



NEWSLETTER

Bowie-Upper Marlboro Beekeepers Association

August 2015

Volume 35 No. 4

Published Bi-Monthly since 1980

www.BUMBAbees.com

CONTENTS

Meetings

- Pg 1 Next **BUMBA** Meeting
- Pg 2 The President's Smoker
- Pg 3 *Tropilaelaps* Survey
Notes from the VP
- Pg 5 MSBA Fall Meeting
Maryann Frazier at MCBA

Club Happenings

- Pg 5 **BUMBA** Outreach Schedule
MSBA Honey Festival

Members' Corner

- Pg 6 Your stories needed here!
2015 in Review, by Leigh Walton
- Pg 7 *DeMaree Follow-up*, by Robert Cory

Bees in the News

- Pg 7 1st Evidence of STDs in Honey Bees
- Pg. 8 Effect of Landscape on Honey Bee
Colony Productivity
How Bees Naturally Vaccinate Their
Babies
- Pg 9 Losses of Honey Bee Colonies over
2014/15 Winter

Club Programs

- Pg 9 Extractor; www.bumbabees.com

Next **BUMBA** Meeting

Thurs, August 6, 7:30 PM
Watkins Park Nature Center

Producing a Great Honey Crop

Several members asked that we discuss what it takes to make a decent crop of honey. Some members like, for instance, Leigh Walton, will typically make superior and impressive honey crops from a minimal number of hives (1300lbs. from like 11 hives), while some others have been trying for what seems like ages to them, and have yet to lay in that one golden bonanza they so much long for. Someone asked me how did I make all those nucs (148) and still manage to extract 1800 lbs of honey. So, I thought we would talk about producing honey, a how-to discussion at the upcoming August 6th meeting.

A Day with the Bees at the Maryland State Fair

BUMBA has been offered the opportunity to spend a day working at the honey sales table and beekeeping information display at the **Maryland State Fair**. In exchange for one day of work at the Fair, **BUMBA** gets approximately 10% of the net income from sale of honey at the table. **BUMBA** will need about 16-18 volunteers, who receive free passes to the Fair for the day. Beekeepers also can offer their honey for sale on consignment at the honey sales table, operated by the **Central Maryland Beekeepers Association**. Nothing is firm yet, but the sales date will either September 1st, 2nd or 3rd. We'll have more firm information at the meeting.

The President's Smoker

The first of August has arrived and my beekeeping has not slowed down this year at all. Usually I look forward to a bit of a rest during the dearth period to recuperate from the busy non-stop activities of spring through early summer. This year the honey began to get capped early and then took a turn due to the wet and humid weather, and I wasn't able to begin harvesting until July 15th. Oh, I pulled a dozen boxes or so in late June to keep the shelves stocked up at the stores, but the rest needed more time, and then it got so hot that heat stroke became a real issue on several occasions. I fell short of my goal of a full ton of honey, making 1830 lbs. of extracted honey. Although swarming was less of an issue this year for me than usual, I did lose a few boxes of surplus honey when a few of the larger production hives got ahead of me and swarmed big time. I did catch 5 out of the 8 that I know swarmed, and re-hived them, but they had an effect and probably cost me a couple hundred pounds of honey. There are still 6 or 8 supers on with consolidated uncapped honey in them, but the colonies that have them will probably use it up during the dearth. I have never supered in the fall and don't intend to this year either. My honey crop was presold again this year and I have bottled and delivered a little over half of it so far. Moisture content of this year's crop has averaged 17.8% in spite of humidity, according to my pocket Atago digital refractometer. When testing, be sure you understand how temperature affects zeroing, whether you use a digital or analog refractometer.

My first batch of instrumentally inseminated queens worked out well this year without the misfortunes of a rogue queen in the finishing bank. I was able to have 8 queens accepted and laying well out of 12 attempted. I have a larger batch of cells emerging tomorrow for a second run of II'd queens about the 13th -15th of this month. I am behind where I had hoped to be by this time, but I have otherwise had a productive year selling 64 nucs, about 34 queens so far, and 1800 lbs of honey. I am currently at 70 full hives and 84 nucs, with a few smaller mating nucs. Some of the nucs are so strong that they may move into full size equipment to winter. My goal is to go into winter with 70-75 hives and 70-75 nucs. I had hoped to have 3 of the yards re-queened with II queens by fall, but that may fall short to only two yards. I hope the bees will be able to take care of themselves this winter...I am about to embark on another major construction job of a

demolition and re-build of a wing at the Inn at Herrington Harbour, which will tie me up from Sept 8th through June 1st of 2016. Don't know how I'll manage to work the nucs in the early spring yet, but I suppose I will figure out a way to get it done.

