

# THE HIVE TOOL

Volume XXXIII

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## **President Frame**

Dennis van Engelsdorp, Acting PA State Apiarist, was scheduled to be the speaker at our February CMBA meeting. His topic was going to be "Keeping Your Bees Alive" (overwinter, that is!). He didn't make it. (and it wasn't the result of the extremely cold weather!) He was in California collecting bee samples from migratory colonies as part of the intensive research being conducted in response to the latest honey bee scourge - Colony Collapse Disorder. As luck would have it, he sent in his place, Maryann Frazier, PA Extension Service Researcher, one of the dozen or so experts across the country trying to make some conclusions about this worrisome phenomenon. She brought with her Dennis's slide presentation on CCD and gave us a brief history and the most recent findings into CCD which first appeared last fall when migratory beekeepers in several states began reporting large numbers (hundreds, thousands) of colonies dying without apparent cause. She presented us more questions than answers and we, the audience, were soon engaged in a lively, thought-provoking discussion of the possible causes, the direction the research might go, and what might be the possible outcome(s). I had just the week before read an essay about CCD on the MAAREC website, and here, standing before us, giving us the latest information on it, was Maryann Frazier herself. At some point I thought to myself, this is really a unique experience - to hear firsthand about a mysterious new bee problem and to learn how it is being dealt with from one of the leading researchers in the country. A week later, CCD hit the national news. Perhaps you heard it; I did not. But over the next few days I received calls and comments from many people near and far. I was thankful to be informed and to be able to pass along the latest information. Thank you, Maryann!

Our March meeting on the 6th will be about the joys of beekeeping (as opposed to the latest challenges and frustrations). It is our annual "Honey Bee Night" - a meeting devoted to information on becoming a beekeeper, working with honey bees and harvesting honey. We encourage all our members to bring a friend, co-worker, family member, neighbor or anyone else who is curious about beekeeping. The Short Course on Beekeeping taught by Jerry Fischer,

MD State Apiarist, starts two days later (on Thursday, March 8th), and although early registration is encouraged, as Jerry says, "We've never turned anyone away." So, please join us for this evening; it's a good time of the year to rekindle that fire, that desire to get out in the bee yard and work with your bees. One good way to do that is to talk about your beekeeping experiences with the uninitiated.

I'm going to ask members at the beginning of the meeting to introduce themselves by answering 4 questions: Who keeps bees? (who are you?); Where do you keep bees?; Why do you keep bees?; and How do you keep bees? From my experience, I think there is no better way to get started in beekeeping than to simply meet a beekeeper. Come at 7:00pm for coffee, tea, refreshments and bee talk. Hope to see you all there!

It's snowing as I write this, this day before Valentine's Day, and it looks like I'll be plowing some snow later today. I should be out in the bee house cleaning up equipment and preparing for the packages I've ordered, the swarms I anticipate, and the splits I'll be making in June and July. How about you?

Seems like I'm always behind. Much as I know what needs to be done, translating that knowledge into action is always a challenge for me. Are you the same way?

Got some new equipment to put together? Some old equipment to repair? What about you new beekeepers? First time assembling frames and wiring foundation?

Need some pointers? Some tricks and shortcuts gleaned from experience? CMBA will sponsor a Workshop on Assembling/Repairing Equipment on Saturday, March 24th, from 10am to 4:00pm, for new and experienced beekeepers. The location is the bee house here on our farm, a half hour drive from ORNC. (see the announcement in this issue of The Hive Tool for directions) There's plenty of heated space; tools can be provided if needed. Bring the equipment you want to assemble/repair. There will be room to work and (if needed) someone to help you. We're not too far from Snyder's Apiaries if you'd like to purchase equipment and start assembling it the same day; make arrangements with Lloyd. Everyone is welcome; even if you want to just come and hang out, maybe give someone else a hand (believe me, I'll still be at it!).

## Assembling/Repairing Equipment Workshop

Saturday, March 24th, 10:00am-4:00pm

Location: Papke Bee House

12703 Blymire Hollow Road/Stewartstown, PA

717-246-2339

### DIRECTIONS:

(from ORNC) - North on I-83. Take Exit 4 (first exit in PA). Turn right at bottom of ramp (Forrest Ave). Turn left at first light (Wolfe Road). Turn right at old barn (Sieling Farm Road). Turn left at stop sign (Bowman School Road).

