CMBA PICNIC ON JULY 13
AT 6 P.M. AT Oregon Ridge Park

Please mark your calendars now for the annual CMBA picnic on Tuesday evening, July 13 at **Oregon Ridge Park**. Families are invited! Each family should bring a pot luck dish and CMBA will provide hot dogs, hamburgers, drinks, plates, cups and utensils.

We are going to try something new this year for the pot luck portion of the meal"

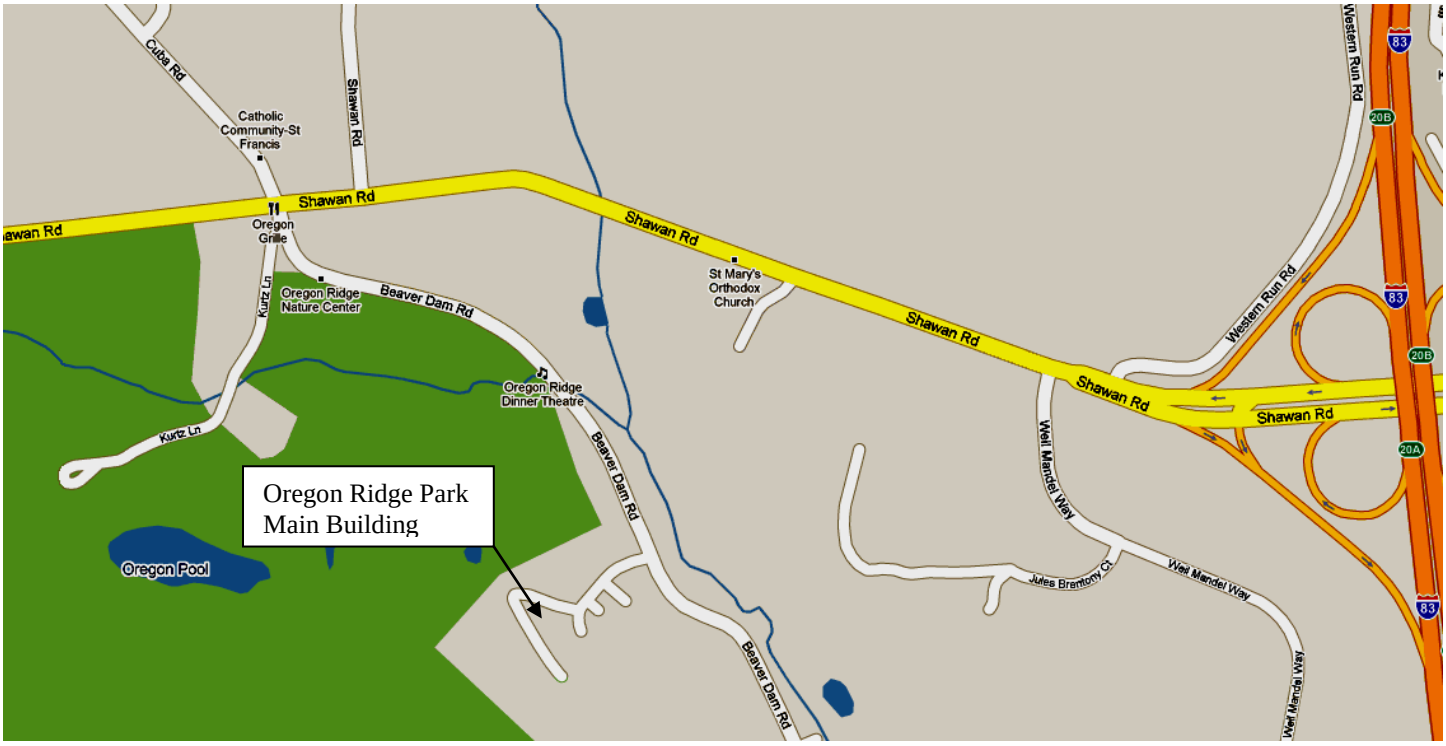
- **If your last name starts with A through O please bring a salad or side dish.**
- **If your last name starts with P through Z please bring a desert.**

Also note the location of the picnic has been changed to "The Pavilion" at Oregon Ridge Park.

