

Checkerboarding—A Preliminary Update on My Swarm Control Method

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This was not the year to experiment with swarm control techniques that you intended to apply to most years. Late winter and early spring were most irregular as far as the weather was concerned. We set records on both ends of the scale—both high and low temperatures. Mother Nature wasn't just fickle, she was vindictive. A warm spell would encourage buds to develop, and an extended freeze would turn them into brown frazzles. For the first time ever, we saw inactive brood area in February, where the bees needed pollen to feed young and brood production was on hold. We understand that this is fairly normal further north. And this occurred during the same period that *ABJ* was publishing my articles saying it didn't happen here!

Some colonies moved up into stores, leaving an empty hive body on the bottom (Yes, we said that didn't happen here) and some didn't. Intermediate variations included a few frames of brood in the bottom hive body and most in the second level, generating odd-shaped clusters.

All hives were running behind schedule on build-up except two, which were approaching two hive bodies of brood when Apistan strips were removed on March 14. Those two received their scheduled two supers of drawn combs on the same day. The rest received some supering within the next few days. Most did not need supers at that time, but I was on schedule for supering in mid March to accommodate the normal season third brood cycle emergence.

The evidence suggests that supering in Mid-March was not soon enough. Hold that thought. We'll get back to it.

Those of you who saw the April *ABJ* may remember that the second part of my swarm prevention program was checkerboarding empty frames in the overhead honey stores. This was done going into winter so that it was in place for the spring build-up.

I should say that I did not do what I would have rather done. What I would have liked to do was verify two plugged

hive bodies. Then, take the honey in the second hive body and checkerboard brood comb into a third hive body such that one box of honey was evenly distributed through two boxes. Then, winter in the plugged lower hive body and two checkerboard hive bodies above.

Other obligations kept me 800 miles from home for most of the 1995 bee season. About half my hives were weakened by *Varroa* in mid summer before it came to our attention on a short trip home. Emergency treatment salvaged all but one, but those hit hardest were not strong enough in the fall to store enough honey for winter. I took three deep and three shallow frames of honey from those that had enough and distributed those frames among the needy. The bottom line of this sad tale is that for purposes of the April issue, I reported actual statuses as opposed to a recommended checkerboarding approach.

The weak link in our whole approach to the "Different Twist" for swarm prevention was whether or not the bees would store nectar above their open cell feed honey if empty cells were available. You may remember that I referred to the checkerboarded empty frames as a perforation of their honey dome with the objective of encouraging them to store nectar above their feed cell band. If they would do that, they would not be encroaching on the brood nest volume with excess nectar.

I am pleased to report that I am over the first hurdle in the concept. On March 14, when removing Apistan strips pursuant to adding supers, some hives had filled their three empty combs in the feed box with nectar. Adjacent capped honey had not been opened. The top of the brood nest was below the top bars of the second hive body. I wish I had the presence of mind at the time to see how far down in the second hive body the band of feed cell honey actually was. Since the feed-cell band is a rounded dome and not flat, it is probably safe to guess that some excess nectar was stored in the empty cells of the checker-

boarded second hive body.

One could deduce from this much data that at least three shallow frames of brood had not bee crowded out by nectar. The question remaining is how much brood volume would have been saved by additional empty cells upstairs? No supers had been added up to this point. Would a super have saved more brood space? I told you I would get back to it. Since the bees crossed the inter-bar space between the hive body and the feed box to store nectar, it seems reasonable to assume they would have used a super, if available.

Prior to March 14, there had been four flying days, warming successively to about 70 degrees. But on the 11th I had noted that pollen was scarce from a previous freeze. How much more nectar could have displaced brood volume in a "normal" season? For the answer to that one, I'll have to see what happens in a normal season.

I write the interim report as of the 27th of March. I wanted to jot down a few thoughts before it got stale.

In advance of knowing for sure that they could be encouraged to store above their feed cells by providing empty cells, I outlined a back-up technique in the plan for checkerboarding the upper edge of the brood nest for the same purposes. As of this date, it seems that item 3 of the April issue will not be required. This leaves me free to apply my energies to other aspects of brood production in the build-up phase.

You northern beekeepers are interested in holding off brood development until the time is right. We need to get all the brood raised we can to take advantage of April sources. There are other reasons that brood is limited during our build-up that could stand some objective scrutiny and experimentation. Too much pollen stored is one that comes to mind first. But I am not going out on the same limb of proposing solutions without prior

demonstration of results. I would not have done it on checkerboarding, but for a physical problem that had the potential for taking me out without getting the concept before the beekeeping community.

Preliminary Conclusions

If backfilling brood cells with nectar (we called it encroachment) is an important element of the commitment to swarm, checkerboarding will help stall off that commitment. Additionally, it will help in the transition from the build-up-to-swarm mode to the storing mode. Stretching the overhead stores vertically automatically provides room for the increasing numbers of bees. And the foragers are familiar with the storage space because they spend most of their time there waiting for flying conditions.

I am confident that when the techniques are refined to a dependable system, production will be improved by additional foragers and less energy will be expended on swarm control.



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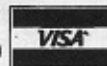
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