



NEWSLETTER

Bowie-Upper Marlboro Beekeepers Association

February 2014

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www.BUMBAbees.com <http://pets.groups.yahoo.com/group/BUMBABEE/>

MEETINGS

Next BUMBA Meeting

Honey Bee Economics

Thursday, February 6, 6:00 PM!

Watkins Park Nature Center

Our next meeting is February 6, 7:30 PM at the Watkins Park Nature Center. Our guest speaker will be Greg Ferris, of Indian Head, MD. Mr. Ferris is a very experienced beekeeper and an excellent speaker. You definitely will learn more than a thing or two that you did not know before.

After Mr. Ferris' presentation there will be general discussion of club business, include the annual budget and short course. /the remainder of the meeting will be open to questions and discussions of honey bee management for the current season.

The President's Smoker

Happy New Year to everyone!

I am very happy so far with the wintering status of my colonies this year. Last year by the end of November I had suffered a 70% loss of hives, and an additional 20% loss by February first. I am writing this in the latter half of January 2014, and as of yesterday I have not had any losses. In fact some nucs that I didn't even count in my "going into winter count" are still living too. I am hearing mixed reports from

others, but overall, this year seems like it is going to be an improvement over last winter for survival of the bees. I have some hives that are smaller in cluster size than I would like, and some that are in danger of starving.

The ones that are low on stores I am dealing with by placing candy boards on top of the cluster. I detailed my candy making procedures in this column several years ago, and I believe it got archived on the Yahoo file page along with Scott Seccomb's method. I am going to summarize and revise it here, once again by request, since I've changed things a bit and am using candy boards this year.



I use a 30qt stainless turkey fryer pot outdoors on a propane burner. In the pot I bring **2-1/2 Qts. of water and 2**

Tbs. of vinegar to a boil, then dump in 25 lbs of cane sugar, and stir it with a cordless drill and a paint mixer until it dissolves. I cover the pot and bring it back to a boil. When it is boiling, I uncover the pot so the water content can boil off. When the syrup begins to boil hard it will be at about **220F** and has to be boiled until enough water has evaporated to bring the temperature up to between **235F** and **240F**, but don't let it get any hotter than **240F** or the candy will be harder than you want it to be. Use a good quality glass type candy thermometer and keep checking the temperature, then cut the heat back and hold it at about **238F for 10-15 mins**. You may have to adjust the temperature, but don't let it get

time to cool down enough to pour it, but don't forget to keep tabs on it. When it reaches a temperature between 200F – 185F, I add a cup and a half of pollen substitute, and immediately stir it in thoroughly with the drill/mixer, and then immediately pour it into the candy boards that are ready and waiting with the vent holes plugged temporarily with quart size mason jars sprayed with PAM.



any hotter than 240F.

This holding at temperature is what causes the acid inversion of the sugar and makes it easier for the bees to digest. They can invert it in their stomach themselves, but it saves them energy if it is fully or even partially converted for them. I use the vinegar as an acid inverter and avoid the cream of tartar called for in some of the other recipes floating around.

When the time has passed, I remove the pot from the burner and let it cool down to under 200F. I wear protective gloves and clothing when I do this by the way. This syrup is very hot and could cause some nasty burns. It can take a long

The addition of the pollen sub, blending, and pouring has to be almost one continuous and very quick motion or the candy will harden on you in the pot, and it is like trying to break up cement to get it out. How do I know, you ask? Don't ask. I have managed to get this down to a science after much trial and error. There are other methods that work very well, especially for "in the kitchen", stove top production and for smaller number of hives. In my case, I work outside when it is too cold for the bees to be flying, and I want a candy board that I can haul 15 miles to an outyard, place it on a hive and forget about it for the rest of the winter. Here are some photos of the candy boards that are made like joining a shim and an inner cover. After the candy is used up and things warm up a bit, I can flip it over and use it as a baggy feeder.

