THE HIVE TOOL

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President Frame

I hope by the time you are reading this we will have had a break in this cold cloudy spring. Yeah, yeah, everybody talks about the weather. . . blah, blah, blah. Was it just last month I was glori-phizing about the joys of working bees in April; well, yeah, if you can get a chance! The weather has affected a couple local package bee suppliers as well, putting them back a week in their deliveries - first time that's happened in recent memory. And what about our local nucleus colony suppliers? Will they have the brood frames they need to make splits? Like gardening and other agricultural pursuits, keeping bees is often dependent on the weather and I think most beekeepers are philosophical about that - yeah, you may hear us complain about this or that and bemoan our fate, but underneath it all, we love our beekeeping and when the weather changes (as it always does) we will have forgotten we ever said a discouraging word.

Our annual Short Course in Beekeeping finished up April 24th with a demonstration on installing package bees and the distribution of packages to 24 new beekeepers. A course evaluation completed by the participants revealed some interesting facts. Eighteen students who took the course are delaying actually getting started with bees (most until next spring). There were a couple of students taking the course for a second time (they say you learn more the second year). When asked, "How did you learn about the short course?" most respondents said a friend or neighbor or family member told them about it. Many others mentioned a notice in one of the local newspapers, the Nature Center or on our website on the internet. In all, 66 students took the course (that's a full house in the Nature Center classroom!). Over half the respondents said they were planning to attend CMBA meetings. Jerry Fischer and the overall course received high marks and the most often cited recommendation on what could be done to improve the course was to have more classes. But it was the answer to the last question that really got my attention. When asked, "Would you be interested in having a beekeeping mentor - an established beekeeper you could call with questions or possibly visit?" , 27 people said yes, this would be very helpful. . . .27 new beekeepers would like to be mentored.

What does that mean? To be a beekeeping mentor? It doesn't mean you have to be an expert, but you do need to have some experience and be an established beekeeper with some level of competence and confidence. And, of course, the willingness to be a mentor, to be willing to share what you know (and don't know!) about working with bees. It looks to me like we need about 27 beekeeping mentors. Will you be one of them? We will have a sign-up list at our May 1st meeting for those who would like to volunteer to mentor and for those who would like to have a mentor. Furthermore, we are currently preparing a CMBA Membership Directory. Those who are willing to mentor can be listed in the directory as mentors making it easier for others to contact them. This idea - mentors for "newbees" - has been trying to catch on for a while (other organizations do it), so let's take this opportunity to make it happen. Sign up at this month's meeting or call/email me at 717-246-2339/dcpapke@aol.com to get on the "willing to mentor" or "would like to be mentored" lists.

Hey, I feel the weather changing! What am I doing sitting here at this keyboard? I could be outside! And that's right where I'm going - see you May 1st.

Happy Spring!

May Meeting

The speaker for our May meeting will be Willem Van Aller, on the topic “The Wisdom of the Hive.” Bill has forty years’ experience beekeeping in New York state and Maryland, though he may make that fifty years if you look like you’d believe him. (Beekeepers never exaggerate!) He has been an officer in several beekeeping groups, including President of the Maryland State Beekeepers Association, and he has learned a thing or two that you won’t find in the books, or even in Jerry Fischer’s Short Course, that make life as a beekeeper a bit easier. If you’re nice to him, he will share his “tricks of the trade” and help you get a leg up on those beekeepers who won’t be at the meeting May 1. Bill is always interesting and entertaining, so be sure to tell him that after his talk, as he loves to hear it. (Wouldn’t we all?) This night will be a special treat you won’t want to miss.

Have You Seen The Missing Hives??

With bees becoming more and more scarce it is becoming more important that beekeepers brand their equipment. I have just found out the hard way. In early April I had 16 hives in an out yard near Brandywine Maryland that were stolen. I ask that all beekeepers be on the lookout for those hives. All the hive bodies have my brand on them. The brand is a G with an F superimposed over it. The hives are painted different colors, pink, green, white, red etc. If anyone sees these hives please call Greg Ferris toll free at 1-866-838/5933.

The Advantages Of Using Nucs

By Jamie Ellis

Reprinted from Bee Culture March 2007

Have you ever needed a queen 'yesterday'? Have10u ever had a colony swarm immediately before a major nectar flow? Ever had a weak colony that needed a boost to get it going? Are you looking for ways to increase profitability in your beekeeping operation? If you answered 'yes' to any of these questions then you need to consider using nucs in your operation.