The Pavilion is located to the right and behind the main building at Oregon Ridge Park. The Pavilion is a covered concrete pad with picnic tables, grills and a large open grassy area for games and there is plenty of room for kids to run and play.

There will be **no meeting** on the first Tuesday of the month, **July 6 at 7:30 p.m**.

Directions to Oregon Ridge Park:



THE HIVE TOOL

Volume XXXVI July 2010

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THE CENTRAL MARYLAND
BEEKEEPERS ASSOCIATION
FOUNDED 1973**

JUNE 1 2010 CMBA MEETING: NATIVE POLLINATORS TALK

BY HEATHER HARMON

notes by Barbara Gruver

Heather Harmon, who works for the Delaware Department of Agriculture as an entomologist, gave a fascinating introduction to some of the native pollinating bees that are useful in agriculture in our area. Her photos compared mounted honeybees with other specific native bees so we beekeepers could see the differences and similarities.

Her project has been funded by a grant from SARE. The purpose of her work is to catalog the native pollinating bees to learn what they do. She pointed out that June 21-17 is National Pollinator Week, and any group that has a project to benefit pollinators can advertise their project at the website: www.pollinator.org Another useful website is www.xerces.org There is a website about managed native bees at www.entomology.montana.edu

There are about 4,000 native bee species in North America, about 200 in Delaware and 450 in Virginia. Most native bees are solitary, except bumble bees which start new colonies each spring. For all the native bees, the life cycle consists of an adult who collects pollen, lays an egg on the pollen, the larva hatches, some pupae overwinter in the ground or in blocks of wood or other insulating material, and the cycle starts over the next year.

The bumble bee species "Bombus impatiens" is one of our eastern species, and is available commercially; however, it can not be shipped to the west coast, which has their own species. Bumble bees nest in grassy thatch and their reproductives are laid in July.

The alfalfa leaf cutter bee is Megachile rotundata; the native Blue orchard bee is Osmia lignaria. 70% of native bees are ground nesters, and 30% are cavity nesters. If you provide a block of wood with different size holes from 3/32 to 3/8" in size, and from 3" to 6" deep, you will attract different species that need different size cavities. Only the Carpenter bee can provide its own cavity. Other cavity dwelling bees use pithy stems or dead wood with beetle holes.

Native bees have legs and bodies with branched hairs for collecting pollen. Unlike honeybees they have no recruitment dances to attract large numbers of foragers to come to good sources. Some bumble bees use buzz pollination. They vibrate their flight muscles to force the pollen out of flowers. The pollen falls on their bodies and legs, and they don't use the packing technique like honeybees do. Native pollinators have varying sizes of tongue length to make them suitable for pollinating specific flowers. A study in Virginia has shown that when native bees and honeybees are pollinating sunflowers together, the number and weight of seeds produced is increased. When bees bump into each other, this causes more disbursement and therefore higher pollination.

Ms. Harmon showed us how she collects specimens of native bees in the agricultural fields. She uses cups of soapy water with painted cups to imitate the nectar guides of flowers. She also nets specific blooms. The bees she collects are rinsed and blow dried in order to make it easier for her to identify them. There is a website: www.discoverlife.org that documents the specific bees she is collecting. This website is maintained by Sam Droege of the U.S. Geological Survey. In 3 years she has collected 7500 bees representing 95 different species including 17 state records of specific native bees never before recorded in Delaware. 56% of the bees are Halictidae, 42% are Apidae with 2% Megachilidae and others. She showed us a chart which indicated which species of bees are active in specific months.

