MARYLAND STATE BEEKEEPERS ASSOCIATION

The Beeline

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Highlights:

Only In the Electronic Edition:

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President's Message

by Wayne Esaias

The Standard of Identity for Honey was signed by the Governor on May 2 and will take effect on October 1, 2012. Many thanks go to Del. Afzali, Sen. Young, and co-Sponsors, and to all who participated in the Bee Day in Annapolis. The new standard should have no negative impact on Maryland Beekeepers, but clearly helps keep the image and reputation that honey enjoys. It will be interesting to see the first action is taken under the standard, and I hope there is ongoing discussion on the role of MSBA in this area. We certainly have a better understanding of the legislative process. Let's identify our highest priority item where the state help—and not hinder—us.

This has been one of the strangest years since I began keeping bees in '92. Our very mild winter (or extended Fall) had colonies growing rapidly in February, followed by some seasonal and rainy weather in April. Major sources like Black Locust and Tulip Poplar bloomed at least a month earlier than average. Around Lanham, Locust was in full bloom by April 12! There have been lots of swarms, and queen problems associated with (perhaps) poor mating conditions coupled with immature or low populations of drones. I had three instances of drone laying queens, and several instances of supersedure.

Scale hive volunteers up and down the East Coast are filing similar reports, clearly related to the mild winter. The main nectar flow has come and gone even in Southern PA and we are now in the summer dearth period. Honey yields seem to be at or even below average, despite the early start. I will likely have my harvest nearly completed by mid June, in contrast to early July.

Finally, thanks to everyone who participated in the Bee Informed Partnership (BIP) Winter Loss Survey. It now looks like there were enough MD responders to put us over the critical number and allow BIP to release statistics for us as a distinct group. This will really help all of us understand how we compare to other regions. I think we have well educated beekeepers with lots of newbees (especially with record breaking numbers attending short courses sponsored by the local clubs). Welcome to all, and please consider joining MSBA.

On a personal note, I really enjoyed attending the fantastic Field Day at Camp Hickory in Garrett County, and have made it to Carroll and Montgomery meetings. I still have more local association meetings to attend, and hope to visit every one before my term is up.

Cheers,

Wayne

Crop Insurance for MD Beekeepers:

Apiculture Pilot Insurance Program now available in Maryland

The Risk Management Agency is now offering pilot insurance programs for apiculture, and this new program is available in Maryland. It uses rainfall indices to estimate local rainfall, allowing beekeepers to purchase insurance protection against production risks. The Rainfall Index uses the same basic provisions as the Pasture, Rangeland, and Forage pilot program. Basic provisions are the terms and conditions included in all policies under these plans.

The Apiculture Pilot Insurance Programs provide a safety net for beekeepers' primary income sources – honey, pollen collection, wax, and breeding stock. Apiculture systems consist of different types of plants or crops and often contain mixtures of different species, each with different growth habits and seasons, vegetation greenness and health, rain requirements, and other climate conditions necessary to maintain plant growth over extended periods of time. The Rainfall Index apiculture programs use new technology to assess losses in plant production across diverse plant conditions and environments.

The Rainfall Index uses National Oceanic and Atmospheric Administration Climate Prediction Center (NOAA CPC) data. You must select at least two, 2-month time periods where rain is important to your operation in your area. These time periods are called index intervals. Your insurance payments will be calculated using NOAA CPC data for the grid(s) and index interval(s) you have chosen to insure. When the final grid index falls below your "trigger grid index," (coverage level multiplied by the expected grid index) you may receive a loss payment. This insurance coverage is for a single peril—lack of rain. Coverage is based on the experience of the entire grid. It is NOT based on individual farms, ranches, or specific weather stations in the general area.