Nucleus colonies (or nucs) are smaller versions of full-size Langstroth colonies. They usually have the same length and depth dimensions as full-size colonies, but nucs are not as wide. As such, nucs hold fewer frames (usually three to five frames) than full-size colonies (eight to 10 frames) and are referred to by the number of frames they accommodate. The most common sizes accommodate three-, four-, and five-frames. A second type of nuc, commonly called a 'baby nuc' or 'queen mating nuc', exists but it is smaller than full-size colonies in every dimension and is used primarily for queen bee production. I will not be discussing baby nucs here. Instead, let's look at five frame nucs exclusively, although three- and four-frame nucs can be used and managed almost identically.

Creating a nuc

Before I try to convince you of the usefulness of nucs, I want to tell you how I create the nucs I use in my own operation. In general, I begin feeding my full-size colonies (parent colonies) 1: 1 sugar water in mid-to-late February or when daytime temperatures consistently exceed 60°F. One also may feed pollen patties as a stimulant but I usually do not. Both sugar water and pollen patties stimulate colony build-up/brood production and make colonies 'prematurely' strong (stronger than they otherwise are this time of year). My goal is to split the colonies early enough so that I can 'rebuild' their population before the primary spring honey flow begins. In my area, the flow begins the last week of April. If I wait until April to make nucs, I weaken my colonies just when they need to be their strongest. Because of this, I aim for splitting my hives (making nucs) the third week of March. This allows me to feed the parent colonies an additional three to four weeks before the main flow, thus increasing their population to pre-split levels.

As you can imagine, weather plays an important role in determining when one should spilt colonies. If late Winter or early Spring is unusually cool, you must postpone your feeding/split dates. This is a judgment call you will have to make. One may decide to create nucs in Summer after the major nectar flows conclude. If done this way, one can forgo feeding the parent colony because colonies are strong enough to be split without being artificially stimulated.

You can create a nuc once the parent colony is strong enough to split. To create a nuc, take two frames of (mostly) eggs, one frame of (mostly) capped brood, and one frame of pollen/honey from the parent colony (leave the queen in the parent colony), all with bees, and place them into an empty five-frame nuc box. You then add one frame of foundation to the nuc. You can make a nuc with as little as one frame of eggs and one frame of capped brood from the parent colony with three additional frames of foundation. If you do this, you will have to feed the nuc a lot more than if you give them a frame of honey / pollen. If you choose the later method, you also will need to shake an additional frame or two of bees from the parent colony into the nuc.

For the parent colony which has the original queen, fill the newly-created void with four frames of foundation (drawn combs are even better) placed toward the outside of the brood box and not toward the center. You should continue to feed the parent colony 1: 1 sugar water to build its population to the pre-split level (if done in Spring) and to pull out the foundation if you did not use pulled combs. I generally do not feed the parent colony longer than two to three additional weeks because the honey flow is approaching quickly and the bees will be able to pull out the foundation using incoming nectar. If you decide to make a nuc during Summer, you must feed the parent colony if you expect them to pull out the foundation. Here is where I leave my discussion of the parent colony.

If you have followed this so far you realize that the newly-created nuc is queenless. You may address this problem one of two ways: purchase and install a caged queen from a queen producer, or raise your own queen. I prefer the latter method and it is the method I will discuss further.

After you create a queenless nuc, you should move it to another beekeeper's apiary (preferably a 'good' beekeeper who manages diseases and maintains a good bee stock) or another one of your own apiaries. The location should be a couple miles from the original site. The bees will construct queen cells on the frame(s) of eggs in the nuc and when the

queens emerge, they will mate with the beekeeper's drones (or your drones if you moved the nuc to a second apiary). This is, in fact, why I suggest that you do not leave the newly-created nucs in your own apiary, especially if you have fewer than 10 colonies. If you do, the new queens will have a high probability of mating with related drones thus resulting in inbreeding. You should move your nucs to another beekeeper's apiary so that when virgins emerge from the queen cells, there is an ample supply of unrelated drones with which to mate. In my own operation, I remove all but the two largest queen cells. The first queen that emerges will kill her competitor and become the reigning queen. If you leave three+ queen cells, you increase the likelihood that your nuc may issue swarms with multiple emerging virgins.