For watermelons and pumpkins she has found there are twice as many native bees doing the pollination as honeybees, whereas in cucumbers there are many more honeybees than native bees. Male bumble bees are about the size of honeybees, whereas female bumble bees are 3 times as large. Bumble bees are so hairy they disperse large amounts of pollen. They will forage up to about 1 mile in diameter, and when they disperse for reproduction, they will go as far as 3 miles. The www.discoverlife.org website includes a map of the bumble bee locations charted by researchers such as Heather Harmon and Sam Droege.

The sweat bee Agapostemon, a Halictid, is a ground nester. Sometimes we see them on our arms as they are licking water and salt. Agapostemon females are green and blue; the male is green with a black and yellow abdomen.

Do native bees sting? All the female bees have stingers, whereas the males do not. But native bees are normally docile and do not sing lightly, because they know if they lose their life, it can be the end of their reproductive line. The "overnighters" in flowers are usually males.

The squash bee, Peponapis pruinosa is a specialist and only collects squash pollen. They are active a half hour before dawn and they nest under the specific plants. Naturally, no-till fields of pumpkins will have more squash bees than tilled fields. They can live under black plastic. If

chemicals are sprayed after 4 p.m., they are not as damaging to pollinators.

Digger bees are very prolific in agricultural fields. We saw a photo of a black bee with white scopal hairs, Melissodes bimaculata. They come out of the ground on July 4th! They are solitary, but can nest in aggregations.

What can we each do to help native pollinators? 1. Preserve, 2. Protect, 3. Provide habitat.

Identify existing habitat areas such as woodlots, undisturbed wild land, hedgerows, and areas with plants having hollow reeds, and preserve these. Protect by spraying after 4 p.m. and by using less toxic sprays. Provide habitat and forage areas by leaving bare areas, and by planting local native plants for continuous bloom. Some plant choices are milkweed, partridge pea, Joe Pye weed, and boneset. Ms. Harmon showed us the beautiful transformation that happened when her staff planted a small area outside their office and it is now an official monarch way station, as well as nourishing a variety of native bees.

Ms. Harmon distributed 3 booklets: Farm Management for Native Bees, A Guide for Delaware, Delaware Native Plants for Native Bees, and Conserving Native Pollinators. Heather's email address is heather.harmon@state.de.us

SUMMER BEE FORAGE

Photo by Arthur Gruver; article by Barbara Gruver

At the June CMBA meeting it was good to hear how many members are looking for honeybees on various plants. I asked if anyone knew of some blooming basswood (linden) trees with honeybees on them. Dave Robinson called and emailed us a few days later telling us of some large Little Leaf Lindens in full bloom in the Hunt Valley area. On Friday, June 4, Arthur and I drove to the designated area and had fun taking photos. An elderly woman from Eastern Europe talked to us in a Slavic language and gestured to the trees. Although we didn't understand her words, we knew she was saying that these beautiful aromatic trees full of humming bees reminded her of her home country far away. We smiled and told her we thought the trees were wonderful also.

For many Maryland beekeepers, the main nectar flow takes place in May with black locust and tulip poplar trees, but these two sources are highly variable by location, largely because of different timings and different weather. It is good to be observant and notice what other sources of nectar are available for our honeybees. What can be expected to be good sources in July and August? Golden rain trees started blooming in June and in some areas are continuing into June. Beebee trees are getting ready to bloom now. The largest Beebee tree I have ever seen is just north of Jacksonville on the west side of Route 146, Jarrettsville Pike. Another interesting Beebee tree is the one in a small park at the corner of Charles Street and University Parkway in Baltimore.

Crape myrtles are starting to bloom in various shades of white, lavender, pink and red and a tree-sized crape myrtle provides much nectar for honeybees. Canada thistle, milkweed, sweet clover and intermediate dogbane are in fields and provide summer nectar for all pollinators. Smooth sumac, staghorn sumac and shiny sumac all provide roadside nectar for honeybees. Encourage Dutch clover, a good basic nectar source, to take over your lawns! Mountain mint is outstanding for creating a "pollinator zoo" with honey bees, bumble bees, wasps and native bees all working side by side. Sunflowers, zinnias, cosmos, and coreopsis, and the flowers of most herbs in large numbers can provide summer nectar for your bees. So, have fun looking where your bees are working, and send us photos of what you see to us at abgruver@verizon.net.