It is that time of year when the mite populations peak and the bee populations start to head downward. Have you performed mite counts? Thought about a treatment plan? Now is the time to be putting it into action! Treatments, if you are planning to use them, need to be put on after honey supers are pulled and in time to control the mite counts prior to the bees laying in "winter bee" brood. Ideally, you want the queen to be able to get in two to three good healthy brood cycles without the stresses caused by Varroa mites. You need to be familiar with the treatment options available and how temperatures may affect the efficacy of the particular regimen used. It is the first of August, do not put it off until it is too late. We've talked about the thymol products, Apiguard and Apilife VAR, and the formic acid product MAQS in recent meetings, and touched on Apivar and Oxalic acid vaporization and drenches. Using queens with Varroa Sensitive Hygenic expression, brood breaks, and other IPM measures such as drone culling and screen bottom boards can all play a role in the control of Varroa mite stresses in your hives. The important thing is to be proactive in your management approach because the Varroa are most definitely present and feeding. My counts are elevated and I will begin applying treatments this afternoon. I am using Apivar; it is not sensitive to high temps, and is quick and easy to apply. I will also use oxalic acid vaporization in late November as the brood tapers off to knock down any survivors of the Apivar regimen. You can use it without harm to the brood during brooding periods, but you would need to vaporize once a week for 3 to 4 weeks in a row, because it does not kill the mites under the cappings. The once a week treatment kills the newly hatched mites off, and three to four weeks in a row will knock the tar out of 'em. It takes a little time, but cost is minimal, and it is another so-called soft treatment method. The only temperature restriction with OAV is that the temps must be above 38F inside the hive to be effective. If the bees are in tight cluster, it won't penetrate the cluster. Oxalic acid "drench" is only effective in late fall or very early spring when the hive is broodless and is a completely different method of using oxalic acid than vaporization. I use the OAV method myself, not the OAD method. God save the queen!

Bob Greenwell

Hives needed for *Tropilaelaps* mite Detection Survey

The **Apiary Inspection Office** at the **Maryland Department of Agriculture** is involved in a seasonal survey on behalf of **APHIS** (Animal and Plant Health Inspection Service of the USDA) in its role of monitoring invasive species (of a honey bee mite in this case). Beginning in late August or early September, the apiary inspection office will be conducting no-cost surveys of volunteer apiaries for the presence of the *Tropilaelaps clareae* mite, and to ascertain the presence or absence of this mite in honey bee hives in the U.S. There are 11 locations around the state that will need surveying. Each bee yard needs to have a minimum of 8 hives there all together, or if scattered a bit, within the same land - not too far from one another. One frame is removed from each hive and the larvae are examined to survey for the *Tropilaelaps* mite. Each beekeeper that takes part will receive a report on levels of *Nosema*, *Varroa* and tracheal mites for each colony, in addition to information about the presence or absence of the *Tripolaelaps* mite. More information about the *Tropilaelaps* mite can be found at www.beeinformed.org/2012/07/tropilaelaps-mite/

The Apiary Inspection Office would appreciate hearing from any beekeepers with 8 hives or more who might be willing to have their hives inspected. Interested beekeepers can contact Lindsay Barranco by email at lindsay.barranco@maryland.gov or by cell phone at 410-570-1132.

Notes From the Vice-President

Dear Members -

I hope you all have had a productive beekeeping season and are not concerned by the growth of bee beards on the front of your hives. In future inspections do not be alarmed by a reduction in brood rearing. If you planned to make splits, do not delay. The number of drones will drop sharply in the next 6-8 weeks. I have had success with open-mated queens as late as the 3rd week of August. Here are a few things to add to your beekeeping to do list:

1. Install mite board insert coated with a thin layer of Vaseline or cooking spray. Determine your treatment threshold and treat as appropriate. Remember “treat one, treat all” – this means you should treat every hive in

the apiary if you decide to treat. The number one reason for colony loss is mites. Learn from this and when in doubt, treat. I recommend “soft” chemicals such as Thymol or Formic Acid treatments. While Oxalic Acid vaporization may be a consideration, keep in mind vaporization should not be done while there is brood in the hive (winter) and many mite losses happen in September/October/November. If you plan to vaporize in the winter, I recommend you still treat in the Fall.

