

# THE HIVE TOOL

Volume XXXVI

July 2010

**PUBLISHED BY  
THE CENTRAL MARYLAND  
BEEKEEPERS ASSOCIATION  
FOUNDED 1973**

## **President's Frame**

I hope you are enjoying the summer. I would like to introduce myself as the new President of the Central Maryland Beekeepers Association. It was nice to see some of you at the Annual Picnic. This year we moved the picnic to one of the large pavilions at Oregon Ridge Park. Approximately 45 people attended and enjoyed an evening of barbeque, bluegrass and horseshoes. Jerry Fischer encouraged everyone to volunteer at the honey booth at the upcoming Maryland State Fair at Timonium Fairgrounds which runs from August 27 - September 6. Volunteer activities include extracting demonstrations and honey sales. Please contact Don Benfer at 410-377-0182 if you can work a shift at the Fair.

Despite it being the middle of a hot summer, now is the time to plan ahead for critical preparations for this fall and winter. For planning purposes, the August 3rd general meeting will feature Lloyd Snyder who will discuss fall management and other important issues. We will also have an open hive demonstration in the meadow at 6:00 pm.

As you know, beekeeping is a "hot" topic in the media and with those concerned with the environment. Therefore, I encourage you to spread the word on this important, educational and fun activity and invite your friends and neighbors to join us at any time.

Finally, please remember that the Executive Board meetings are open everyone. A goal for this year is to expand our education and outreach programs. Please contact me if you are interested in helping with this mission.

Regards,  
John Harmon  
410-771-1701

## **Maryland State Fair CMBA Honey Booth**

Don't forget to sign up for a shift at the Honey Booth at the MD State Fair from August 27 – September 6, 2010. This is an excellent opportunity for you to talk with people about your favorite insect and her products and services for man kind. There are three 4 hour shifts 10 AM – 2 PM, 2 PM – 6 PM and 6 PM – 10 PM. The booth is staffed for all 11 days of the fair. To sign up get more information contact Don Benfer at 410-377-0182. So don't miss out on a free ticket to the fair and a great opportunity to talk about bees.

As an extra added highlight this year the American Honey Queen Lisa Schluttenhofer from Thorntown Indiana will be will be at the booth September 4<sup>th</sup> – through the September 6<sup>th</sup>.

## **Be An Exhibitor at the Maryland State Fair**

Here is your opportunity to be a big winner.

And you ask just how do I do that? By entering hive products, bee related art, wax objects, candles, photos, gift baskets honey displays etc. See the Maryland State Fair website for a complete listing of entry categories and classes available.

The Farm & Garden Building has a spot reserved for your entries right now. Just go to the MD State Fair website:<http://www.marylandstatefair.com/index.cfm?page=competition> and click on the "Farm & Garden Items" selection. From there just follow the directions to do an advance entry. Keep in mind that August 1, 2010 is the deadline for online entries. However they will accept walk-in entries at the Farm & Garden Building on August 24<sup>th</sup> or August 25<sup>th</sup> between 9 Am and 8 PM. **The Joys of Drones**

By Larry Connor

Reprinted from Bee Culture June 2010

My Farm neighbor Craig is learning queen rearing with me this year with the stated objective of producing mite-resistant, localized queens for local sale and use. Retired, and a small-scale beekeeper of 20 years, he still has a lot of enthusiasm over the project. When we are searching for a queen, he says to himself 'that's a drone.'

Few beekeepers acknowledge drones like this. In early April when drones are rare and just starting to appear in our colonies, it is a big deal. Come June it may

be a bit tedious if he is mumbling 'drone, drone, drone . . .' Perhaps he uses that as his mantra.

Depending on where you live in the Northern Hemisphere, drone populations rapidly increase and peak by May or June. There were drones in the colonies I've worked in Florida in January, but any drones in Michigan colonies in January have got quite a story to tell, and a colony that may be in transition, if not in trouble. Actually, it not unusual to find a few drones in perfectly healthy colonies in some hives in the Winter, but it seems like it goes against the normal organization and rules of the hive.