Queenless or Queenright?

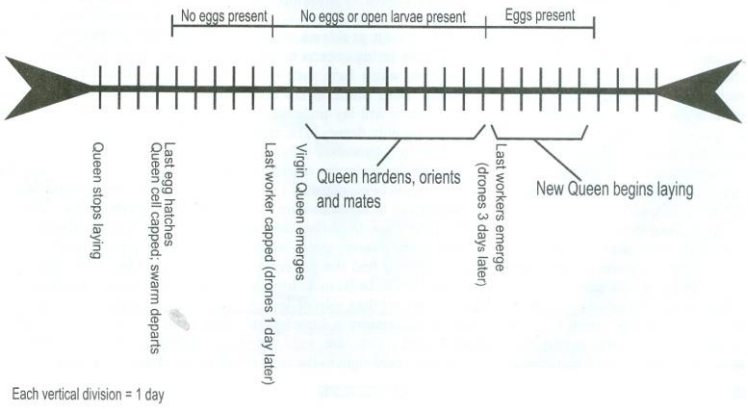
By Jim Agsten

Reprinted from Bee Culture May 2010

It has happened to me. A mid to late Spring hive inspection shows a decent number of bees, some capped brood. But, wait a minute! I can't find any eggs or open brood anywhere! Oh no, queenless! Panic strikes! Gotta get a queen quick! The Spring flow is on! I call every queen producer I can find. "Sorry, we are sold out"; or if you find one, its not be available until next week or shipping it quick costs more than the queen and no, it's not insured. Let's step back a minute and take a measured look at our "queenless" hive and see what we can see. It just might save you some money.

We already know what we think we see when there is no sign of eggs, no young larvae, possibly some

capped worker and drone brood. But what does this really mean? Does it mean the hive is queenless? Not necessarily, and more often than not, no. The bees have been rearing and replacing queens far longer than we have and in general, they do a pretty good job. Analyzing this situation takes you back to bee school and the basic foundations of bee culture. Eggs are laid. Three and half days later, they hatch. The young larvae develop as open brood for approximately six more days until capped, a bit more for drones. From what we have observed: no eggs, no open brood, we can only assume that we have not had a laying queen for at least nine or 10 days.



Now let's review the actions of the queen bee after her emergence from the queen cell. She spends three or four days running about the combs as a virgin while she finishes developing or "hardening off', then another three to seven days for orientation and mating flights. Finally, about 10 - 14 days after her emergence, she is mated and begins to lay. Now let's look at the numbers and the conditions that might bring about this "queenless" situation.

I think this happens most often after a swarm. Of course no hive in its right mind would swarm without first informing the beekeeper! In a swarm situation there are many queen cells produced and most of what I have gleaned from texts indicate swarms generally issue when at least some of the replacement queen cells are capped. Prior to the swarm, the bees have been chasing the queen to trim her down to flying weight. In other words, she is prevented from laying for a period of time.

So let's create a hypothetical situation and see what goes on, and when. In this example, we will say the original queen stopped laying three days before the issuance of the swarm and the swarm leaves "on schedule" with the capping of a queen cell. Queen cells are capped approximately 8½ days after egg lay and continue to develop another seven to eight days before the virgin queen emerges. That gives us 10 or 11 days with no new eggs laid (three before the queen cell was capped, plus seven to eight days queen cell development). Any eggs laid by the departing queen have hatched and are now capped or about to be. Referring back to the queen development after emergence adds 10 - 14 days until the new queen is mated and beginning to lay. So, when we finally have eggs again, most of the brood of the departing queen have emerged or are close to emergence. This leaves us a window of seven to 14 days, in this particular situation, where there are no eggs or open brood, but the hive is not queenless.

