



THE HONEY POT

MONTGOMERY COUNTY BEEKEEPERS ASSOCIATION

UPCOMING EVENTS

July 8, 7:00pm

MCBA Monthly Meeting

Brookside Nature Center

Charles Walter

Breeding Russian Queens

August

No meeting, MoCo Ag Fair

Sept 9, 7:00pm

MCBA Monthly Meeting

Brookside Nature Center

Dr Marian Frasier, Penn State

Message from the President

by Timothy McMahon

Queens, Queens and More Queens

It's now June and all of us have our hives going. Some from overwintered hives, some from nucs and packages and even some from swarms and splits. The question will always come back to how well our queen is doing. Will the overwintered queen swarm on me? Will the package queen be accepted well enough for the hive to build up strong? Only time will tell.

Many of us see hives that are having queen issues. The next question comes down to what we do next. There are no right answers here and lots of opportunities for experimentation. The easy and lazy answer is to let the girls requeen themselves, which requires the beekeeper to do nothing. But does this get the beekeeper to where they want to be with the hive? It is interesting to watch the bees go through this process, if you go into the hive often enough. You will see the break in the brood cycle, and the final elimination of the old queen. When faced with a colony that does not seem to be doing well, many of us choose to requeen our hives with mated queens from a queen supplier -- either local or a commercial producer. Will these queens be any better than a queen that the colony makes itself? These questions have no clear answers but many of us go with our old experiences. "I got a queen from so-and-so and it did not turn out well." It's been my experience that queen producers, both local and distant commercial producers, produce both good and bad queens. So again we are back to the situation where there is no right answer.

Another scenario many of us will see is a hive that, for one reason or another, has become queenless. Without getting a new queen quickly, this situation will deteriorate into a laying worker situation from which there is almost no recovery. It would be great to know why these hives have become

queenless, but many times we will never know what led to this situation. If you catch it early enough, you can get a new queen to put into the hive. If you have multiple hives in your yard, you can take a frame of open brood and put it into the hive and let the colony requeen itself in time. Bottom line, it's that time of year where all we can do is watch the hives and try our little experiments.

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The Arrival of the Bee Box

by Sylvia Plath

I ordered this, clean wood box
 Square as a chair and almost too heavy to lift.
 I would say it was the coffin of a midget
 Or a square baby
 Were there not such a din in it.

The box is locked, it is dangerous.
 I have to live with it overnight
 And I can't keep away from it.
 There are no windows, so I can't see what is in there.
 There is only a little grid, no exit.

I put my eye to the grid.
 It is dark, dark,
 With the swarmy feeling of African hands
 Minute and shrunk for export,
 Black on black, angrily clambering.

How can I let them out?
 It is the noise that appalls me most of all,
 The unintelligible syllables.
 It is like a Roman mob,
 Small, taken one by one, but my god, together!

I lay my ear to furious Latin.
 I am not a Caesar.
 I have simply ordered a box of maniacs.
 They can be sent back.
 They can die, I need feed them nothing, I am the owner.

I wonder how hungry they are.
 I wonder if they would forget me
 If I just undid the locks and stood back and turned into a
 tree.
 There is the laburnum, its blond colonnades,
 And the petticoats of the cherry.

They might ignore me immediately
 In my moon suit and funeral veil.
 I am no source of honey
 So why should they turn on me?
 Tomorrow I will be sweet God, I will set them free.

The box is only temporary.

Never Say Never

by Bee George

Well, I thought I should acknowledge that I'm now doing what I said I would never do. Calm down, I'm talking about beekeeping here.

Yup, I'm repositioning individual frames in the super, sometimes even BETWEEN supers. I always said that moving individual frames was just too much work for too little benefit and I didn't have time. How the mighty have fallen. Now I'm a combination of: interior decorator; home storage consultant; and a nursery design specialist. Not to mention being a busy body!

Right now, I have more bees than equipment so I have to carefully allocate supers. Plus, I'm really want all my frames put to good use. The result is that I'm running out of equipment.