Twist the mason jar a bit and remove it as soon as the candy is good and firm but still pretty warm. I spent an entire Saturday making 325 lbs. of sugar into candy boards in 5, 8,

and 10 frame sizes. Pretty grueling work, but when we had these couple of warm days following last week's polar vortex, I checked all 63 hives, and placed candy boards on 12 hives and 11 nucs. It was not at all grueling to peek in, hive after hive, and find each and every one alive with bees. Granted



some were pretty small clusters and some were up at the top, but all were alive!

If you want to make fondant in smaller batches, with or without pollen sub, the formula is 5 parts sugar to one part water, and ¼ tsp of white or cider vinegar per pound of sugar. Just pour it out thin on waxed paper or foil lined, raised sided cookie pans and let it cool. Then break or cut it into small pieces that you can place on the top bars directly on top of the cluster. You want it to be thin, about ¼" thick to do it this way.

I have a system down where I am utilizing two pots, and always have one batch cooking and one batch cooling when I get cranked up to make fondant, by carefully pouring the hot syrup into a shorter pot to cool. Mixing in the sub and pouring the 30 lbs. of fondant out quickly before it hardens, is easier in the shorter pot. If you make candy boards like I did, the hole saw size for the mason jar lid/feeder is 2-7/8"

diameter. (a hard one to find) I may change to a hole size that I can use a PVC pipe fitting as a plug.

Here is what the finished candy boards look like when cooled and ready to go on a hive.



It is nearly time for the 2014 short course to begin, and registrations seem like they are flying in. I look forward to helping get these newbees started, and I am feeling good about this coming year for beekeeping. Hopefully bees will be readily available with timely arrival dates this year, the nectar and pollen will flow, and we will all be happy bees and keepers. Look forward to seeing you all at the February 6th general meeting. Greg Ferris will be speaking to us on bee economics, and I am sure it will be an interesting meeting you won't want to miss.

I hope to see you all Thursday night. God save the Queen!

Bob Greenwell

MSBA Winter Meeting

February 15, 9:30AM – 4:30PM

Howard County Fair Grounds

West Friendship, MD

www.mdbeekeepers.org

Featured Speaker: Gary Rueter, Univ. of Minn.

Gary Rueter is a long-time beekeeper and an assistant to Dr. Marla Spivk at the Univ. of Minnesota. He teaches beekeeping and extension courses, is the past president of both the Minnesota Hobby Beekeepers Assoc. and the Wisconsin Honey Producers Assoc., is a Director of the American Beekeepers Federation, as well as doing some blacksmithing on the side. He will provide interesting and informative talks on hygienic bees and beekeeping education.

The Maryland State Beekeepers Association holds their Winter meeting at the Howard County Fair Grounds, in West Friendship, MD. The Fair Grounds are on Rt. 144, west of the intersection of I-70 and Rt. 32.

CLUB HAPPENINGS

2014 BUMBA Spring Course

There are still spaces available in our Spring Course. Registration is still open and available on the **BUMBA** web page www.BUMBAbees.com. Classes begin Feb. 20, and continue on **Feb. 27, Mar. 6, 13, 20 and 27**. The **Field Day is Saturday, April 5**. The class fee is \$40 for the first family member and \$25 for each additional family member. Help spread the word.

Field Day Lunch Plans, April 5

Scott Seccomb has graciously allowed us the use of his apiary for our annual Field Day. We can't promise that the weather will be fabulous and the swarms plentiful; but, with the weather's cooperation we should have a wonderful time once again. We have tentatively planned on having a catered lunch again (the feedback was great on the delicious BBQ). Expect the cost to be **\$10-15 per adult**; an advance count will be needed. Of course, anyone wishing to bring our own lunch may certainly do so.

2014 Schedule of Outreach Events

Linda Thompson, Outreach Coordinator
lmtpublic@comcast.net, 301-352-3663 (h), 301-943-4368 (c)

BUMBA is committed to attend a number of exciting public events this year. As always, we will need your help to make our participation successful. The bees need your help, too. A big part of our **BUMBA** mission is to share with the public why we love beekeeping; why bees are in decline; why that is a threat to our food supply; and, what non-beekeepers can do to help. We can teach children about bees and adults that they *can* live with their neighbor's bees. In addition, these events give us a forum for selling your products, recruiting new beekeepers, and promoting club membership.