Three to five weeks may pass before the newly created nuc has a mated and laying queen. As such, the colony population will shrink until the new queen's brood begins to emerge. One should not worry about this as the population will grow rapidly once the queen begins laying. You should feed the nuc 1: 1 sugar water until the spring nectar flow begins. Sugar water serves to stimulate the growing colony. I recommend clipping and marking your queen once she is mated and laying. This will save you a future headache as queens are easier to find in nucs than in full-size colonies.

So why nucs?

There are many, many reasons I believe nucs are invaluable beekeeping tools. Here are the seven primary reasons I would not keep bees without having nucs available in all of my apiaries.

1) Creating nucs is a good way to alleviate swarming tendencies in crowded colonies. Taking bees and brood from a colony to create a nuc is, in essence, a 'controlled swarm'. The creation of nucs four to six weeks before the primary nectar flow alleviates the stress of growing colony populations in crowded colonies. Nest congestion is a swarming stimulus. Whatever one does to remove this stimulus reduces the chance the colony will swarm. As you well know, it is impossible to eliminate the swarming tendency completely. However, splitting a colony four to six weeks before the primary flow greatly reduces the swarming tendency at a time when it is most needed.

2) Having nucs is a good way to keep your production colonies strong. What do I mean by this? I will illustrate using an example. For every two production colonies I operate, I have one 'support' nuc. The job of the support nuc is to keep my production colonies as strong as possible so they can make as much honey as possible. Remember, nucs are full-size bee populations housed in small-sized bee boxes. As such nucs have unusually high swarming tendencies. You can take advantage of this by removing brood and bees (not the queen) from the nuc and adding them J:o your production colonies weekly. Doing this weakens your nuc, which is not in production, and strengthens your production colonies.

To accomplish this, I remove empty frames or frames of honey/pollen from the brood nest of my production colonies and replace them with frames of bees and sealed brood from my nucs. I do this beginning three weeks prior to and during the primary spring nectar flow. If nucs have little brood to donate, I shake frames of bees, sometimes up to four, from the nuc into the supers of the production hives. One word of note: I keep my support nucs in the same yard as, often immediately beside, my production colonies. Therefore, some of the bees I shake from a nuc into a production colony return to the nuc. I do not consider this a problem. To avoid this dilemma however, one can take capped brood from the nuc and put it into the production colony. Newly-emerging bees do not know to go back to the parent colony; they think they are in their parent colony!

If nucs remain strong after removing bees/brood, you can purchase nuc queen excluders and nuc medium supers in order to manage the nuc as a regular colony. Incidentally, I prefer to use five-frame nucs because many companies carry equipment - excluders, supers, feeders, and the rest - for five frame nucs but not for either threeor four-frame nucs.

3) Having a nuc on hand allows you to deal with untimely queen problems encountered in production colonies. Let's face it, no matter what you do some of your production colonies are going to swarm or lose their queen during the nectar flow. In both instances, the colony is forced to make a new queen, thereby reducing your chance of making honey. I[your colony pulls a surprise swarm, or you check and notice it no longer has a queen, you can requeen the colony with a nuc. Requeening with a nuc gives one the advantage of having a laying queen with brood and bees immediately, while not having to wait for a caged queen to arrive in the mail.

My method for requeening with a nuc is simple. If one of my parent colonies goes queenless, I remove five frames (at least one with queen cells) from the center of the nest. I then cut the queen cells from the frames remaining in the queenless colony. Next, I take the five frames from the support nuc and put them, queen and all, into the center of the parent colony. I know you are wondering about fighting bees and queen death but this method works 95% of the time with little fighting between bees from the full-size, queenless colony and the nuc. The frames from the parent colony (at least one with queen cells) go into the now-empty nuc box to become the new support nuc. A queen will emerge from the cell, mate, and re-establish your support nuc. A second option is to purchase a queen to put into the now queenless nuc. In this instance, you

must cut queen cells in the nuc. Regardless of whether you let the nuc requeen itself or you purchase a queen from a breeder, it is better for a nuc to wait two weeks for a queen than a production colony wait for a queen in the middle of a honey flow. I let my nucs, not my production hives, deal with the problems!