The Apiculture Pilot Insurance Program was designed to give you maximum flexibility. You do not have to insure all your colonies. However, you cannot insure more than the total number of colonies you own. By selecting a protection factor, you can establish a value between 60 and 150 percent of the county base value and match the amount of protection to the value of the production that best represents your specific operation, as well as the productive capacity of your colonies. Please visit your crop insurance agent for more information. The sales closing date for crop year 2013 is September 30. If you do not have an agent, you can find one online using the RMA agent locator at: *http://www.rma.usda.gov/tools/agent.html* or at any USDA Service Center.

UPCOMING LOCAL EVENTS

Smithsonian Folklife Festival with USDA Bee Lab: June 27-July 1, 4-8. Volunteer opportunities with Lab staff! Contact *msba@mdbeekeepers.org* for details.

Beekeepers of Northern VA Host Michael Bush of Bushbees: July 30th/31st (repeat presentations), Manassas Church of the Brethren. *www.beekeepersnova.org*

MSBA Annual Honey Harvest Festival: Saturday, September 15, 2012. 9 AM – 3 PM, Patuxent Research Refuge National Wildlife Visitor Center , Scarlet Tanager Loop in Laurel, MD. MSBA's only outreach activity! .

WV Beekeepers Association: Fall Meeting, September 21-22, Jackson's Mill, WV. Keynote: Dr. Jamie Ellis, University of FL. *www.wvbeekeepers.org*

Montgomery County Beekeepers: October 17, 7 PM: Noted author and lecturer Dr. Tammy Horn will speak at the Holiday Park Senior Center.

Virginia State Beekeepers Fall Meeting, November 2-3, Weyer's Cave, VA. *www.virginiabeekeepers.org*.

MSBA Fall Meeting, November 10, Maryland Department of Agriculture, 50 Harry S Truman Parkway, Annapolis, Jennifer Berry/University of Georgia, keynote.

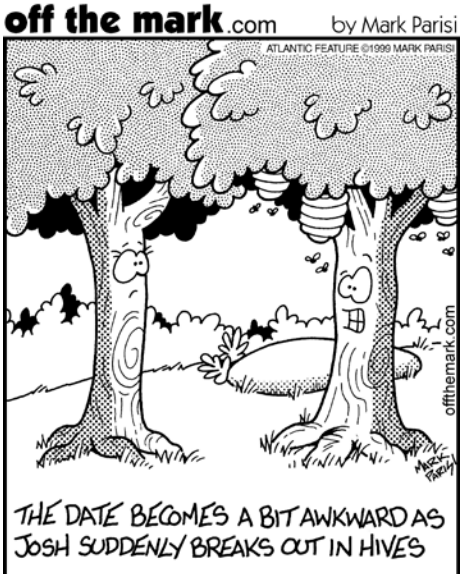
PA State Beekeepers Annual Meeting, November 9-10 Lewisburg, *www.pastatebeekeepers.org/fallmeeting.htm.*

Other Upcoming Events:

6th Annual National Pollinator Week, June 18-24: *www.pollinator.org***.** Local events, Page 6!

National Honey Bee Day, August 18: *www.nationalhoneybeeday.com*.

Eastern Apicultural Society Conf, August 13-17, Univ. of Vermont, Burlington. Info at *www.easternapiculture.org/conferences/eas-2012.html*



Maryland State Beekeepers' Association Winter Meeting
June 16, 2012
Plant Sciences Building Auditorium, University of Maryland/College Park

8:30 am	Refreshments, Coffee, Donuts, etc.	
9:30 am	Opening and Welcome	Dr. Wayne Esaias, President
9:45 am	Maryland Apiary Inspector's Report	Jerry Fischer, Maryland State Inspector
10:00 am	Pheromones and Function Inside the Hive	Dr. Rick Fell Virginia Tech
11:00 am	Maryland Pilot Apiculture Insurance Program	Steven Connelly Specialist MD Dept of Agriculture
11:30 am	The Fourth Annual MSBA Honey Festival at Patuxent: Participate in Our Major Outreach Event	Linda Thompson, Director, MSBA BUMBA
Noon	Lunch	
1:30 pm	Tower Hive Project and Maryland BeeInformed Survey Results	Jennie Stitzinger, BeeInformed Network
2:00 pm	"Nosema ceranae: A Bad Problem or Just a Bad Reputation"	Dr. Rick Fell Virginia Tech
3:00 pm	Ask Expert Beekeepers Your Anonymous Questions	Panel Discussion: Dr. Rick Fell Dr. Wayne Esaias, More!
3:30 pm	Adjourn	Dr. Wayne Esaias, President