Please sign up, pick a date and time, put it on your calendar, and come join the fun! You will meet some interesting people, share what you know, learn something new, and be amazed at what you do know. Our **TENTATIVE** events are:

- March?? **Behnke Nursery Spring Open House**: 11300 Baltimore Avenue Beltsville, 10AM - 4PM
- April 12 **4th Annual Bowie Green Expo**; Kenhill Center, 2614 Kenhill Drive, Bowie. 1 - 4PM, Saturday
- April 26 **Maryland Day** - University of Maryland, □ College Park, Regents & Farm Drives, 10AM - 4PM

May?? **Spring Farm Festival;** “A day in the country for the entire family. Come enjoy the view, the natural areas, and the lively barnyard that is a “living laboratory”. Hard Bargain Farm, Accokeek

April 4 **Bostwick Heritage Festival;** Bostwick House, 48th Street, Bladensburg, 1 - 4PM, Sunday. *Take a step back in time to the eve of the War of 1814* battleofbladensburg1812.com/?page_id=280

April 17 **A-MAY-zing Animal Festival;** Bladensburg Waterfront Park, 4601 Annapolis Rd, Bladensburg, noon - 4PM, Saturday “A free, fun, family event featuring live birds of prey, exotic reptiles, farm animals, ponies, a puppet show, arts and crafts, food vendors, and more!”

June 21 **Croom Farmers Market;** Saint Thomas' Episcopal Church, 14300 St. Thomas Church Rd., Upper Marlboro, 8:00AM – noon, “Our Local Bounty celebrates Pollinator Week! Upper Marlboro's only farmers market features fresh products, including locally-grown, seasonal vegetables and fruit”

Sept 20 **Maryland Honey Harvest Festival;** National Wildlife Visitor Center, Patuxent Research Refuge, (Powder Mill Rd) 10901 Scarlet Tanager Loop, Laurel, 9:00AM – 3:30PM, Saturday “Discover the busy world of bees and other pollinators while enjoying arts and crafts, honey tasting, candle-making and honey-bottling demonstrations, refuge habitat tram tours (\$), and more!”

Nov 8 **Trash To Treasure Green Craft Fair;** Watkins Nature Center, Watkins Regional Park, 10AM - 4PM, “Go green with your holiday shopping”

Potential 2014 Outreach Events

BUMBA has also been invited to participate in the following events. All we need to make them happen is volunteers!

9th Annual Nature Fair, Clearwater Nature Center, Sat Apr 26, 11 - 4, Clinton (same day as Maryland Day)

6th Annual Calvert Green Expo and Green Maker's Market, Sat May 3, 10 - 4, Annemarie Sculpture Garden & Arts Center, Solomons, calvertgreenexpo.org

Mt. Rainier Nature and Recreation Center:

- o Sat March 22, 11-12:30, Pollinator Workshop (learn about bees and pollinators, their importance, and how to promote them in their yard/garden and community)

- o Sat Apr 19, Spring Greening event (workshops and demos about rain barrels, composting, gardening, bees/pollinators, and other eco-living options)
- o Sat May 24, 11 - 12:30, Pollinator Workshop

MEMBER'S CORNER

BEES IN THE NEWS

'Zombie Bees Identified in VT., 1st in Eastern US

by Beth Garbitelli,
Associated Press, Jan 28, 6:43 PM EST

ESSEX JUNCTION, Vt. (AP) -- Vermont beekeepers face mite infestations, extreme temperature swings and the possibility of colony collapse. Last fall, a new threat emerged: zombie bees.

Beekeeper Anthony Cantrell of Burlington discovered zombie bees in his hive in October, the first time they'd been found in the eastern United States.

John Hafernik, a professor from San Francisco State University, discovered the first zombie bees in 2008. A fly called *Apocephalus borealis* attaches itself to the bee and injects its eggs, which grow inside the bee, Hafernik said. Scientists believe it causes neurological damage resulting in erratic, jerky movement and night activity, "like a zombie," Hafernik said by phone Tuesday.