2. Install robbing screens if you are concerned about robbing (or reduce entrances so bees can defend a smaller space).

3. Purchase mouse guards or build your own.

4. Consider building feeding shims or quilt boxes for overwintering.

5. Record a history of your season – learning lessons, forage observations, etc. Add to this list your goals for 2016, including books to read over winter or topics to research (re: swarming, spring splits, etc.) for spring.

This has been an extremely productive season for me. With 22 overwintered colonies (14 nucs and 8 full size colonies) I was able to produce more than 20 nucleus colonies with local queens. These 20+ colonies went to new and returning beekeepers and many of those colonies have reportedly produced surplus honey. As of today, I have 35 colonies (18 full size and 17 nucs which are single and doubles, but not all have mated queens yet). I produced several mated queens to share local genetics locally as well as with beekeepers in Ohio, New Jersey, and Wisconsin. I am in the homeward stretch of my honey harvest which began with an early harvest of approximately 125 pounds of Black Locust honey in June. I also



produced cut comb honey and understand the challenges of this process! I won't be able to compete with Leigh's numbers (amazing!), but my 2015 harvest will beat previous year records. I remain the only **Certified Naturally Grown** producer inside the DC Beltway (and in the state of Maryland). I encourage all of you to consider the CNG program for your apiary if you intend to sell honey or products of the hive in the future.



The highlight of my season was visiting the White House bees for an inspection in conjunction with the inspection of three rooftop hives in the area.

Not far behind this experience was my trip to Michigan for the Heartland Apiculture Society annual conference <http://www.h>



earthlandbees.org/. I had the opportunity to share meals with **Dr. Susan Cobey, Kim Flottum** (and other Bee Culture staff) as well as **Dan O'Hanlon, Dwight Wells, Greg Hunt, Krispn Given and Joe Kovaleski** (among others). **Dr. Meghan Milbrath, Dr. Larry Connor, Dr. Susan Cobey** and others gave wonderful presentations throughout the 2½ day conference. I participated in the queen auction and purchased a queen from **Michael Palmer** and another from a Northern Michigan beekeeper. While I wanted one of the "Purdue Ankle Biters" from **Dwight Wells'** stock, I missed out on those! Additionally, I added several VSH (Harbo line) to the apiary and I'm optimistic my bees will remain gentle with these new genetics (I really enjoy working the yards in a t-shirt and veil). I always leave these conferences with a spring in my step and a motivation to try something new (and a lighter wallet thanks to the vendors). The HAS conference was no exception!

I want to thank everyone who has helped and continues to help with the Sentinel Hive inspections. I couldn't have done this without your generous donation of time. For those of you who have not yet joined us, I think you'll learn these are great opportunities to network and learn from other beeks.

I'm sorry to miss the August **BUMBA** meeting. I'll be enjoying the low humidity of the West as I visit friends and family in Colorado and Wyoming.

Peace, Love, and Bees,

Maggie

MSBA Fall Meeting, Elections and Honey Show



November ??, 9:30AM – 4:30PM

Dept of Agriculture, HQ
Annapolis, MD

www.mdbeekeepers.org

Featured Speaker: To Be Announced

MSBA's Fall meeting will feature annual **Elections and Honey Show**. The **Honey Show** features exhibit classes for hive products (honey, beeswax, candles, pollen, comb honey), crafts (photos, artwork, beekeeping gadgets, baskets and gift packages), and cooking (pies cakes, breads, cookies, sauces, etc., all using at least 50% honey sweetener). Take special note that there is a special **Children's Division** with three classes: Hive Products, Crafts and Cooking. Everything allowed in the adult classes are allowed in the Children's classes. **People, we have not had entries in the Children's Division for several years!** That means money left on the table that children could have earned, encouraging further interest in beekeeping. Check out the Honey Show rules on the MSBA web page.