Proceed straight across intersection (Plank Road) at stop sign (you are now on Mt. Olivet Road). Go approximately 2 miles; turn right (Shangri-La Road). Go about a mile; turn left (Blymire Hollow Road). Look for 12703 on mailbox; we're the first farmhouse on the right past the farm with the pond on the left.

(from MD Rt 23) - Becomes Rt 24 (in PA). Go through Stewartstown. Proceed about 5 miles. Look for John Shelley's Nursery on right. Turn left shortly past nursery (Evergreen Road). Go about a mile to bottom of hill/stop sign. This is Blymire Hollow Road. Turn right. We're the first driveway on the right.

## Just Say NO To African Honey Bees

By Malcolm T. Snaford

Reprinted from Bee Culture January 2007

At the October, 2006 Florida State Beekeepers Association convention, Mr. Bill Vanderput gave one of the best presented and informed discussions of Africanized honey bee management I have experienced. If anyone should know about these insects, it would be Mr. Vanderput. He was quoted in Dr. Eric Mussen's newsletter, From the UC Apiaries as saying the Africanized honey bee means "25 percent more stings, 25 percent more work (cost) and 25 percent more sweat."!

Not only was he one of the first U.S. beekeepers to experience first hand the invasion, but he also has had experience with their progenitors in their native homeland. In 1987, in response to reports about the Africanized bee (AHB), an American hybrid of the African honey bee race, *Apis mellifera scutella*, he boarded a plane for South Africa. His colleagues on the Dark Continent were to pooh pooh his fears by saying, "Hey, forget about it! You're getting a great hardworking bee. Be happy. Use it, but be careful."

So in 1990, when one of the first swarms of AHB landed near his bee yard in the vicinity of Hidalgo, Texas, Mr. Vanderput was prepared. The bee did well in his environment as was true in most of the American tropics. It was vigorous, efficient and pest and disease

tolerant. So much so that he now finds himself surrounded by wild (feral) AHB.

His mission in coming to Florida was to advise beekeepers on how he manages AHB and continues to survive, even thrive as a beekeeper in south Texas. Many, however, were not prepared for his message, "just say no to Africanized bees."

The message he delivered to Florida beekeepers did not register with Mr. Vanderput himself for the first few years after AHB arrived. His plan was to use locally-produced EHB queen cells to introduce as much European honey bee genetic material as possible. He knew that the first cross between EHB mothers and AHB fathers was often productive and not as defensive. Thus, his idea was to maintain a population of first crosses (geneticists call them FI) as they are able to do in Mexico. This philosophy fit Mr. Vanderput's situation. He had always been enthusiastic about the queen rearing process, and this allowed him to ramp up his activities in that arena. In addition, he didn't have to radically change his beekeeping management.

Unfortunately, experience revealed the FI hybrid does not persist for any period of time, and quickly through supersedure it goes to F2 and F3 colonies, which are more and more African-like especially in defensive behavior. And although he might have been able to work through this, it became apparent that this would not be possible in his environment.

Even in rural, south Texas, there is a trend toward urbanization. This, in conjunction with a litigious environment, is a recipe for beekeeping problems posed by defensive honey bees. After moving bees from a watermelon field one evening, Mr. Vanderput was informed the next morning that a grower had to bring in a helicopter to spray bees that were left behind. They were stinging the field hands. A neighbor moved next to a beeyard and was attacked when he fired up his lawnmower. He lost that location. Power line workers were stung while working on poles lining the road way when a truck load of beehives went by. That incident cost Mr. Vanderput's insurance company \$18,000. His insurance was cancelled. A beekeeper sold four colonies to another, and when they were moved, one of the helpers got stung and died before he could be taken to the hospital. The suit resulted in a \$2 million settlement.

After five years of "denial," Mr. Vanderput said, he was forced to reconsider his management practices. Instead of including them as an integral part of his operation, Mr. Vanderput has gone to "cold turkey abstinence," by excluding AHB totally. The way he accomplishes this is simple:

1. Use only mated queens from European bee sources for requeening, not queen cells.
2. Destroy any queens from colonies that exhibit AHB behavior.

The first step above was difficult because it meant purchasing queens. Mr. Vanderput said he labored under the idea that it was too costly and he would be dependent on others (queen producers). He found that instead of being too expensive, purchasing queens provided a boost to his business, plus a huge bonus: peace of mind. Thus, each year he purchases some 2,000 queens, which often pay for themselves with quicker honey production.