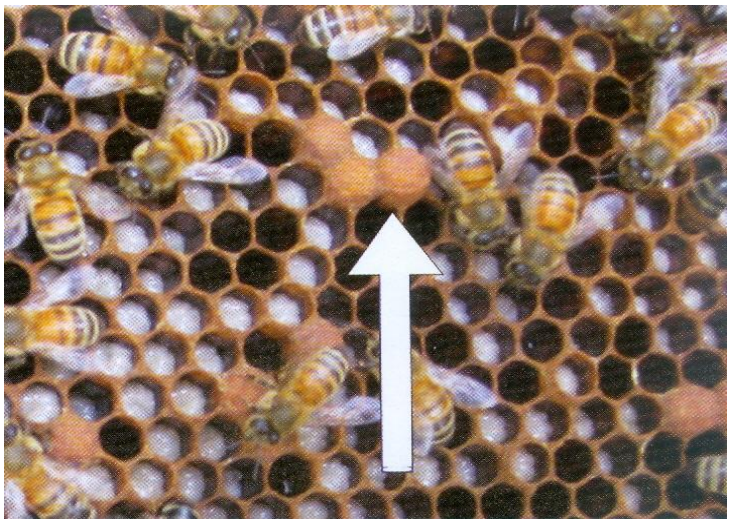
This window will vary with the weather, larval development times, mating success and at what stage of development the queen cells are at when the old queen stops laying or leaves. Even if the queen were to lay up until the day a swarm left, and a replacement queen emerged the same day, there would still be a four to seven day period where there may be no eggs present (although there will be some open brood).

Attempting to introduce a queen during this time is akin to murder, not to mention a waste of the money spent on the queen and shipping. Similar situations arise in supercedures or emergency queen replacements and the eggless period also varies with the factors mentioned above. As a side note, this break in the brood cycle also interrupts *Varroa* mite reproduction, a good thing!

Of course, there are situations where you really are queenless. Okay! Thanks a lot! Now what do I do? How can I tell the difference? Am I queenless or not? Of course I had to bring up an exception to the situation (If I didn't, the bees would!). My observations indicate to me that if the hive has a queen, although not yet laying, the bees will tend to leave a brood area open with freshly cleaned and polished cells. It may be a small area just on one or two frames, or it can be larger, depending on the colony. This is usually in the center of a hive body. I feel these cells are prepared "in waiting" with the knowledge that a queen is present and are made ready for her when she does initiate laying. By contrast, in queenless situations, I see much more filling of the brood nest area with nectar and pollen and much less regard to maintaining open cells.

Other queen problems might involve drone laying queens or laying workers, which have their own indicators. Both drone layers and laying workers will lay unfertilized eggs yielding only drones. The eggs will be laid in both worker cells and drone cells. Drone larvae reared in worker cells will be capped with a bullet shaped cap to accommodate the larger drone larva. In

distinguishing between a drone laying queen and a laying worker, I find the pattern of laying workers to be far more irregular and scattered than a drone-laying queen. In one instance, a drone laying queen placed a very nice, solid pattern of drone cells right in the center of a frame! Possibly a spent (out of sperm) or damaged queen laying only unfertilized eggs may not know it herself and continues on as if all is well. Failing queens may lay a few viable workers amidst many drones as they "fade."



Arrow indicates bullet-shaped capping of drones reared in worker cells.

Laying workers in control, will tend to lay multiple eggs per cell and may have eggs on the sides of cells rather than the bottom center. The shorter abdomen of the worker bee playing queen cannot always reach the bottom. It is important to note, colonies with laying workers consider themselves queenright and will rarely accept an introduced queen. I have not had any success myself with shaking the colony behind the hive and requeening to rid the hive of laying workers. I have however, been quite successful forming a two or three frame nuc with a new queen and placing this on top of the laying worker colony with paper between, then joining them in a few days.