DC Beekeepers' Alliance

www.dcbeekeepers.org

The **DC Beekeepers Alliance** is now holding regular meetings on the 3rd Wednesday of each month at the **Rock Creek Nature Center** of the National Park Service, 5200 Glover Road NW from 6:30 PM to 8 PM. For directions and other meeting information, visit www.dcbeekeepers.org



Montgomery County Beekeepers Association

The MCBA September meeting will feature guest speaker **Maryann Frazier**, a world renown beekeeper, researcher, Professor from **Penn State University**, and **former Maryland apiary inspector**. Her talk is titled "**Improving Your Odds; Factors Impacting Overwintering Success**". All interested beekeepers are invited, admission is free. This talk will cover experiments done to compare northern and southern queens in a Northern environment while also looking at data on package queens.

The meeting will be at the Holiday Park Senior Center, Wednesday Sept. 9 from 7 to 9 pm. The address is 3950 Ferrara Dr., Wheaton, MD

CLUB HAPPENINGS

Leader Needed for BUMBA's Outreach Program

David Morris

Two of the things that I feel make **BUMBA** a special club are the success and quality of our Beginning Beekeeping Course and our public outreach events. Our beekeeping class is well organized by **Bob Greenwell** and the **BUMBA Board** with classes conducted by many **BUMBA** volunteers.

Our outreach events present the positive image of beekeeping and honey bees that they need and deserve. The driving force behind this extremely successful publicity campaign for many years has been **Linda Thompson**. Now we need a new Outreach Program leader. It could be YOU!

The primary responsibility is to organize the **BUMBA** events calendar, identify organizers for each event and assist the organizers with getting equipment and volunteers.

If you think you could help the club with our events, either as our program leader, as an event organizer, or as a volunteer for an event near you, speak to an officer at the meeting, make a phone call, or send an email. The **BUMBA Officers** names and contact information is available on the last page of the newsletter.

8th Annual Honey Harvest Festival: 9/19

Linda Thompson, MSBA 2nd VP, Prince George's County

Save the date! This has been a fabulous event for the **Maryland State Beekeepers Association (MSBA)**. **Steve McDaniel** did a great job as our fearless leader for the past 5 years and has passed the baton to **Lindsay Barranco** for the 2015 festival. We had a great run at the **Patuxent Wildlife Visitors Center**, but this year we are returning to our first venue, **Brookside Gardens in Wheaton, MD**.

<http://www.montgomeryparks.org/brookside/>

When the event was in our backyard, **BUMBA** supplied the bulk of the volunteers and equipment. This year I expect the Montgomery County Club

to be more involved, but it does not mean that we won't support our only state association-sponsored outreach event. More information will follow as the date draws nearer.

MEMBERS' CORNER

This is *your* space for *your* story. Tell us why you started beekeeping, what you enjoy most, or least? What have you learned? What do you want to share?

The 2015 Beekeeping Year in Review

*By Leigh Walton
Walton's Honey Farm*

It's often said the next year's beekeeping successes/failures are often determined by the management practices of the previous Fall. With that in mind I thought it would be good to reflect back on this year.

I had another dismal year overwintering colonies. I lost 60% of the mature colonies (started with 24) and 80% of the nucs (started with 14). I believe my losses were caused by parasitic mite syndrome (PMS). Most of the colonies started the Winter strong, but by late Winter/early Spring the number of bees had decreased to a point where they could no longer generate enough heat to survive the extended Winter. Most/all had ample stores, I ended up with about 8 hive bodies full of stores from the dead-outs. I treated most colonies last Fall, but it was the 3rd week of September, most likely too late to have healthy overwintering bees. Also, I may have had some treatment that was past its "use by" date. In an effort to avoid the same mistake this year, I started treating all the colonies beginning the third week of July using Oxalic Acid (OA) vaporization. I really like the process as the treatment is done through the hive entrance (It's no fun opening a colony of testy bees in 90 degree temperatures). It's important to have the hive fairly air tight so the vapors stay in the hive until the OA recrystallizes. I use 1/4" thick mite monitoring boards to close off the screened bottom board and a 16" length of 3/4"x3/4" foam weather stripping to close off the front entrance. It takes about 5 minutes to treat a two deep colony. The OA vaporization kills only the phoretic mites so 3 treatment a week apart is needed. If OA is used when there is little or no brood only one treatment is necessary.