University of Illinois entomologist May Berenbaum, a top bee expert, agreed.

"It is seemingly kind of Biblical here," she said. "We're getting every conceivable kind of plague."

Given the way bee populations have become so homogenized and how they are shipped cross country to aid in pollinating, the first Eastern infection of the zombie fly makes sense, Berenbaum said.

"It's not surprising; it's certainly not good news,"

Berenbaum said. "There are so many pathogens and parasites that we're aware of that are afflicting bees."

New research by the U.S. Department of Agriculture released this month showed that a plant virus - tobacco ringspot virus - is now infecting commercial honeybees, Berenbaum said.

Read the full article at:

http://hosted.ap.org/dynamic/stories/U/US_ZOMBIE_BEES?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT&CTIME=2014-01-28-18-43-37

Excerpts from "Catch the Buzz" at BeeCulture.com

Miticides, Ag Chems and Inert Ingredients A Deadly Mix In A Beehive.

Alan Harman

Disturbing new research finds four pesticides commonly used to kill mites, insects and fungi – fluvalinate, coumaphos, chlorothalonil and chlorpyrifos – are also killing honey bee larvae within their hives.

A team from Penn State and University of Florida also found that N-methyl-2-pyrrolidone (NMP) – an inert, or inactive, chemical commonly used as a pesticide additive -- is highly toxic to honey bee larvae.

"We found that four of the pesticides most commonly found in beehives kill bee larvae," says Penn State's Jim Frazier. "We also found that the negative effects of these pesticides are sometimes greater when the pesticides occur in combinations within the hive.

"Since pesticide safety is judged almost entirely on adult honey bee sensitivity to individual pesticides and also does not consider mixtures of pesticides, the risk assessment process that the Environmental Protection Agency uses should be changed."

The research was funded by the National Honey Board, the U.S. Department of Agriculture-National Institute of Food and Agriculture-Agriculture and Food Research Initiative-

Coordinated Agricultural Projects and the Foundational Award programs. Frazier says the team's previous research demonstrated that forager bees bring back to the hive an average of six different pesticides on the pollen they collect. Nurse bees use this pollen to make beebread, which they then feed to honey bee larvae.

To examine the effects of four common pesticides – fluvalinate, coumaphos, chlorothalonil and chlorpyrifos – on bee larvae, the researchers reared honey bee larvae in their laboratory. They then applied the pesticides alone and in all combinations to the beebread to determine whether these insecticides and fungicides act alone or in concert to create a toxic environment for honey bee growth and development.

"We found that mixtures of pesticides can have greater consequences for larval toxicity than one would expect from individual pesticides," Frazier says.

Penn State professor of entomology Chris Mullin says the pesticides may directly poison honey bee larvae or they may indirectly kill them by disrupting the beneficial fungi that are essential for nurse bees to process pollen into beebread.

The researchers note that fluvalinate and coumaphos are commonly used by beekeepers in their hives to control Varroa mites, and are found to persist within beehives for about five years if not removed by beekeepers.

"This is the first study to report serious toxic effects on developing honey bee larvae of dietary pesticides at concentrations that currently occur in hives."

The team also found that increasing amounts of NMP corresponded to increased larval mortality, even at the lowest concentration tested.

"There is a growing body of research that has reported a wide range of adverse effects of inactive ingredients to human health, including enhancing pesticide toxicities across the nervous, cardiovascular, respiratory and hormone systems," Mullin says.

"The bulk of synthetic organic chemicals used and released into U.S. environments are formulation ingredients like NMP, which are generally recognized as safe. They have no mandated limits on their use and their residues remain

unmonitored.

Read the full article at:
<http://home.ezezine.com/1636/1636-2014.01.28.08.18.archive.html>

Monarch Numbers Stunningly Low. Habitat loss, Climate change and Pesticides Contribute.