If you are worried that the parent colony will kill the new queen from the nuc, you can cage the queen, put her in the center of the nuc frames (which you have put into the parent colony), and release her three days later. This will always beat buying a caged queen, waiting for her arrival, introducing her, and waiting for her to begin laying! Further, this is by far better than letting a production colony requeen itself, a process that always results in lost honey profits!

Production colonies may also have failing queens that need to be replaced. Maybe the queen from the production colony has developed a spotty pattern or is producing less brood. My remedy for this: kill the queen. You cannot afford to pamper weak queens. When I kill a failing queen, I leave the colony queenless for two to three days. After this, I remove all of the queen cells and requeen the production colony with the nuc as before. I rarely kill a failing queen and requeen with a nuc immediately. I like to give the parent colony two to three days to recognize that they need a new queen.

Finally, nucs are great to have for those times of the year that queens are not available. For example, I lost two queens during December and January last Winter. Without my support nucs, my colonies would have been unable to requeen themselves and would have died!

4) Nucs help strengthen weak colonies. If you have a sick or weak colony, you can always strengthen it by giving it bees and brood from a nuc (but remedy the cause of the problem first). Likewise, if a colony is too weak to occupy a full-size box, you can put it into a nuc box where it is easier to feed and manage. This is especially pertinent because colonies too weak to occupy all the frames in a full-size colony are prone to takeover by wax moths and small hive beetles. Condensing the colony into the nuc allows you to solve the colony's problems easier.

5) Producing nucs is a great way to make colony increases. It is easy to take any nuc available in spring and put it into a full-sized hive body with five frames of foundation to create a new hive. This is a quick, easy, and cheap way to expand your operation. In one year, I turned three nucs into seven production colonies and four additional nucs. I could have gone further but I stopped due to equipment limitations. As you can see, making nucs is a good way to expand your operation using your own bees. Depending on your target size for your operation, this can save you thousands of dollars because you do not have to purchase package bees or nucs from another source. Based on simple calculations from my own experience, one can turn three nucs into 157 full-size colonies and 64 nucs in just five years. Remember, you will not be maximizing production until you hit a stable colony and nuc number. Making splits does cost in production. However, you can see that the 'do-it-yourself approach has a huge advantage over buying bees.

6) Having nuc equipment on hand provides a place to hive all those swarms. Nuc boxes are smaller and cheaper than full-size boxes. As such, they are more convenient to have on hand when you get that phone call from someone who wants you to come collect a swarm. I know of some beekeepers who always travel with a nuc box in their vehicle. This is easier to do with nucs than with full-size colonies.

7) Making and selling nucs is as profitable as or more profitable than selling honey. To give you an example, this past season I created seven nucs from four production colonies. The four colonies made honey as usual and I could have sold the nucs for $75-100 each! This means I could have enjoyed all the profit from having four production colonies making honey while reaping the benefit of an additional $525-700 from selling nucs.

I want to emphasize that I never have more than one nuc for every two production colonies I own. Because of this, every nuc 1 make above the 1:2 ratio, I can sell for a profit. Remember, it is important to always have nucs on hand in your operation, but when you finally do accumulate excess nucs, all extra nucs you create can be sold for a profit.

Admittedly, nucs require more attention during the year than do full-size colonies. Their populations often expand beyond what is allowed by the equipment in which they reside. So, you will need to keep their populations low by taking bees and brood from the nuc and adding it to the production colonies periodically (or just create more nucs). Further, nucs can exhaust their food supplies rapidly, especially during Winter, if not watched closely. Despite this, nucs are easy to feed so starvation should not be a problem if you watch them closely. This is another reason I recommend using five-frame nucs because you can purchase medium supers for them. As such, you can maintain a nuc much like a regular colony, with a brood chamber, a queen excluder, and a 'Winter' super full of honey for their consumption.

I recognize that the usefulness of nucs may vary around the country and under different management practices. However, I have never visited a bee operation, whether large or small, that would not have benefited from the use of nucs. I also realize that some of my techniques will need to be modified to work under varying circumstances.

This has been a general guideline for people who want, a better way to solve problems in most beekeeping situations. I think you will find that having

nucs around is a very wise and profitable endeavor! Nucs have certainly proved their worth time and time again for me.