Another struggle this year was queen rearing. Last year, with **Maggie's** help and encouragement I developed some confidence in grafting. It was frustrating at first because I couldn't see the larvae. After buying a head mounted magnifier with lights, I was able to see the larvae but struggled to get them out of cell undamaged. **Maggie** had a grafting tool that was like a dental tool that she had great success with so I bought one of those. This tool helped a lot, grafting for me is still a bit rough but I think I'm getting the hang of it. My first attempt this year I grafted 24 larvae. I had no royal jelly (RJ) so I used a 50/50 mixture of yogurt and water instead. I've read on an online forum where it will work about as well as RJ, but for me it yielded only one queen. I really wanted to have some queens for overwintering nucs, so, I pulled out a commercial queen rearing system (EZ Queen) which usually produces good results. But not so this year, the cell starter didn't develop any queens from the 48 1-2 day old larvae. I tried the EZ queen system a second time, but the queen refused to lay any eggs in the queen cage. Instead, the bees filled the cells with nectar. Dumb bees! Determined to have some queens, I did another round of grafting (week of 7/19). This time I had enough RJ to graft 12 larvae. I usually like to have 24 grafts for the starter, so I grafted 12 more larvae into the yogurt mixture. I checked the cell starter after 3 days, 8 cells were started from the ones with RJ and zero from the yogurt mixture. Lesson learned, yogurt is not a good alternative for RJ. Hopefully the bees will finish off the 8 cells.

Now for some positive news. It was another banner year for honey production, despite losing so many colonies and the rainy weather in mid June and early July, this nectar season the bees produced 1,300 lbs from 11 supered colonies. That's an average of 120 lbs per colony. One of the packages I purchased to recover from the colony losses produced 80 lbs, the value of the honey produced from just this one package more than paid for the 5 packages. If I had more supers I could have gotten more honey from the packages. I did a little Googling to get an idea how much nectar the bees had to collect to produce 1,300 lbs of honey. One reference said it's a 3 to 1 ratio (I think it's higher than that), so doing the math that's nearly 2 tons of nectar from 11 colonies in about a 2 month time frame. That blows my mind!

I hope you have enjoyed your bees this year.

Demaree Follow-up

By Robert Cory

On April 11, 2015, at the **BUMBA** short course picnic and Bee demo, I Demareed a 2-story colony using the classic Demaree method. **George Demaree** (1832-1915) first described a swarming prevention method in an article in the *American Bee Journal* in 1884. The Demaree method, and several modifications, are well described in the *ABC and XYZ of bee Culture, 1934 edition* and a good description is in *The Hive and the Honey Bee Revised edition* by Grout, Roy A., published by Dadant & Sons, July 1, 1992.

Starting in late March, and at weekly intervals, tip up the top brood box of a 2-story colony. If there are queen cells under construction, even a single egg in a queen cup, then the bees are going to swarm. Take the colony apart, frame-by-frame, separating the capped brood from the young brood, eggs and larvae. When you find the queen, set her aside with the frame she is on. Now place an empty brood box on the bee stand with one frame replaced with the queen and frame she was found on. Preferably, use nine frames of drawn comb. However, if conditions are favorable for a good nectar flow, frames with foundation will work fine. Put a queen excluder over the bottom box, then frames of capped brood in the second box, and all the young eggs and brood in the third box. Seven to eight days later, go back to the top box and kill any queen cells that develop. At the same time, super up with at least four medium honey supers and keep a few extra; you might need them.

For the follow-up. The queen in the demo colony was a Carniolan going into her third year. Having been a cool spring, there were no swarm signs. In fact the colony was just starting to build up. This was a small experiment, i.e. Demaree a colony before it was about to swarm with a queen (Carniolans like to swarm) that was almost sure to swarm later in the season. By May 6th, with the help of **Dave Clark** (thanks Dave), we took apart the previously Demareed colony. The four honey supers were just getting filled with curing nectar and the bottom box was wall-to-wall with brood and lots of queen cells. Using the fume board, we drove the bees out of the second box and added that to a five-frame nuc that had been started April 4th. That colony is now a strong 2-brood box colony and is filling one honey super. The queen in the bottom box was gone and that accounted for the swarm that **Dave Clark** had caught in his swarm box the previous week.