Vigorous, healthy colonies produce about five percent of the colony population in drones at the peak of the queen replacement (swarming and supercedure) season that comes with the rapid growth and development of colonies in your local area. Swarming season moves North as Spring moves North, stimulated by growing daylength and abundant food. By the Summer Equinox the key stimulation of increasing day length slowly reverses during the Summer, but the drone rearing will remain present until September to November (depending on latitude). A strong incoming food supply will prolong drone production. Or it may be done by early June if the pollen and nectar supply has already dried up. This happens in parts of Florida and Texas, as well as other areas of North America. There may be a second cycle of drone production in the late Summer and early Fall to coincide with local nectar flows, if they happen. When the incoming food is reduced or stopped, worker bees become selective about the number (and age) of the drones they keep, even if they are their brothers. The colony rules!

I used the title **Joys of Drones** for a reason. First, there is a remarkable benefit in accepting normal drone populations in a colony as a reflection of a healthy colony. Second, it is nice to see that virgin queens in the area will be well served by your healthy and well-fed drones. Drones are suitable to give to small children and grandmotherly types who want to handle a bee. Really! They are often warm from the heat of the hive, and fuzzy to touch. You can practice marking bees by using the drones from one hive and watch how they spread to other colonies in the area. Who knew you could both play with drones and use them as a science experiment?

Drones have been used extensively by beekeepers as a means of Integrated Pest Management (IPM) against *Varroa* mites. Instead of using as much (or any) miticide to kill *Varroa*, a huge percentage of beekeepers use drone comb removal as a method of reducing the reproductive upswing of *Varroa* populations. *Varroa* mites have a relatively low rate of increase on worker brood, perhaps a 10 to 20% increase with each brood cycle, so it will take several brood cycles to double the *Varroa* mite population if there is no drone brood in the colony.

But add the drone brood (by adding the larger cells, or the bees building their own, which they will do in spite of your best efforts), and the *Varroa* mite population skyrockets. It is just a reflection of the longer developmental drones spend in the sealed brood stage, giving the mites several extra days to complete development. In one cycle of *Varroa* growth in a colony, entering the about-to-be-sealed drone larvae, there may be two to five times more mites coming out of the cells than went into them as foundress mites. Doing the math: it takes drones about 12 days in the sealed brood stage, that means that in 24 days there have been two cycles of mites come out of the emerging drone brood. No wonder *Varroa* mite populations can explode so quickly.

The IPM method mentioned above calls for the removal of the sealed drone brood and either freeze it (so the bees can suck out the juices from the dead brood), or scrape it into a bucket and feed the slurry to the chickens or bury it as fertilizer on the garden.

For a large percentage of small-scale beekeepers, the integration of the drone comb with screened bottom boards offers two chemical-free opportunities to reduce mite populations, and all you had to do is kill a few thousand drones to do it!

But that defeats the purpose of having drones in the colony, doesn't it? We NEED virgin drones to mate with virgin queens. Colonies go out of their way to REPLACE removed drones. We know that it required 12 to 20 drones to mate with each queen, and for every drone that successfully mates, there are probably five to ten that never mate, meaning that there must be a very large number of drones in the air to mate with a queen during any mating flight. If you use drone comb removal or destruction and reduce the number of suitors for area queens this suddenly takes on a sinister tone, since a successfully mated queen will carry the sperm from the 12 to 20 drones for her productive life, and will NOT mate again once she starts egg laying.

#### **Pile up the drones in a mite-controlled way.**

Since I have worked with queen rearing for a number of years and have started up a small operation this season, a simple management system can be used to provide healthy drones for mating as well as control mite populations in strong colonies. This is especially true if you use screened bottom boards and powdered sugar dustings.

In Michigan and other Northern locations, starting in late April or early May, remove frames of brood that contain large areas of sealed drone cells. If you find frames holding both workers and drone brood that is fine. If you added drone comb foundation (like the green plastic drone foundation) then the bees will draw out the comb and you will want to remove the comb only when the drone brood is largely sealed. This means that you will need to check your hives every 10 to 12 days to remove drone brood.