Other indicators may only be noticed by you and your relationship and history with your bees. Does the hive seem different now than at the last inspection? (you take notes, right?). Are there any remnants or evidence left of queen cells from a swarm or supercedure? Was anything done recently that may have created the situation? Sometimes when making splits or pulling frames of brood, the queen is missed (removed to the split) and creates a replacement situation in the donor hive. Take note of the "tone" of the hive at each inspection. Queen right, healthy hives seem to have a more energetic thrum whereas a queenless hive tends to have a lower pitched, melancholy tone, lacking vigor. Look at all the indicators and if there is some doubt, wait and recheck the hive after a few days or discuss the situation with another beekeeper or mentor.

If you decide your hive is queenless, and you receive a new queen, consider the different methods of queen introduction. I prefer making small nucs and requeening with the nuc atop the queenless hive, paper between. If no additional brood is available, introduce the queen slowly, either in the shipping cage or using a queen introduction cage. Introduction cages allow the queen and her attendants' access to a small area of comb and can get the queen laying before "joining" the rest of the hive. Observe the bees as you place the cage in the hive. Are the bees aggressive towards her? Better wait and check again for another queen or try adding a feeder with 1: 1 syrup. After a few hours feeding, the bees may be more receptive to the new queen. Keeping the feed on during the new queen introduction can help make the requeening successful.

Whether you have one hive or 50, develop a system of record keeping that works for you. Keeping good notes on hive inspections goes a long way when you have resort to "detective work" and solving (or at least hypothesizing) what may have happened in your hive.

Take a digital camera with you to your beeyard(s). Pictures are good records if you are not sure what you are seeing and you can show them to a mentor later on. Most digital cameras also have an audio recording feature so you can record a description along with the picture or just make a voice recording of your observations. Take note of anything unusual, especially if it does not make sense at the time. The bees may explain it to you in later inspections!

Have your queens marked or mark them yourself (carefully!). It will help you know if your original queen has been superceded or replaced. If you just bought her and she was superceded quickly, let your queen supplier know. Always remember, in determining the status of your queen, to exercise patience, and take into consideration what you see in your hive and what it means before deciding to call for a replacement queen. Many times at a follow-up inspection, you will find eggs and a beautiful queen, laying well, not to mention a few more dollars in your pocket!

Advertisement

CONSIGNMENT PRICES FOR 2010 MD STATE FAIR

	CMBA Pays	Selling Price
Liquid Honey		
1 pound	$3.85	$5.50
Bear 12 oz.	$3.33	$4.75
5 pound	$15.40	$22.00
Chunk Honey in Jar		
1 pound	$4.55	$6.50
Square Section - Round		
Square Section	$4.55	$6.50
Round Section	$3.85	$5.50
Cut Comb 1#	$4.55	$6.50
Creamed Honey		
1 pound jar	$4.55	$6.50

Wax Products

Any wax product must be 100% bees.

Blocks of wax weighing less than ¼ pound will be priced per ounce (rounded down)

$.70 $1.00

All other bee related items that a beekeeper wishes to consign to the State Fair for sale first **MUST BE APPROVED** by the Fair Committee. Then the supplier will establish the cost of the item and the Fair Committee will then compute the sale price for the item by adding 33% to the cost.

The only bee related items that will not be considered by the Fair Committee is bee pollen, royal jelly and propolis. This ruling was established primarily because of product liability issues.

