or maybe it is the Half-comb cassettes that were the difference. So what did I do that made these boxes work so well? Maybe not so much -- as you will see. Having a package colony may have helped as there was a young queen, which helps in stopping swarming. I put two comb honey supers on over the three brood chambers, and put the almost full honey super on top. This super may have helped pull the bees into the comb-honey supers. Though with all the bees and somewhat crowded conditions, I was a little worried about swarming. I kept looking but no cells were ever built. After about three weeks the two supers were getting close to full and so I put on a third. A few days later I took off one of the first two as it was full, and

put the new comb super just over the broodnest. The third week of August I took off all the supers as they were completely full. I mean that! There were only three section boxes out of the 120 that were not totally full. These three were just over the center of the brood in the last super.

Lets look at the net profit from these 120 boxes at about \$2.50 each wholesale, minus the \$1.00 cost. The total would be $120 \times \$1.50 = \180 . If I had made 150 pounds of extracted honey I would have made about \$0.76 net per pound for 1 lb. jars (wholesale). That total would have been $\$0.76 \times 150 = \114 . AND I would have had to extract it! Now you see why I am so happy with these Half-comb cassettes.

I put Apistan[®] strips on just after Labor day. I did not see many mites throughout the summer, but in light of last year...varroa can fool you. I then put the colony to "bed" for Winter by putting my ventilation wedges under the inner cover. I did this the middle of October. The LH made a little honey on the goldenrod and aster flow so they are very full. I just hope they were not so full that they could not rear sufficient new winter bees in September.

Some Thoughts on Varroa: Past, Present and Future

I have had the feeling that varroa has been more potent (Populations growing faster) here than in Europe. This is based on some fairly good empirical observations by beekeepers. Colonies seem to die in about a year after being infested. In Europe the literature has indicated closer to three years before the colony collapsed. Yet if we look at the life history data from both areas we can not see much difference. That is, the individual female mites seem to have the same number of reproductive cycles and produce the same average number of offspring. Then what is the difference between the U.S. and Europe? Or is it just our imagination, and we just were not aware when the mites truly arrived into our apiaries? This last point may be possible, but I don't think so. I say this because when varroa first entered Michigan inspectors examined certain apiaries very carefully and did not find mites. Yet a year later the whole apiary was dead. So what is the answer? I think the difference may be the number of feral (wild) colonies that were found here as opposed to Europe. We know for example that when a colony becomes overrun with varroa the colony col-

lapses and the bees join other colonies, and take the mites with them. This large influx of mites then grows and soon (a year or so) kills the invaded colony. If there are enough of these unmanaged colonies whole apiaries may be contaminated. (Here we can include any beekeeper colonies that were not properly managed.) This could account for this apparent rapid growth in the mite population.

This type of colony collapse and spread of varroa could account for some of the fluctuations in Winter loss that we have seen in recent years. First we see an increase in problems caused by the feral colonies dying, then a mild respite and less Winter loss. Then an increase in swarming because our colonies wintered better. The swarms are now a new source of mites, and after a year the cycle repeats itself.

We may be able to break this cycle, or at least dampen the swings. First, we need to be very attentive to our Apistan[®] treatments. This is especially true in those years following an increase in swarming. Be prepared to treat in late August under these conditions, as we have data that would indicate that massive emigration from these feral colonies occurs in late August. Second, any improvements in genetic resis-

tance to varroa would also help greatly.

This past season was a relatively varroa free year. It should have been, as we started 80 percent of our colonies new with mostly mite-free packages and nucs. Not much chance to spread the mites this year. However, if we have a good winter there will be an increase in swarming next Spring and the cycle could start over. So don't relax your guard just because we have a good year.

On talking to beekeepers in Moldova, on my recent trip, they indicated some hope of moderation. The colonies in Moldova have had varroa about 10 years longer than we have had them here. The beekeepers indicated that the mites are not as much a problem now as they were in the first few years. (They still have to treat about once a year.) This just may mean that the beekeepers have learned to treat better or more consistently. It also could indicate that other biotic factors may be limiting the growth of the varroa mite population. Such things as diseases may finally catch up to the newly invading population. Moldovans also use a wide variety of different chemical controls. This should limit problems of the mites developing resistance to the pesticide. That is another whole story.

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Massive Attack is Best

I want to call your attention to a recent article in the Nov. Issue of the *American Bee Journal*. The article is by Finley, *et al.* and is titled, "The Epidemic of Honey Bee Colony Losses During the 1995-1996 Season." The authors surveyed 252 Pennsylvania beekeepers (6,024 colonies) regarding the type of treatments for controlling diseases and pests. And then what were their losses last winter from these various treatments. If you look at the figures the results are very striking. First, there is an almost continuous decline in Winter losses with every added treatment. They first

did a comparison of each type of treatment; a) grease patty, b) terra patty, c) menthol, d) Apistan, e) Fumidil-B. There was not a significant difference in those treatments directed at tracheal mites -- grease patty and menthol. (This would agree with our findings that the tracheal mite is not currently a problem.) The other treatments were all significant. The terramycin patty gave an increase of about 16% in survivorship; Apistan[®] 26%; and with Fumidil-B[®] an 18% increase.

It was in the combinations of treatments that real gains were made. The combination of Apistan[®] + Fumidil-B[®] + terramycin patty reduced

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winter loss to about 25%. This is about the amount of Winter loss that we might have expected from such a long Winter.

Often I have heard the complaint that the antibiotic Fumidil-B[®] is too expensive, and the beekeeper could not see a beneficial effect. Standing alone it saved 18% more colonies. Even in the combinations the addition of Fumidil-B increased the percentage of survivors by about 10 percent. Figure what it cost you to replace 10% of your colonies and then tell me that the treatment is too expensive.