On reflection and perhaps as a little justification, I changed my tune due, in part, to the hive beetle (SHB). In years past, pre-SHB, if the bees were pushing upwards, I'd just add another super, what's the down side? But now, because of SHB, I want to grow my hives more slowly so the bees can easily guard each frame. Empty and unused comb is open territory for those buggers.

Since I seem to be using the same techniques over and over, I've created patentable names for my process. But first a couple caveats:

Caveat 1: This is a warm weather only thing. If there is any chance that the bees will have to cluster to keep warm or keep brood warm, I'm going to leave things exactly where they are and not mess around in the brood chamber. Once evenings are well above 60 degrees, I figure the world is my oyster.

Caveat 2: This is also just for strong/large hives. I would never consider doing frame manipulation for hives covering less than 8 frames of bees. Weaker/smaller hives don't have the population to support these techniques.

Tamping the Pipe:

The hive is building up well, but only in a column (or stove pipe) between the boxes. The bees have used 4 or 5 frames in the bottom box and moved up to the second box to use 4 or 5 frames. If you give them another box, they will keep moving up in the same column. Sometimes the stove pipe is in the center of the hive and sometimes it's to one side. I don't know what they are thinking but it's a waste of my equipment!

If I'm lucky and have all the same size boxes (like all mediums), I pull out the unused frames in the bottom box. Then I add the used frames from box 2 and box 3 to fill out box 1 entirely. I'm careful to put honey frames on the outside and brood in the center. If there are used frames left over from box 2 or 3, I will center them in the second or third box appropriately. This technique can be done earlier in the year (while nights are still cold) as long as you keep all the brood frames together.

The Swing:

This is similar to "Tamping the Pipe" but less dramatic. There are lots of bees in the hive and the nights are warm. The bees are working harder on one side than the other side. My goal is for them to work the whole box.

Spin the box 180 degrees so that the frames on the right are now on the left, front to back, whatever you want to call it. It's quick. The bees' habit causes them to keep working on the same side which is now the other side. If they were working mostly on the right side, after the swing, the right side is now the left side. Now they will work the right, no wait, I'm confused.

Egg Party 1:

The bees have effectively blocked out the queen from laying eggs in the whole super. She has several frames that are packed with brood but there is a pollen or honey frame that is blocking her from working the outside frames. This can easily lead to a swarming situation. For example, you may see 4 frames of brood, a honey frame and then 4 more unused frames. It can also occur vertically, when

the 2nd box is filled with honey preventing the queen from finding empty frames to lay eggs.

Move the honey/pollen frame to the end position, giving the queen access to the unused frames. This is also a great swarm prevention technique. Use caution when attempting this reorganization when nights are cold. Be sure the brood nest is kept in a single contiguous area.

Egg Party 2, the Sequel:

The queen is laying well and building up to a nice strong hive. However, the two end frames are virtually empty. Geez, why even have end frames if they are just going to ignore them!

Put the unused end frames in the middle of the box and push everything else to the left and right. It can be done with 1, 2, 3 or 4 frames depending on how many are unused and the size of the hive. The queen now has a mess more room to lay eggs. It needs to be plenty warm outside so the bees don't have to worry about abandoning any brood. To be clear, this does separate the brood nest into two sections and any chilly weather can cause one section of brood to be abandoned.

Honey Bonanza:

The bees are working hard putting in stores but have ignored the end frames.

Apply the same approach as "Egg Party 2, the Sequel" to the honey super. Just move the empty end frames into the middle of the box and move the capped frames to the edges.

In deciding if any of these techniques are appropriate for your hive, you can perform most of the diagnosis just by looking down into the super or deep. If you use too much smoke, you won't see anything. Some frames will be covered with bees and some won't. Look for hints, clues, and factoids that can help you decide on a course of action. Pull a frame or two to confirm what you suspect is happening.

- Look down into the frames as far as you can see. Do you see some capped brood?

Sealed honey? Empty cells? Pulling a "busy" frame half out should tell you the rest of the tale.