CONSIGNING HIVE PRODUCTS TO THE MARYLAND STATE FAIR

1. **ANY MARYLAND BEEKEEPER MAY CONSIGN HONEY OR HIVE PRODUCTS FOR SALE AT THE FAIR.**
2. ALL SUPPLIERS **MUST** CONTACT Chuck Huselton (410) 592-6598 AS SOON AS POSSIBLE TO MAKE ARRANGEMENTS AS TO WHAT TYPE OF PRODUCTS AND THE QUANTITIES YOU CAN SUPPLY.
3. **DO NOT** JUST BRING ITEMS TO THE FAIR WITHOUT PRIOR AUTHORIZATION. AS YOUR ITEMS MAY NOT BE ACCEPTED.
4. PRODUCTS ARE ACCEPTED ON A CONSIGNMENT BASIS ONLY. ALL SUPPLIERS WILL BE PAID NO LATER THAN SIX WEEKS AFTER THE CLOSE OF THE FAIR.
5. **PRICES ARE SET BY THE FAIR COMMITTEE (NO EXCEPTIONS).**
6. **THE FAIR COMMITTEE RESERVES THE RIGHT TO REFUSE ANY ITEM NOT SUITABLE FOR SALE. e.g.** ITEMS NOT APPROVED BY THE FAIR COMMIITTEE, POOR APPEARANCE, CRYSTALLIZED HONEY, STICKY OR LABELED JARS, JARS NOT FILLED CORRECTLY, DIRTY, OVERHEATED OR OFF FLAVOR HONEY ETC. PRODUCTS MUST BE OF TOP QUALITY. ALL PRODUCTS MUST BE SUITABLY PACKAGED SO AS TO PROTECT THEM FROM DAMAGE.
7. HONEY IS SOLD ON AN EQUAL BASIS AS TO TYPE AND FLAVOR, EACH SUPPLIER OF A PARTICULAR FLAVOR WILL SELL THE SAME AMOUNT.
8. **ALL HONEY AND HIVE PRODUCTS MAY BE DELIVERED AUGUST 24 THRU 25 TO THE HONEY BOOTH IN THE FARM AND GARDEN BUILDING BETWEEN 1PM AND 8PM.** BE SURE TO OBTAIN A RECEIPT FOR THE ITEMS PLACED ON CONSIGNMENT. NO RESPONSIBILITY IS ACCEPTED FOR ANY ITEMS LEFT WITHOUT A RECEIPT SIGNED BY THE RECEIVING AGENT.
9. ALL UNSOLD PRODUCTS WILL BE RETURNED TO THE SUPPLIER. ALL ITEMS MUST BE PICKED UP **TUESDAY SEPTEMBER 7 BETWEEN 9AM AND 6PM.** ANY ITEMS THAT ARE LEFT WILL BE DONATED TO THE OREGON RIDGE NATURE CENTER.
10. ALL CONSIGNMENT SUPPLIERS ARE ENCOURAGED TO ENTER HONEY OR RELATED HIVE PRODUCTS IN THE MARYLAND STATE FAIR FOR RIBBONS AND PRIZE MONEY.

IMPORTANT PHONE NUMBERS

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Jeanne Deignan-Kosmides V. Pres.	**410-833-6067**
Alex Flanagan, Secretary	**410-472-1702**
John Harmon, Treasurer	**410-771-1701**
Jerry Fischer, State Bee Insp.	**410-562-3464**
Oregon Ridge Nature Center	**410-887-1815**
David Papke, Past Pres.	**717-246-2339**
Lloyd Snyder, Editor	**410-329-6671**

Editors E-Mail - lrsnyder@zoominternet.net

Be sure to check out CMBA's web site at www.cmbeea.org

Lloyd Snyder – Editor
4747 Norrisville Road
White Hall MD 21161

DATES TO REMEMBER

General Meeting – July 6, 2010 – at Oregon Ridge Nature Center. 7:30PM. There will be **no meeting** this month. Check the calendar item below for information on the CMBA Picnic July 13, 2010.

CMBA Picnic – July 13, 2010 – at Oregon Ridge Nature Center. 7:30PM. Families are invited! Each family should bring a pot luck dish and CMBA will provide hot dogs, hamburgers, drinks, plates, cups and utensils.

Board Meeting – July 19, 2010 – 7 PM at Oregon Ridge Nature Center.

MD State Fair – August 27 – September 6. Plan on signing up to work a shift or two while you are at the picnic. Also remember to think about the entries you can get ready for the Farm & Garden building. There is a lot of prize money to be won!!