No mistaking whose swarm. It was my black Carniolan queen still with remnants of the ink mark from **C.F. Koehnen and Sons, Inc.**, of Northern California. A single frame with a capped queen cell was placed in a 3-frame nuc box and as of May 27th had a nice dark queen mated and just starting to lay. When we did the May 6th inspection, the bees had recently begun to work in the supers One super was removed and now (May 30th) the three remaining supers are nearly filled. The third box, which was full of bees and hatching brood, was placed on top of the bottom box over the queen excluders.

To summarize: the Demareed colony now has a bottom box full of bees I assume a new laying queen by the end of May. One of the swarm cells is now heading up a new colony and I expect to harvest about 90 pounds of honey from the mother hive

BEES IN THE NEWS

The First Evidence for STDs in Honeybees

By Ross Pomeroy

www.realclearscience.com/journal_club

Contributed by Lynn Thorson

One of the most common parasites infecting honeybees is sexually-transmitted, a new study published to *Scientific Reports* finds.

Nosema is a unicellular fungus that causes nosemosis, the most widespread disease of honeybees. Diseased bees are often afflicted with dysentery, disjointed wings, and an absent sting reflex, among many other symptoms.

The most common way *Nosema* is passed is via spore-ridden fecal matter. Bees swallow the spores, which make their way to the insects' guts and germinate. But it turns out that spores can also get into the semen of male bees, and when these bees copulate with the queen, she can also become infected.

Researchers primarily based out of the University of Leeds collected sexually mature male bees from 39 colonies infested by *Nosema*. They then harvested the insects' semen (very delicately, as one would surmise) and inseminated a group of queens. One out of every five of the queens developed nosemosis.

Luckily for the colony, infected queens do not pass *Nosema* onto their young. None of the 400 eggs laid by queens in the experiment carried the parasite. However, unluckily for parasite-ridden queens, their days are usually numbered once they take on the parasite. An infected queen's ovaries quickly degenerate, severely reducing her egg-laying capacity. Sensing the queen's infertility, workers then set about rearing replacement queens. When one is ready to take the throne, workers encircle the old queen and sting her to death.

"The results provide the first quantitative evidence of a sexually transmitted disease (STD) in social insects," the researchers said of the study.

Source: Roberts, K. E. et al. The cost of promiscuity: sexual transmission of *Nosema* microsporidian parasites in polyandrous honey bees. *Sci. Rep.* 5, 10982; doi: 10.1038/srep10982 (2015)

Excerpts from "Catch the Buzz" at BeeCulture.com

The Effect of Landscape on Honey Bee Colony Productivity.

A lot of luck is location, location. Location...

Over the last few decades, a gradual departure away from traditional agricultural practices has resulted in alterations to the composition of the countryside and landscapes across Europe. In the face of such changes, monitoring the development and productivity of honey bee colonies from different sites can give valuable insight on the influence of landscape on their productivity and might point towards future directions for modernized beekeeping practices. Using data on honeybee colony weights provided by electronic scales spread across Denmark, we investigated the effect of the immediate landscape on colony productivity. In order to extract meaningful information, data manipulation was necessary prior to analysis as a result of different management regimes or scales malfunction. Once this was carried out, we were able to show that colonies situated in landscapes composed of more than 50% urban areas were significantly more productive than colonies situated in those with more than 50% agricultural areas or those in mixed areas. As well as exploring some of the potential reasons for the

observed differences, we discuss the value of weight monitoring of colonies on a large scale.

Read the rest of this paper at journals.plos.org "[Weight Watching and the Effect of Landscape on Honeybee Colony Productivity](https://journals.plos.org)"

Excerpts from "ABJ Extra" at Dadant.com

How Bees Naturally Vaccinate Their Babies

Researchers discover process bees use to protect their offspring

Arizona State University

Tempe, Ariz. -- When it comes to vaccinating their babies, bees don't have a choice -- they naturally immunize their offspring against specific diseases found in their environments. And now for the first time, scientists have discovered how they do it.

Researchers from **Arizona State University, University of Helsinki, University of Jyväskylä and Norwegian University of Life Sciences** made the discovery after studying a bee blood protein called vitellogenin. The scientists found that this protein plays a critical, but previously unknown role in providing bee babies protection against disease.