It is easy to detect AHB colonies Mr. Vanderput said because of their behavior. He characterized it as "shock and awe." They are not calm on the comb when manipulated, but instead fly off and "in an instant they will be all over your bee suit and gloves." That's when he employs his counter weapon, an "improvised shaker box." This consists of an empty super on top of a queen excluder. Shaking all the bees through the excluder exposes the queen "struggling" to get away. She can easily be caught and destroyed. In 24-hours, this now queenless colony can be united to a queen-right unit.

Best management practices being developed by Florida's Department of Agriculture and Consumer Services, Division of Plant Industry with the aid of its Honey Bee Technical Council were distributed at the Florida State Beekeepers Association convention, and can be found on the World Wide Web.<sup>2</sup> They incorporate many of the suggestions developed at an intensive workshop on the subject conducted in St. Louis Missouri in 1991. However, Mr. Vanderput counseled that any best management practices encouraging raising queen cells in AHB-inhabited areas are fraught with potential problems. They do not fit his "total abstinence" policy rooted in EHB queens mated to EHB drones with any possible AHB genetic influence completely eliminated.

Some ideas on how to deal with the media were provided by Mr. Vanderput. He ensures that no managed colony (box or hive) is ever photographed as part of any story about a stinging incident. His philosophy is that these two things should be kept in separate compartments in peoples' minds.

Mr. Vanderput's resultant message to Florida beekeepers in AHB populated areas: "Africanized bees are none of your business if you want to keep your business." Said another way, "If you want a peaceful life so you can sleep at night, just say no to Africanized honey bees." AHB will be part of the environment (they have their "green card"), but these immigrants should not be given shelter in managed hives. Treat them as you would other stinging insects like yellow jackets, hornets or bumble bees. The more you eliminate AHB from your operation the more your insurance company, banker and bee inspector will like you. "Just think of the benefits if the word gets around that Florida beekeepers don't tolerate Africanized bees in their hives.

## Making Frames

By Jim Tew

Reprinted from February 2007 Bee Culture

### **Everything changes**

One way or the other, everything changes, and beekeeping is no exception – nor should it be. Change and development are indications that our industry is progressing and responding to the events of our day. For instance, basswood section comb honey equipment is very nearly gone from bee supply catalogs. Just a few years ago, entire books were available on the subject of producing comb honey in basswood boxes. But replacing the old ways are new ways of producing comb honey in various plastic containers. It's still comb honey, but just in a different container. As another example, queen-producing appliances have changed greatly. Few of us still make our own beeswax cups opting instead to use reusable plastic cups. So it should not be surprising that changes in frame and foundation styles and procedures are occurring (*and I welcome them*). Beekeepers view these changes in different ways.

### **Beekeeper subgroups**

For no other reason than my own use, I have begun to categorize beekeepers as being either 'traditional' beekeepers or 'modern' beekeepers. Of course, most of you are hybrids between the two groups. Categorizing beekeepers helps me arrange for various presentations or written publications.

### **Modern beekeepers**

The new beekeepers of the day (modern beekeepers) correctly use the equipment and procedures of the day; hence, they use a lot of plastic in their beehives.

### **Traditional beekeepers**

Beekeepers who have been practicing the craft for years know many of the old procedures and still readily employ them (traditional beekeepers). Interestingly, bee supply companies still provide many of the old-style appliances for this group, but give almost no information on how to use these various devices. So, if you want a transformer and an electric wire embedder, you can readily buy one, but you need to know how to use it from past experience – not from any information you get from the catalog.

I suppose I am a reluctant modernist beekeeper. Clearly, a properly-assembled wooden frame that supports a sheet of wired, embedded wax foundation is a better frame than the lighter, single-piece plastic frame, and is lighter than those plastic frames that are heavy duty but don't rack. The lighter frames, when full, rack and twist causing honey to seep. Many plastic frames are frequently difficult to remove from the super with common hive tools. But, these frames require no assembly and are easy to put into box equipment. Labor shortages are a chronic problem for me, and many beekeepers. I don't miss putting frames together

and installing foundation, but I can't afford to pay someone to else to do it. I have no choice but to (mostly) use plastic frames.

### **Wood frame types**

A book could be written on the myriad types of wood frames and wax foundation. Such a book would probably sell about 10 copies. Too bad. This hypothetical book would delineate part of the evolution of our industry from our earliest time. Yet, all these frames types have several features in common.

In previous articles<sup>1</sup>, I have discussed the confusing characteristics of various frames and the foundation required to fill these frames. For your review, I have listed these articles at the end of this piece. However, here for one more time, for the new beekeepers who have an interest in the older ways, I would like to discuss the procedures and some quirks of assembling frames and installing foundation once again.