WWF-Mexico hosted a press conference this morning to release the status of the 2013-2014 monarch overwintering population measured in central Mexico. The news, while somewhat expected, was hard for monarch researchers, conservationists, and enthusiasts to hear. After reaching an all-time low during the winter of 2012-2013 (occupying 1.19 hectares), this year the area occupied by monarchs is a meager 0.67 hectares. Down from a high of 20.97 in 1996 – 97). Only 7 sanctuaries in Mexico had butterflies this December, with the largest, El Rosario, containing the majority of the population.

Dr. Karen Oberhauser from the University of Minnesota addressed the United States perspective on monarch conservation during the press conference. She discussed the need for trilateral cooperation between Mexico, Canada, and the United States to ensure that there is 1) sufficient high quality habitat on monarchs' wintering grounds; and 2) sufficient breeding and migratory habitat in all three countries.

Habitat protection for monarchs in the U.S. is of extreme importance in the upcoming breeding season. Habitat protection in monarch wintering sites alone cannot protect the spectacular North American monarch migration from intensifying human pressures. Read more about major threats to monarchs in the U.S. at <http://monarchjointventure.org/threats/>. While the largest threat to breeding and migratory monarchs in the U.S. is habitat loss, it will be increasingly important to address all threats to monarchs in the face of low population numbers.

We have set a solid groundwork for monarch conservation that will now require the engagement of many players throughout the monarch's range. This groundwork involves three strategies to address monarch habitat needs: 1) habitat restoration and enhancement; 2) increasing milkweed

availability for habitat enhancement on public and private lands; and 3) providing tools and guidelines to inform monarch conservation efforts.

[Support the Monarch Joint Venture](#), visit the web page and see what's up.

Read the full article at:
<http://home.ezezine.com/1636/1636-2014.01.29.15.55.archive.html>

Excerpts from "ABJ Extra" at Dadant.com

Single Gene Separates Queen from Workers

EAST LANSING, Mich. -- Scientists have identified how a single gene in honey bees separates the queens from the workers.

A team of scientists from Michigan State University and Wayne State University unraveled the gene's inner workings and published the results in the current issue of *Biology Letters*. The gene, which is responsible for leg and wing development, plays a crucial role in the evolution of bees' ability to carry pollen.

The gene in question is *Ultrabithorax*, or *Ubx*. Specifically, the gene allows workers to develop a smooth spot on their hind legs that hosts their pollen baskets. On another part of their legs, the gene promotes the formation of 11 neatly spaced bristles, a section known as the "pollen comb."

"The pollen baskets are much less elaborate or completely absent in bees that are less socially complex," Huang said. "We conclude that the evolution of pollen baskets is a major innovation among social insects and is tied directly to more-complex social behaviors."

Read the full article at:
<http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=a7a133bb80&e=555f2d5d58>

Pathogenic Plant Virus Jumps to Honey Bees

A viral pathogen that typically infects plants has been found in honey bees and could help explain their decline. Researchers working in the U.S. and Beijing, China report their findings in *mBio*, the online open-access journal of the

American Society for Microbiology.

The routine screening of bees for frequent and rare viruses "resulted in the serendipitous detection of Tobacco Ringspot Virus, or TRSV, and prompted an investigation into whether this plant-infecting virus could also cause systemic infection in the bees," says Yan Ping Chen from the U.S. Department of Agriculture's Agricultural Research Service (ARS) laboratory in Beltsville, Maryland, an author on the study.

"The results of our study provide the first evidence that honeybees exposed to virus-contaminated pollen can also be infected and that the infection becomes widespread in their bodies," says lead author Ji Lian Li, at the Chinese Academy of Agricultural Science in Beijing.

Toxic viral cocktails appear to have a strong link with honey bee Colony Collapse Disorder (CCD), a mysterious malady that abruptly wiped out entire hives across the United States and was first reported in 2006. Israel Acute Paralysis Virus (IAPV), Acute Bee Paralysis Virus (ABPV), Chronic Paralysis Virus (CPV), Kashmir Bee Virus (KBV), Deformed Wing Bee Virus (DWV), Black Queen Cell Virus (BQCV) and Sacbrood Virus (SBV) are other known causes of honeybee viral disease.