Directions to the University of Maryland

If you are using GPS, please enter the address 7950 Baltimore Avenue, College Park, MD 20742 and follow directions (below) to Plant Sciences Building. More info at http://www.cvs.umd.edu/visitors/maps.html

UMD/College Park is located on U.S. Route 1 south of the Capital Beltway (I-495). Take exit 25B from I-495.

Proceed about two miles south, and follow signs to turn right into Main Entrance (at intersection of Campus Drive with Paint Branch Parkway).

To Plant Sciences Building: Once inside the gate, keep left on Campus Drive until the rotary with the large "ME" logo. Take first exit right. Proceed to first intersection; make a left and then immediate right into Regents Parking Garage. You may park in one of the numbered spaces on the 1st floor; parking is free in numbered spaces only! The Plant Sciences Building is directly across the street from the Garage Entrance.

Photo: The "M" Rotary at UMD/College Park

MSBA Spring Meeting 2012 Speakers

In addition to serving as our June 2012 keynote speaker, **Dr. Richard Fell** leads social insect programs at Virginia Tech. A graduate of Cornell University, Dr. Fell studied apiculture under Dr. Roger Morse. He has been at Va. Tech since obtaining his PhD. in 1979.

Recognized by Va. Tech and the Entomological Society of America for teaching excellence, Dr. Fell instructs on a variety of insect related topics including beekeeping, insect behavior and insect biology. Currently, the research group members are involved in teaching, extension, and research, with interests ranging from beekeeping to forensic entomology.

Dr. Fell's team are leaders in Nosema research. The research team from Virginia Tech University is they are the 2011 recipient of the Eastern Apicultural Research award for their proposal titled "Nosema ceranae infections in queen honey bees."

EAS considers *Nosema ceranae* an important emerging parasite for beekeepers,: it is subtly different from *N. apis* in several important and largely unknown ways. Given the ongoing problems that beekeepers are having with queens, carefully describing the epidemiology of this fungus is critical in determining a link between the disease agent and colony ill-health. Findings from this study will be helpful to determine the potential role that this internal gut parasite might play on the health of the honey bee population, as well as provide vital information for beekeepers in their attempts to mitigate its negative effects.

Jennie Stitzinger is a Research Technician with the University of Maryland at USDA/ARS, Beltsville, MD, and works with Dr. Dennis vanEngelsdorp with the BeeInformed Partnership at www.BeeInformed.net. She is the primary contact for the Tower Hive Project, which seeks to manage hive pests through innovative hive configurations. Jennie is a recent Penn State graduate with plans to continue her work in analyzing honeybee samples in California. She is a frequent contributor to the *BeeInformed* blog on numerous subjects of interest to Maryland beekeepers – check it out at *beeinformed.org/author/jennie-stitzinger/*

Steven Connelly directs the pilot Apiculture Crop Insurance Program for the MDA. With long experience in Maryland agriculture, including studies at UMD/College Park and work with USDA and the Maryland Farm Bureau, Mr. Connelly can help explain how Maryland beekeepers can get help protecting their financial investments against production risks, and navigating the world of crop risk management through Maryland's arm of this USDA-sponsored program.

Allegheny Mountain Beekeepers Association Announces Youth Essay Award Winner

The Allegheny Mountain Beekeepers Association (AMBA) held a youth essay contest this Spring. They are pleased to announce the winner, Darrell Stonestreet, age 17, of Flintstone, MD.

There were 16 essays submitted from around the tri-state area. Darrell will receive a hive of honey bees, equipment and protective gear, a complete wooden hive, annual membership to the association and a mentor to help him with his new hive.