- If there are tons of bees everywhere, you will probably need to add another box.
- If there are no bees on some of the frames, one of two things is probably going on; either the frame is full of honey or just empty. Can you tell without pulling the frame out?
- If bees are covering frames on one side of the box and not on the other, consider "The Swing" or "Tamping the Pipe."
- If there are hardly any bees in the whole box, you better dig deeper to see what's going on.

"Bees know best." "Bees know what they are doing better than we do." "Beekeepers just screw things up when they manipulate the hive too much." Well..., yes, kinda, sorta, maybe. "Bees don't read the same books we read." I get it. Well yes, but there is a "but." Sometimes our bees can use a little of our help too. Are the manipulations described here principally for our benefit and to help our bees better adapt to our Langstroth hives? Sure, and I'm ok with that.

Honey Bee Power Plants

by Marie Rojas



Oakleaf Hydrangea – *Hydrangea quercifolia*

Oakleaf hydrangea is one of my favorite plants! This beautiful native shrub has a full, rounded shape. The oak-like leaves start out dark green and turn a rich red to burgundy in the fall. Older stems have exfoliating bark in light brown to cinnamon-brown strips, giving it winter interest. It grows 4 to 6 feet tall and wide, in sun to partial shade, and is free of major insect pests and diseases. It is also fairly drought tolerant, once established. These attributes alone make it a great landscape plant.

But wait, there's more! The white panicle flowers are composed of showy sepals interspersed with fertile flowers. The flowers open in June and last for 3 – 4 weeks, often developing a purplish-pink coloration with age. They are a 3 star nectar and pollen source for honey bees. Bumble bees and syrphid flies also visit the flowers.

Hopefully, we'll be able to witness its insect attractiveness first hand when we see the ones at Brookside during our June walk about!



Photo by George Kervitsky



Photo by George Kervitsky



Here is the beautiful fall coloration.

Meeting Recap: Bart Smith

by Ashley Tipton

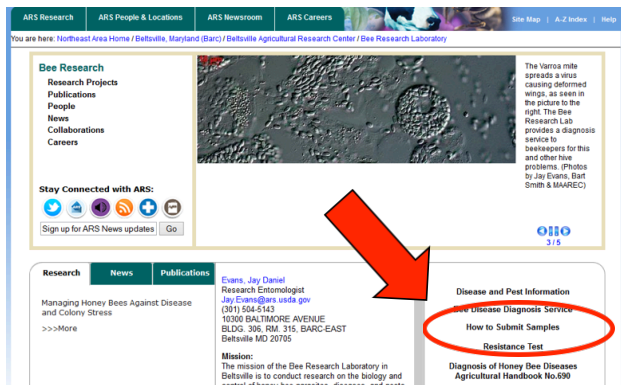
Guest Speaker: **Bart Smith**, Bee Research Lab, Beltsville, MD

Title: Bee Disease Diagnostic Service at the Bee Research Lab

Summary:

Bart came to talk to us about the services the Bee Research Lab provides to us **FOR FREE** and also gave us some insights into how the tests are performed. Tests for varroa mites, tracheal mites, and nosema are available **FOR FREE**. To find out how to send bees to the Bee Research Lab or to find more info on diagnostic services follow these steps:

- 1) Search for the Bee Research Lab or go to: ars.usda.gov/main/site_main.htm?modecode=80-42-05-40
- 2) Click on “Bee Disease Diagnosis Service” or “How to Submit Samples”.



A few key points Bart stressed when shipping bees through the mail:

- Preserve the bees in alcohol as soon as possible. Throwing live bees in alcohol is best, but recently dead bees can also be used.
- Poor off extra alcohol before you ship them.
- Always double package. For example put your bees in a Ziploc bag, then put the bee-containing bag in a second Ziploc bag. Bees will still be wet from the alcohol and this helps reduce the chance of leaking.

- Bees can get squished during the shipping process if not packaged in something that will provide some protection (plain old envelopes should be avoided) and squished bees may not be usable for some of the tests.

Now you know how to send your bees. Let's find out what happens to them.

TESTING FOR VARROA MITES

Background: As many of us know varroa mites reproduce in the brood and feeds on brood and adult bees. Varroa mites actively transmit viruses, which probably contributes to the weakening of the hive with high varroa counts.