"The increasing prevalence of TRSV in conjunction with other bee viruses is associated with a gradual decline of host populations and supports the view that viral infections have a significant negative impact on colony survival," these researchers conclude. Thus, they call for increased surveillance of potential host-jumping events as an integrated part of insect pollinator management programs.

Read the full article at:

<http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=0fd7a3a35e&e=555fd5d58>

Molecular evolution of genetic switch in honey bees

5 amino acid differences separate males from females

It's taken nearly 200 years, but scientists in Arizona and

Europe have teased out how the molecular switch for sex gradually and adaptively evolved in the honeybee.

The first genetic mechanism for sex determination was proposed in the mid-1800s by a Silesian monk named Johann Dzierson, according to the study's co-author and Arizona State University Provost Robert E. Page Jr. Dzierson was trying to understand how males and females were produced in honey bee colonies. He knew that the difference between queen and worker bees – both females – emerged from the different quality and quantity of food. But, what about the males, he asked.

Dzierson posited that males were haploid – possessing one set of chromosomes, which was confirmed in the 1900s with the advent of the microscope. Under the magnifying lens, researchers could see that eggs that gave rise to drones were not penetrated by sperm. However, how this system of haplodiploid sex determination ultimately evolved at a molecular level has remained one of the most important questions in developmental genetics.

In the December issue of *Current Biology*, Page and Martin Beye, lead author and professor with the Institute of Evolutionary Genetics in the University of Duesseldorf, Germany, and their collaborators laid out the final pieces of how these systems evolved in their article "Gradual molecular evolution of a sex determination switch in honeybees through incomplete penetrance of femaleness."

"We discovered that different amounts of arginine, serine and proline affect protein binding sites on the *csd* gene, which in turn lead to different conformational states, which then lead to functional changes in the bees—the switch that determines the shift from female to not female," said Page.

Provost Page is the Foundation Chair of Life Sciences at ASU, a professor in the School of Life Sciences and the author of "The Spirit of the Hive: The mechanism of social evolution" published by Harvard University Press in 2013.

Read the full article at:

<http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=76c13cbb8b&e=555f2d5d58>

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 agreement, rules, and cleaning instructions have been completed and uploaded to the Yahoo BUMBA page files section. Click on this [Link](#) to view the Extractor Agreement. 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. Call to reserve, bring a \$50 refundable deposit (cash or check), sign the use agreement and inventory form. Please be sure to read what you are signing☺. The first 4 days are free!

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 Secomb 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** has raised its annual dues to **\$15**. So we hope you'll remember to bring your cash or check to the next meeting. Jutta loves to find checks in the mailbox. Send your dues check to:

Mail \$15 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

BUMBA Meeting Location – 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**

Put these dates on your **2014 BUMBA** Calendar:

December 5, 6:00 PM, Holiday Party
2014

Feb 6, BUMBA Mtg, 7:30 PM

Feb 15, **MSBA** Winter Mtg, 9:30 AM

Feb 20, 27 BUMBA Bee Class, 7 PM

March 6, 13, 20, 27 BUMBA Bee Class 7 PM

April 3, BUMBA Mtg, 7:30 PM

April 5, Field Day

June 5, BUMBA Mtg, 7:30 PM

July 28-Aug 1, EAS Mtg, Richmond, KY

August 7, BUMBA Mtg, 7:30 PM

October 2, BUMBA Mtg, 7:30 PM

December 4, 6:00 PM, Holiday Party

Bowie-Upper Marlboro Beekeepers Association Officers

Pres.	Bob Greenwell	410-867-3251	rfgreenwell@aol.com
VP	Leigh Walton	301-577-3088	leiwal@verizon.net
Treas.	Jutta Dunaway	301-464-1093	davejutta@aol.com
Sec'y	Debby Heyes	301-855-0071	dbheyes@comcast.net
Event Coordinator	Linda Thompson	301-352-3663	lmtpublic@comcast.net
Editor	David Morris	301-725-6185	beefriend@verizon.net
Inspector	Jerry Fischer	301-261-8106 ext. 5920	fischeje@mda.state.md.us
MSBA Pres.	Wayne Esaias	301-854-3180 (H)	wesaias@verizon.net

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