Rather than freezing or scraping out the drone brood, check for the queen and leave the worker bees,

mostly nurse bees, and move the frame to a nucleus hive or full eight or 10 frame hive body. Move a frame of worker brood too, picking one that has bees emerging from their cells. This will insure the success of the nucleus or colony when the drones finish development and emerge as adults.

Fill your nucleus or colony with more frames of drone brood and worker brood, making sure to check each frame for a queen or virgin. You will want to feed this colony, but drones may drown in a division board feeder, so use a jar feeder or some other system that keeps the drones from doing a backstroke. Drones need lots of protein from pollen or protein patties, so add a pound or so to a strong colony, and less for a nucleus.

You have now removed a huge percentage of the *Varroa* mites from the colonies that you harvest drones from, and protected them from a *Varroa* attack or a chemical treatment. Monitor the *Varroa* levels by using the powdered sugar dusting sampling method. This uses fine sugar, and the bees are not killed. Now, as the season progresses, continue to remove sealed worker frames and sealed drone cells on a regular basis. Make up new nucleus or full-sized colonies (do not combine the new drone brood with really old drones – or run the risk of losing all the old drones).

These drone-filled colonies are called Drone Holding Colonies, and they are a great way to keep a viable population of drones flying to mate with neighborhood queens, as well as offering a method of controlling *Varroa* mites. Let's summarize what we need for a good DHC:

2 to four frames of mostly sealed drone brood (from several hives)

2 to four frames of sealed and emerging worker brood (from several hives)

Abundant nurse bees to care for the brood

Check that you do not have any of the queens in the holder colony

Add frames with pollen and honey to keep these bees alive

Feed with sugar syrup in a sealed feeder so drones cannot drown

Feed with pollen or protein patties

Place a caged virgin in the holding colony, making sure she cannot escape and mate.

How many drones are in this DHC? If you average areas of drone brood that are 75 square inches per side (that is an area 15 inches wide by 5 inches deep), four frames of drone brood could generate a holder with about 10,000 drones in one hive. That is three to 10 times the number of drones found in many Spring and Summer colonies.

The addition of the unmated queen is something I learned from Dr. Bud Cale Jr over 30 years ago, and as he explained it to me, we have created the conditions found in a colony where normal queen replacement is underway: There is an unmated queen,

no laying queen, abundant drones in the brood frames and on the combs, and adequate worker bees, mostly young nurse bees, to keep the colony running.

Drone Holding Colonies can be moved to a site near (but not in) the mating yard, if you have one, or just put in the home apiary if that is all you can do. Reduce the entrance but provide the colony with ventilation holes. Since there may be some young drone brood, it will be about three weeks before all the drones emerge. At that time you can administer a powdered sugar dusting, using a sticky board to keep the mites from crawling back onto the hive. Every mite you capture is one more that will not be weakening your other colonies. Oh, the Joy of Drones!

Depending on the age of the drones you move, in four to six weeks most of the drones will be old or gone missing. At that time I would add a frame of emerging brood, replace the caged virgin queen with a laying queen, and set up the colony as a nucleus or a new increase colony. If you added the ratio of drone brood I suggested above, you should have lots of bees, and they will be in good shape since they have not had to raise much brood.

The use of DHC units is an excellent swarm prevention management tool, since brood and bee removal significantly reduces the chances the bees will develop swarming behavior. Think of it as making a split or nucleus during the earlier part of the season.

So, instead of cursing the presence of drones, put them to work as part of your *Varroa* mite control program as well as a method of keeping lots of good drones in the air to mate with queens. Even if you never raise queens, your colony or colonies will undergo routine queen replacement, so this is a great way to make sure that your boy bees are in the neighborhood doing their job.