The test:

1. Take bees and add liquid. Shake.
2. Take a bottle add the bees, add water, then cover the opening with a lid of #8 hardware cloth covered by cheese cloth.
3. Pour out liquid from bottle through the mesh and cheese cloth. The bees will stay in the jar while the mites will go through the mesh and get stuck on the cheese cloth.
4. Count mites.
5. Weight the wet bees to find out how many there are (1 wet bee weighs = 0.16129 grams!)
6. Calculate the number of varroa mites per 100 bees. This is the number that's given to the customer.

More Info:

- Most samples are positive for varroa mites.
- Many samples have 8 mites per 100 bees.
- Bart recommended 2-3 mites per 100 bees as an acceptable mite load.
- Backyard beekeepers are more prone to colony losses due to not appropriately treating for varroa.
- Bart recommended treating three times a year for varroa; once in April, once in mid-June (after the honey flow), and once in September.
 - It's always a good idea to check your mite loads before treating. If mite loads are low, treating isn't necessary
 - Bart uses the powdered sugar method for checking his own hives for varroa. By using ½ C of bees (about 300 bees) the acceptable mite load is 6-8 mites.

TESTING FOR TRACHEAL MITES

Background: Tracheal mites are microscopic, live in the trachea (breathing tubes) of bees, and usually kill colonies in the winter.

The Test:

1. Dissect 16 bees to open the thorax
2. Add lactic acid to the bee thoraxes to make the tissue clearer.
3. Look at thoraxes under a microscope to see the tracheal mites.

More Info:

- Tracheal mites are only found in about 2% of samples and is not much of a problem.

TESTING FOR NOSEMA

Background: Nosema is a spore-forming parasitic fungus that is usually found in tissues, especially the digestive tract, of bees. There are 2 types of nosema – *Nosema apis* and *Nosema ceranae*. *N. ceranae* accounts for about 95% of all nosema and entered the U.S. about 15 years ago. **The Bee Research Lab does not test for the specific species of nosema – only if nosema is present in colonies or not.**

The Test:

1. Dissect 30 abdomens from bees and place them in a Ziploc bag.
2. Use a rolling pin to smash the bee abdomens and add 30 mL of water to the bag. Mix.
3. Take a small sample of the liquid from the Ziploc bag and place on a hemocytometer (a glass slide with a grid engraved in it used for counting cells).
4. Place the hemocytometer under a microscope and count the number of spores in 80 squares.
5. Do some math to get the average spore number per bee.

More Info:

- About half the samples tested are positive for nosema
- Counts vary widely from 50,000 to 120 million average spores per bee.
- If found in fall, treatment is recommended; if found in spring/summer, the infection usually takes care of itself

TESTING FOR AMERICAN FOUL BROOD

Background: American Foul Brood (AFB) is a spore forming bacterium that is extremely contagious due to two factors – 1) about 2.5 billion spores are formed per AFB cell and 2) spores can be viable for decades. In Maryland, about 1-2% of colonies are infected with AFB.

The Spore Test:

1. Send some comb to the Bee Research Lab.
2. Using a cotton swab, collect material from the comb and smear it on a slide. Look under the microscope for spores.

The Antibiotic Sensitivity Test:

1. Make a solution of spores and heat shock the solution for 10 minutes at 80°C in order to kill non-spore forming bacteria.
2. Make a jello-like growing media called agar for culturing the bacteria.
3. Streak the solution on the agar and add disks of antibiotic (each plate gets one antibiotic).
4. Incubate the agar for 3 days. If the bacteria is resistant to the antibiotic, it will grow right up to the disk. If the disk prevents growth, the bacteria is still susceptible.

More Info:

- Using antibiotics on a hive to cure AFB does not work. It may decrease the severity, but it will not cure the hive and may increase the likelihood of antibiotic resistant AFB.
- Of the samples tested at the Bee Research Lab, 16.4% had AFB. Of those, 6.5% of the AFB was resistant to terramycin. No AFB has been found to be resistant to tylan.

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