### **Frame Assembly Suggestions For The New Traditional Beekeeper**

The fundamentals of putting frames together are obvious, but some aspects of the task could be made clearer with a bit of discussion. Since no manufacturer, of which I am aware, still bevels opposing edges of end bars (*I suspect this was always a useless feature anyway*), there is really no way to put a frame together wrong, so, how to put it together right becomes the challenge.

### **Eyelets<sup>1</sup>**

Consider this – *Before* assembling the frame, push the eyelets into the end bar holes. Most of us assemble the frame and then put the eyelets in place. My reason for this suggestion is that the metal eyelets, whose ultimate purpose will be to keep the wires from cutting the longitudinal grain of the end bar as the wire is pulled taut, can be laid flat on the work bench in order to put the eyelets in place. Because the frame flexes and is more cumbersome to grip if the frame is already assembled, pushing the eyelets in is more difficult.

Even though it only costs about \$3.00, the eyelet punch is a useful, but mostly unnecessary, tool. Mine is always lost. Use a pair of needle-nose pliers, use a 1/8' line-up punch, use a scratch awl, or make an eyelet punch from a large nail. Cut the head and point from the nail, chuck it in a drill and as the drill slowly runs, file a point on the nail shaft that will fit into an eyelet. Now folks, don't do something with that running drill that I will have to hear about later – like getting your shirtsleeve caught on the rotating nail shaft, or like having the drill fall from the work bench and stab your foot.

Truth be known, most eyelet punches – even those commercially manufactured – frequently pull the eyelet back out once it's pushed into the end bar. That's annoying because there is very little place to

grab the eyelet to keep it pushed into the end bar. So consider this....while the end bar is in the unassembled state, using the eyelet punch of your choice, get **most** of the eyelet into the end bar hole, remove the eyelet punch and then tap the protruding eyelet in snugly with a hammer. No way for the eyelet to be pulled out when using the hammer technique.

### **Nails**

Historically, 1¼' nails were used to assemble frames. Two on each end of the top bar, one through the side of each end bar into the top bar, and two on each end of the bottom bar was the time-honored way of nailing a frame together. If you are honoring the old ways, that's the only way to go, otherwise, put a dollop of the newer moisture-resistant glues now available to glue the end bar to the top bar. Glue relegates the nails to nothing more than a clamping device to hold the frame together as the glue dries. So what's the ruling here, traditional beekeepers? If I use glue and a pneumatic pin driver to assemble the frame, am I too far from the old way? The glue/pin process sure makes a good joint on the frame parts.

Using whatever connectors you choose, assemble the frame. Normally, the top bar wedge is left in place for now, but occasionally one breaks out. No big deal, but keep up with it. You'll need it later.

Wayward nails or pins can be a challenge. Nailing through the top bar into the longitudinal wood grain of the end bar can make the nail or pin, depending on what you used, bend and pop out. Do whatever you have to do to correct the situation. Pull the nail back out, clip it off, or bend it over (worst choice). I suspect you will need to use your drill and a small bit to punch a pilot hole before the nail can be properly driven. If you used a pneumatic pin driver, you will have to pull the pin through. I have never been able to drive a pin backwards. The pins frequently have friction-heat activated glue on them. They really want to stay where they stop.

### **Frame nailing devices**

Frame-nailing devices are now only found at places like estate auctions or on-line auction services. Supposedly, 10 frames could be held in place for nailing/gluing so an entire box could (theoretically) be assembled at once. In my opinion – a nailing device took too long to set up, was too inaccurate, and was clumsy to get the assembled frames released. If you see one of these gadgets going cheap, it's okay to buy one, but don't expect to make great use of it.

Okay, may I assume that you have assembled at least one frame by this point in the traditional frame assembly process? Next step – the dreaded wiring board.

### **The wiring board**

What does a wiring board have in common with an eyelet punch? Both are useful but not necessary. In years past, wiring boards were elaborate devices with

electrical contacts, wire spools, and stops to hold the frame in the proper position. The few wiring boards being offered today are highly simplified versions compared to the older versions (but at least you can still get something).