The findings appear in the journal *PLOS Pathogens*, "[Transfer of Immunity from Mother to Offspring Is Mediated via Egg-Yolk Protein Vitellogenin](https://doi.org/10.1371/journal.ppat.1004500)"

"The process by which bees transfer immunity to their babies was a big mystery until now. What we found is that it's as simple as eating," said Gro Amdam, a professor with ASU's School of Life Sciences and co-author of the paper. "Our amazing discovery was made possible because of 15 years of basic research on vitellogenin. This exemplifies how long-term investments in basic research pay off."

Co-author Dalia Freitag, a postdoctoral researcher with University of Helsinki adds: "I have been working on bee immune priming since the start of my doctoral studies. Now almost 10 years later, I feel like I've solved an important part of the puzzle. It's a wonderful and very rewarding feeling!"

How it works

In a honey bee colony, the queen rarely leaves the nest, so worker bees must bring food to her. Forager bees can pick up pathogens in the environment while gathering pollen and nectar. Back in the hive, worker bees use this same pollen to create "royal jelly" -- a food made just for the queen that incidentally contains bacteria from the outside environment.

After eating these bacteria, the pathogens are digested in the gut and transferred to the body cavity; there they are stored in the queen's 'fat body' -- an organ similar to a liver. Pieces of the bacteria are then bound to vitellogenin -- a protein -- and carried via blood to the developing eggs. Because of this, bee babies are 'vaccinated' and their immune systems better prepared to fight diseases found in their environment once they are born.

First edible vaccines for bees

While bees vaccinate their babies against some diseases, many pathogens are deadly and the insects are unable to fight them.

But now that Amdam and Freitak understand how bees vaccinate their babies, this opens the door to creating the first edible and natural vaccine for insects.

"We are patenting a way to produce a harmless vaccine, as well as how to cultivate the vaccines and introduce them to bee hives through a cocktail the bees would eat. They would then be able to stave off disease," said Freitak.

Losses of Honey Bee Colonies Over the 2014/15 Winter

Preliminary results from an international study

The honey bee research association COLOSS(1) has today announced the preliminary results of their international study of colony losses over the 2014-15 winter. Data were collected from 31 countries. Egypt, Russia and the Ukraine participated for the first time in this initiative, which is the largest and longest running international study of honey bee colony losses. In total 23,234 respondents provided overwintering mortality and other data of their colonies.

Collectively, all responding beekeepers managed 469,249 honey bee colonies. 67,914 of these colonies were dead after winter and an estimated 3

% of these colonies were lost because of unsolvable queen problems after winter. A preliminary analysis of the data shows that the mortality rate over the 2014-15 winter varied between countries, ranging from 5 % in Norway to 25 % in Austria, and there were also marked regional differences within most countries. The overall proportion of colonies lost (including colonies with unsolvable queen problems after winter) was estimated as 17.4 %, which was twice that of the previous winter.

International Data Coordinator for the COLOSS Monitoring and Diagnosis Working Group Romée van der Zee from the Dutch Centre for Bee Research says: "North European countries have traditionally had lower losses, compared to west and central European countries. This can partly be explained by the later start of the breeding season of their honey bee colonies due to low temperatures in March/April, as was the case in 2014. This later start limits the number of brood cycles of the varroa mite, one of the main parasites of honey bees. However, honey bee colony loss is a multifactorial problem. There is clearly also a variation in losses between areas, which is not dependent on the varroa mite. One of the main aims of our network is to identify and describe such areas."

Club Programs

BUMBA has initiated several programs over the years *and we are always looking for members' assistance*. For more information about a program please contact an officer.

BUMBA Extractor for members' use

BUMBA now has two honey extractors for members to use. The extractor managers are **Chuck Mewshaw** (ctmmaw@aol.com, 301-249-3229) and **Gerry Jones** (gejones486@verizon.net, 301-577-1365). Each has a complete set of equipment. The Board has established an extractor agreement, rules, and cleaning instructions. Copies are available from the managers. To reserve the equipment, call the managers, bring a \$50 refundable deposit (cash or check upon pickup), and sign the use agreement and inventory form. Please be sure to read what you are signing☺. The first 4 days are free!