*Drones and Drone Holding Colonies are discussed in detail in Dr. Connor's book Bee Sex Essentials, available from Wicwas Press and many bee book dealers. You can order at [www.wicwas.com](http://www.wicwas.com). That website also lists upcoming queen rearing courses being offered from Connecticut to Alberta, Canada.*

## Honey Bee Packages

By Dr. James Tew

Reprinted from Bee Culture June 2010

### ***Life in the middle of a mixed blessing***

Interest in keeping bees is higher than it has been in many years. Equipment sales are good. Bee books are selling well. Most beekeeping groups have experienced a 30-50% increase in membership and outside groups like gardeners and environmental groups have shown solid support for bees. Things could not be better – right? Sorry, but things could be better on a few other fronts.

True, we have many new beekeepers, but also true is that many of those new beekeepers are having a problem keeping their new colonies alive. Also true is that many experienced beekeepers are being challenged to keep their

colonies alive, too. Beekeeping is in the middle of a mixed blessing – interest is high but so are bee mortality rates and replacement hive costs.

I don't know the 'burn rate' for new beekeepers, but I am afraid it is a high number. We get a lot of new people but we seem to lose a lot of new people. I helped a new beekeeper get started a couple of years ago. Packages were put into new equipment and hives were placed on a partially wooded rural location. Everything looked great. For the past two seasons, his package bee starts have not survived the Winter. Four previous packages are dead with two new ones now installed. He's into this project for six packages – none yet overwintered. This new bee person is one of the persistent ones. I am afraid that most new beekeepers would have tossed in the bee towel by now. Last year, he bought packages. This season, he bought packages and next year, if the trend holds, he will once again buy packages. This is clearly frustrating but it may be our future.

### **My Packages - 2009**

Though I buy a few packages every year, for the past four years, I have bought more packages than normal. It has become difficult to build colonies up strong enough to make splits and free swarms are much more uncommon. In years past, new beekeepers got started by: (1) buying established colonies, (2) buying nucleus colonies, (3) hiving a swarm or (4) buying a package<sup>1</sup>. Presently, buying packages is the primary way for a new beekeeper to start in the craft or for an established beekeeper to maintain colony numbers. Methods 1-3 above are becoming rare.

Just about a year ago, I bought 12 three-pound packages with a queen. I installed them by shaking the bees out but four days later I manually released the queens from their cages. I do this manual release procedure because bees can sometimes eat through the candy plug faster than I would like. If you don't already know, modern queens are difficult to keep in a new colony. New queen supercedures have been as high as 30% in some of my recent packages. Plus, there are now no free replacement queens as there were about a decade ago. Now jump ahead a year to 2010.

Overall, from my 2009 packages, I had a good – if not a strange – survival outcome. Ten of my packages survived. Of the two that died, one was not unexpected. I had used a good deal of the bees to make up an observation hive (which actually survived, too). So really, only one package died. By today's standards, that is not a bad average. So why is there a 'strange' component to this discussion? While it is true that most of the 2009 packages did survive, they only survived as small clusters. On the small side, clusters were nearly as small as a baseball while on the large size most were larger than a softball. None were particularly impressive – but they survived. Who's to blame? Me? The package producer? The bees? All three of us? I truly don't know. In Ohio, we had some cold weather and we had snow-cover that was longer than anyone can remember. Does snow insulation help or hurt? If bees are healthy, snow cover should help.

I gave the package bees honey that previous bees had stored in deep frames. Was something wrong with that?

Maybe it is something in my old combs. Maybe I should remove that old wax comb and install new foundation. To all of you who do that, please don't be offended, but that is simply not going to happen. Using traditional frame foundation, the labor requirement for me to perform that task on hundreds and hundreds of frames would put me so deeply under beekeeping water that I could not recover. If it is my comb that is causing part/all of my bee-build-up problems – and I know there is a chance that it is the problem – then I am in trouble.

For now, my 2010 colonies are sitting with my 2009 colonies. The flight activity from my new colonies is about three times that of my overwintered 2009 packages. But I am not complaining. At least the 2009 units are (somewhat) alive.