Bee Colony Collapse Disorder Is An Ag Threat

By Bonnie Coblentz
MSU Ag Communications

An unknown enemy is destroying honey bee colonies across the nation, and researchers are scrambling to discover what is causing it and how it can be prevented.

The problem is being called colony collapse disorder, and it was identified in late 2006. Hives with the disorder go from a robust colony with a large adult bee population to an empty hive with the queen and brood abandoned in the space of a few weeks.

Clarence Collison, Mississippi State University Extension Service entomologist and head of MSU's Department of Entomology and Plant Pathology, said the colonies are collapsing without leaving quantities of dead bees to study.

A workforce composed of state apiculturists, or scientists who study honey bees, personnel from state departments of agriculture and the U.S. Department of Agriculture's Agricultural Research Service are investigating the problem, collecting samples and dissecting dead bees to learn about the problem.

"They're finding a lot of pathogens in the adult bees. Most of these pathogens are related to stress diseases," Collison said. "We firmly believe the bees are under some type of stress, and a scientist at Penn State has been able to show that these bees have suppressed immune systems."

When colony collapse disorder strikes, beekeepers can lose up to 90 percent of their hives in a very short time.

"Ultimately it will affect fruit and vegetable production if we don't have adequate pollination forces," Collison said. "Bees pollinate many plants that affect wildlife and birds, so it's not just our diet that would suffer if bee populations are decimated."

Similar phenomena have been recorded before under such names as spring dwindling, disappearing disease and autumn collapse. Collison cited a similar collapse in 1896, and he recalled problems like this in the mid-1970s and early 1990s.

"These are somewhat cyclical. Each time we go through one, it seems like the worst, but this one seems definitely the worst in my time," Collison said.

Richard Adee is owner of Adee Honey Farms, a bee-breeding operation in Woodville. He is the largest beekeeper in the nation, and annually takes his bees to California to pollinate the almond crop before bringing them back to Mississippi to split and requeen his colonies.

"If they would just come home and die, then we could diagnose the problem," Adee said.

In late March, Adee was in Washington, D.C. for the congressional hearing on honey bee colony collapse disorder. He said bees are very important to several agriculture industries as they provide the pollination that allows crops to produce.

"At one time, honey drove this industry. Now it's pollen," Adee said. "Every third bite we take is from a bee-pollinated nut or flower. Harry Fulton, state entomologist with the Mississippi Department of Agriculture's Bureau of Plant Industry, said Mississippi's agriculture is not as dependent on bee pollination as is the agriculture in some states.

"In Mississippi, we have $250 million a year in crops that rely on bee pollination. Nationally, a Cornell University study said the value of bee pollination is $14.7 billion annually," Fulton said.

While no cause or trigger for the disorder has been identified, researchers have several suspects. These include pesticides, including imidacloprid, a systemic insecticide used extensively in fruit and vegetable production; parasitic mites and the viruses they can transfer to their hosts; chemicals used to control bee mites; and a new nosema disease of Western honey bees, which is a disease caused by protozoa.

Fulton said dry weather across the nation last year probably hurt the quality of pollen produced. Pollen provides the nutrition bees need to survive. Poor nutrition would stress the bees' bodies, making them susceptible to other factors, such as the cold weather of winter.

"The scientists haven't yet decided what is causing the problem, but it may be a deadly combination of stress on the bees and one of these other factors that normally is not pathogenic," Fulton said. "If we know what it is and what causes it, we might be able to do something to predict when it's going to happen and stop it."

Colony collapse disorder has mostly appeared in Florida and up the East Coast to Pennsylvania, but beekeepers nationwide are concerned, especially those who transport their hives across the country to pollinate crops. Fulton, who is secretary/treasurer of the Mississippi Beekeepers Association, said Mississippi has two migratory beekeepers in the state, and one of them has been devastated by the disorder.

Colony Collapse Disorder

Transcripts of testimony about CCD before the US Congress have been posted on CMBA's website. WWW.CMBEEA.ORG

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DATES TO REMEMBER

General Meeting – May 1, 2007–7:30 PM at Oregon Ridge Nature Center. Our speaker this month is Bill Van Aller. The Subject matter is - "The Wsidom Of The Hive", Bill has forty years' experience beekeeping in New York state and Maryland

Board Meeting – May 21, 2007 – 7 PM at Oregon Ridge Nature Center.

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