#### The Basic Frame-Wiring Procedure

1. On the assembled frame, already having eyelets in the end bar holes, partially drive two short nails near the upper and lower holes on the edge of the end bar. These will be the sites that you tie the wire off.
2. If using a wiring board, install the frame on the wiring board and set holding clamp if one is present. Different wiring boards use different techniques for holding frames.
3. Depending on the location of the wire spool, begin threading the wire through either the upper or lower eyelet hole. Upon getting to the end of the run and at the hole farthest from the spool, wrap the end of the wire around the nail. Finish driving the nail flush and break off the wire remnant.
4. Work the slackness out of the threaded wire. Tweak the wire, all the while rolling the slack wire back onto the wire reel. Your right hand holds the spool while the left hand does the tweaking. The wire should be tense, but not banjo-string tight. This frame will never be a musical instrument.
5. If the wiring board has spools, slip the wire off the spools and again wind surplus wire back onto the spool. Tweak again. The spools primarily prevent kinks in the wire.
6. While holding the wire in a tense state, twist the end of the wire about three times around the nail stub nearest the wire spool. Drive the nail flush and twist the wire until it breaks off. The wire should be twang-tight but again, not excessively tight. Having three hands will help with this step.
7. If present, release the wiring board clamp and remove the wired frame from the device.

#### Some comments on wiring frames

1. Partially drive anchor nails on end bars **before** placing the frame on the wiring device. The device provides a springy surface that is not conducive for nail driving.
2. Kinks in the wire will usually result in the wire breaking when it is pulled taut.
3. Again, it is important that the wire should only be tight enough to hold the foundation upright and in place.
4. Wire strands nearest the spool will probably be tighter than strands farthest from the spool. The wire tends to bind where it passes through the eyelets. As much as possible, correct this situation.

#### Installing foundation

The wood cleat should now be broken from the top bar. Any rough splinters should be trimmed with a sharp knife. Depending on the type of bottom bar, the foundation is either put through or set between the

bottom bar halves while the top of the foundation sheet is dropped into the top bar slot. The sheet should fit neatly and tightly. If present, foundation hooks should be captured underneath the foundation cleat. The cleat, now holding the foundation in place, should be lightly tacked with two – three ½' nails. Though still loosely contained, the foundation sheet should look fairly flat.

#### Embedding wires in foundation

An embedding board is nothing more than a simple board that will fit inside the perimeter of the frame. The board provides a firm foundation for the wire embedding process.

Using either an electric wire embedder or a spur wire embedder, the horizontal wires will need to be pressed into the foundation sheet. While a bit more complex to use, the electric embedder does a better job, but the spur wire embedder is much simpler and faster to use.

Electric wire embedders are available from bee supply sources. Using a small transformer (or an electric train transformer or a battery charger), the electric wire embedder slightly heats the horizontal wire which in turn, lightly melts the wax foundation surface just beneath the wire. The wire sinks into the molten wax. Release the electrical current, but hold the embedder in place for a few seconds while the wax hardens around the wire.

The purpose of the wiring, both horizontal (provided by the beekeeper) and vertical (provided by the manufacturer) is to hold the foundation in place while the bees build comb on it and second, to provide strength to the comb during the extracting procedure.

Again, a little heat goes a long way. Too much heat will quickly melt gaping holes in the foundation sheet. Ironically, the bees will repair such holes, but they will frequently be repaired with drone comb.

#### The finished frame

Clearly, this is not an insignificant amount of work per frame. But when you finish and admire the new pine frame giving off a beeswax aroma – foundation flat – wires all nice and tight, you feel good about your work. As is so often the case in beekeeping, doing a few is pure enjoyment while doing a lot more is pure work. You decide where your line is.

## Snow Cancellation Policy

**In case of snow or ice on the meeting date, listen to WBAL radio before 7:00 PM. If Baltimore County's snow emergency plan is in effect at 6:00 PM, then the meeting is automatically canceled.**

## **IMPORTANT PHONE NUMBERS**

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## **DATES TO REMEMBER**

General Meeting – March 6, 2007–7:30 PM at Oregon Ridge Nature Center. This is Honey Bee Night – Remember to bring a friend who may be interested in becoming a beekeeper.

CMBA Short Course – March 8, 2007 7 PM at Oregon Ridge Nature Center./ This is our annual Beekeeping Short Course (see flyer in this newsletter).

Board Meeting – March 19, 2007 – 6:30 PM at Oregon Ridge Nature Center.

March 24, 2007 10 AM – 4 PM – Equipment Assembly & Repair Workshop (see article in this newsletter for details and directions).

General Meeting – April 3, 2007–7:30 PM at Oregon Ridge Nature Center.

Lloyd Snyder – Editor  
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