### **My packages – 2010**

I beg not for mercy for I know that many of you keep far more colonies than I, but it is a good deal of hard work to get together 22 deeps of drawn combs and to find about 25 frames of capped honey. Tops, bottoms, inner covers and hive stands must be loaded also; all the while never missing an opportunity to check combs for signs of American foulbrood. I know that some of you use a slow release method for packages in which bees are not shaken but are put inside the colony with an empty shell on top. For me, that would involve gathering 22 empty deeps needed to implement this process and require temporarily dealing with the frames that must be removed to position the package cage inside the hive – plus the bees are sometimes reluctant to leave the cage. All in all, I don't use this procedure too often – unless the weather is really unfavorable.

### **The Weather**

When installing packages, we all must watch the weather, even those of you in warm areas of the country. Extended rain or simply cool weather that traps bees on foundation can be a serious setback to the founding colony. But the risks are even greater for beekeepers in cold climates. I had classic cool-climate Spring weather this past Spring. Day One was beautiful and nearly set high temperature records. It was a glorious day for installing packages. But all day, the weather forecasters were predicting a dramatic change in the early evening as winds arose and the temperature dropped – dramatically. I worked extra diligently to position one or two frames of honey in each package<sup>2</sup>. Day Two was an example of classic Ohio springtime weather. It was 80°F one day and 40°F the next. I had five packages still needing to be installed. I used the fast release method on the warm day but I used the slow release method on the second day. Though I stayed awake at night worrying about the newly installed bees and their caged queens, everything seemed to go okay – well almost everything.

### **The Annual Unanswerable Question**

Every season, in every location a beekeeper somewhere must address the question, '*Is it better to hold them in the cage for a while or release the bees in somewhat marginal weather?*' I can't answer that question for any of you, but I tend to go with releasing them – especially if I have honey frames I can give them. My reasons for leaning toward releasing the bees rather than holding them in cages are

selfish. I don't have to hear the confined bees buzzing. I don't have to watch the layer of dead bees as it accumulates on the cage bottom. I don't have to wonder if the feeder can is empty. I tend to release them and then worry that they are not okay in the hive – but at least I don't have to see or hear them.

### **Managing Package Queens**

I am growing to think that we presently have a 'queen crisis' as much – if not more – than we have a 'bee crisis.' I am not condemning package queens or suspecting production techniques, but seemingly for several years, the quality of package queens has not been great. Supersedure rates are high – at least in my package bees. In 2008, a year I am not really reviewing here, I had about 30% of my package queens be replaced during the first brood cycle. But I am hesitant to blame package queens because I have absolutely no observations on how many of my established colony queens were replaced during the same timeframe. I cannot conclusively say that package queens are the only problem.

### **Releasing Package Queens**

The time-honored way to release caged queens is the candy plug method. One-third of a Benton three hole queen cage is filled with sugar fondant. The bees slowly eat through the candy plug thereby quietly releasing the queen. But this rate of release time varies from fast to slow – depending on the bees that are doing the eating. I release my queens directly. I want them to stay confined and protected within the bees for about four to five days. Also, I want to get that cage out and remove the accumulated burr comb.

### **Burr Comb**

Burr comb construction is an issue in nearly any package/queen release program. In any empty space, bees want to build comb there first rather than use the frames we have given them<sup>3</sup>. On rare, rare occasions, the colony queen is unintentionally shaken with the package bees so the purchaser has two queens in the package – one caged and the other free-roaming. Releasing the caged queen into that colony will be sending her to certain death. Check the small pieces of burr comb that will be attached to the queen cage and on nearby frames. If a free-roaming queen is present, she will lay eggs there first.

Last year, I wrote about an errant queen that insisted on flying rather than placidly moving down onto the combs. It was a harrowing experience but later I found the cold, wet, forlorn queen on a blade of grass. I was able to save her and today, she is still reigning in her colony. Seeing a queen fly away is always a memorable beekeeping experience. This year, I made some changes.