Chuck and Gerry report that the extractor was been borrowed 6 times in 2014. The extractors have always been returned on time and in good shape.

To reserve your use of either of the extractors, simply email or call Chuck or Gerry!

www.BUMBAbees.com

Check out the club web site maintained by **Toni Burnham**, www.bumbabees.com. You will find meeting schedules, newsletters, information and membership application forms (payments are still by mail or at a meeting.) *We need content, pictures, ideas, suggestions and help with administration.* If you have any interesting photos to add to the photo gallery, send them with a short description or story to Toni at phang@tonitoni.org.

www.BUMBAbees.com/forums

Check out a new feature. Thanks to **Scott Seccomb** and **Toni Burnham**, we have a private web forum on the BUMBA web page for members' use.

Electronic Newsletter

As with all organizations cost cutting is always on the table. One way we reduce our expenses is by eliminating the printed newsletter mailed 6 times a year at a cost of roughly \$1 per newsletter. People who don't have email, of course, continue to receive it. If you are willing to depend on email delivery, please inform our editor, **David Morris**, via email. Help keep club \$\$'s in the bank for club activities

FREE STATE Bee Supply

Your local bee supply dealer

Free State Bees, 2420 Mill Hill Rd

Waldorf, MD 20603-3752

Phone: 301-580-9313.

Email: freestatebees@gmail.com

Call or email if you have any questions.

Please be sure to call ahead to set up a time to visit! As always, thank you for your continued support!

Dave and Laura Polk

Notice of your dues will either be on your label or in your email message

Every club needs a little money to keep it going. Although **BUMBA** is solvent, dues are needed to cover meeting room rental, speakers, refreshments and the newsletter. **BUMBA** annual dues are **\$15**. Please remember to bring your dues (**checks preferred**) to the next meeting. Consider paying for two years, as a commitment to beekeeping. Jutta loves to find checks in the mailbox, so you can mail your dues to:

Jutta Dunaway, **BUMBA** Treas., 11814 GALAXY LANE, BOWIE, MD 20715

NAME: _____

ADDRESS: _____

CITY: _____ ST _____ ZIP _____

TELEPHONE: _____ EMAIL: _____

Check if you are willing to help out with a club activity or program

Jutta will not be at the April meeting. Debbie Hayes and Linda Thompson will be accepting dues at the meeting. Please have a check, or \$15 cash.

Bowie-Upper Marlboro Beekeepers Association Officers			
Pres.	Bob Greenwell	410-867-3251	rfgreenwell@aol.com
VP	Maggie Mills	301-683-8853	maggie.m.mills@gmail.com
Treas.	Jutta Dunaway	301-464-1093	kasseljutta@aol.com
Sec'y	Debby Heyes	301-855-0071	dbheyas@comcast.net
Event Coordinator	Linda Thompson	301-352-3663	lmtpublic@comcast.net
Editor	David Morris	301-725-6185	beefriend@verizon.net
P.G. Inspector	Gregg Gochnour	301-261-8106 x5920	gregg.gochnour@maryland.gov
MSBA Pres.	Toni Burnham	202-255-4318	dcbees@dcbeekeepers.org

BUMBA Meets at – Watkins Park Nature Center

BUMBA annual dues are \$15. Our regular meetings are held on the 1st Thursday of the even months at the **Watkins Park Nature Center, 301 Watkins Park Drive in Largo**. From Route 301 or I-495 take Central Ave. (Rte 214) to the intersection with Enterprise Rd. (Rte 193). Turn south onto Watkins Park Dr. and go ½ mile to the park. Follow the road all the way to the back to the Nature Center. We thank the Nature Center Staff for their assistance.

For information about the Nature Center, please call **301-218-6702**

Club Calendar

Put these dates on your **2015 BUMBA** Calendar:

- June 4, 7:30-10, BUMBA Mtg
- June 13, MSBA Summer Mtg
- August 6, 7:30-10, BUMBA Mtg
- August 10-14, EAS Conference
- September 19, MSBA Honey Festival
- October 1, 7:30-10, BUMBA Mtg
- November ??, MSBA Fall Mtg
- December 3, 7:30-10, BUMBA Mtg

David Morris, BUMBA Editor
9309 Montpelier Drive
Laurel, MD 20708-2553