### **Using Nylon Netting to Restrict Queen Flight**

This year, I draped a piece of clumsy nylon netting over the hive in anticipation of *fly-happy* queens. Of the 22 queens I released, I had three fliers. I tugged the netting down over the frames and forced the panicked queen down into the frames. The crude system worked very well.

Though it works, this netting thing needs polishing. Though it did, indeed, prevent three queens from taking

flight, it was not without hassles. (1) I now wear bifocals plus a bee veil. If the netting doubled on itself, I could not see through it. I had to flip my veil back when performing the release procedure in order to see what I was doing. (2) As I reported above, the weather was windily changing. It kept catching my netting and blowing it around. I truly needed four hands. (3) After removing the staple that held the screen wire closed, the rough wire edges would snag on the nylon netting causing me frustration and (4) the netting tended to become messy as it was dragged through honey and syrup. I feel a need to say again that though the piece of netting was an annoyance, it clearly kept three queens from flying away. Any ideas?

### **My Packages – 2011**

At this moment, (1) I predict that I will purchase fewer packages next year. On a personal note, I felt my age this past year. I can't continue to ignore that inexorable fact. (2) If the 2009 packages, now one-year old colonies build up better and survive the upcoming Winter better, that will be yet another reason to reduce my package purchase. Plus, those colonies should be requeened this season. Honestly, I doubt that will happen. (3) But ultimately, what I do with packages in 2011 will be dependent on how well both the 2009 and 2010 packages develop and tolerate next Winter. It's a moving target.

Overall, I still like packages as a way to start and to stay in beekeeping. The price has gone up, but for all the specialized work involved, they are still a relative bargain. True, I complained about package queens, but not all were rejected. I tend to focus on the ones that didn't work – not the ones that did. Most colonies are successfully begun from packages. There are always the horror stories of bees flying away, but in general, installing a package is a tried/true standard procedure. Not all package experiences are perfect, but I still plan to buy them for the next few years.

*Dr. James E. Tew, State Specialist, Beekeeping, The Ohio State University, Wooster, OH 44691, 330.263.3684; Tew.1@osu.edu; http://beelab.osu.edu/*

## **Advertisements**

Wanted: Buying local honey in quantity. David Papke 717-246-2339 [DCPapke@aol.com](mailto:DCPapke@aol.com).

For Sale: Plastic and glass honey containers. Contact Lloyd Snyder 410-329-6671 [SnydersApiaries@zoominternet.net](mailto:SnydersApiaries@zoominternet.net).

## **CMBA Executive Board Changes**

CMBA president David Gill-Boucher has resigned because of increased job commitments. Treasurer John Harmon has agreed to fill out the remainder of David's term as president. Also CMBA member Mimi Baroch has agreed to fill out the remainder of John's term as Treasurer.

The CMBA Executive Board wishes to thank David for his service to the association as president.

## **IMPORTANT PHONE NUMBERS**

---

John Harmon, President 410-771-1701  
Jeanne Deignan-Kosmides V. Pres. 410-833-6067  
Alex Flanagan, Secretary 410-472-1702  
Mimi Baroch, Treasurer 410-771-1701  
Jerry Fischer, State Bee Insp. 410-562-3464  
Oregon Ridge Nature Center 410-887-1815  
David Gill-Boucher, Past Pres. 410-357-9476  
Lloyd Snyder, Editor 410-329-6671  
Editors E-Mail - [Irsnyder@zoominternet.net](mailto:Irsnyder@zoominternet.net)

Be sure to check out CMBA's web site at  
[www.cmbeea.org](http://www.cmbeea.org)

Lloyd Snyder – Editor  
4747 Norrisville Road  
White Hall MD 21161

## **DATES TO REMEMBER**

---

**General Meeting – August 6, 2010 – at Oregon Ridge Nature Center. 7:30PM.** The speaker for this months meeting is Lloyd Snyder. He will be speaking about “Fall Management”. I will be presenting the new thoughts and the old tried and true ones about what you should be doing NOW to get your bees through the winter.

**Board Meeting – No August Board Meeting**

**MD State Fair – August 27 – September 6.**