Congratulations to Darrell and all the young people who submitted essays. AMBA hoped to do this again next year.

From left to right: Darrell Stonestreet (winner), Brian Umstead (AMBA president) and Marvin Peck (AMBA member and mentor)

Nosema: A Call to Arms

Nosema is taking more of a toll on our bees than we realize.

by Bill Troup and Klinker, MDA Inspectors

Nosema may be present in the gut of the honey bees at all times but not at the sporulation stage. What triggers spores to multiply (sporulate) to high infection levels at various times of the year is not yet clearly understood.

We know that when we were only dealing with *Nosema apis* spore disease, symptoms appeared during winter months of long intervals of confinement: periods when bees cannot fly to cleanse themselves due to long cluster-cold spells. Also, poor food source or stores aggravated this condition, such as winter stores with too high moisture content or natural nectar/honey from sources such as buckwheat, aster and goldenrod with a high concentrate of indigestible components.

Winter spells of short confinement, coupled with regular cleansing flights and water gathering and consumption normally do not result in bees weakened or dead from Nosema disease. That is why we recommend treating your bees in early fall with Fumagillin in the last feedings of sugar water, so bees will store the Fumagillin for winter use. Feeding Fumagillin in fall for storage is like taking out an insurance policy on your bees. If we have a long hard winter, no flight days, poor food stores, then your insurance policy will pay for itself with healthy, Nosema-free late winter bees. If we experience the opposite, a mild winter, lots of flight days for voiding and water gathering for diluting poor food stores and ripening high moisture food stores, then your insurance policy was for nothing. It would be nice if we could forecast the weather that far in advance!

Please be aware that you should not feed or treat with Fumagillin prophylactically as sometimes we do for Varroa mites, etc. because Nosema spore-free bees can become deathly ill if fed Fumagillin. Bees without Nosema spores do not digest Fumagillin well or if at all, but will become almost poisoned by its presence.

So you are wondering; "How do bees with no Nosema spores sporulating in their gut, eating winter stores with Fumagillin present, get sick?" This has not been the case since we have been using Fumagillin for *Nosema apis* on wintering bees. But feeding bees prophylactically when no sporulation exists in their gut can cause fatal results. Perhaps this needs to be explored more by bee scientists since a lot has changed in beekeeping since Varroa mites, Tracheal mites, BPMS, Cruddy Brood, etc and the appearance of *Nosema ceranae.* Not to mention to viruses, paralysis (viral), CCD, pesticide kills and other bacterial infections being magnified by vectoring Varroa mites.

Now to address *Nosema ceranae* and what we know about it. *Nosema ceranae* occurs normally during spring through the summer months, with emphasis on summer months. However, this *can* happen at any time of the year. Causes are not clearly understood at this time, but again it goes back to the similar factors in *Nosema apis:* poor food sources. Poor food sources could be those carried over from wintering bees who depended on honey and possibly pollen foraged from a poor plant source, such as buttercups, mountain laurel (rhododendron), fermented honey and sugar water, molasses, brown sugar, coke syrup, sorghum, maple syrup, etc.

Field symptoms for *Nosema a.* and *Nosema c.* may be similar; however, *Nosema ceranae* is sometimes called "dry Nosema" since it does not usually cause the characteristic fecal staining associated with *Nosema apis.*

High infection levels of *Nosema apis* and *ceranae* still point to poor food sources, but don't forget stress. Package bees are stressed by confinement, shipping and handling, temperature changes, etc. Most recommend that the syrup shipped with package bees be treated with Fumagillin. "Is it?" is the big question: *probably not!* Thus we strongly recommend that newly installed packages be fed Fumagillin to treat for spores present due to stress.

Think: how often do early package bees get installed on dead-out winter combs with poor or fermented winter stores and /or when there is no nectar flow on and poor flying conditions exist? A good percentage of the time, I suspect. None of these are good conditions and they promote Nosema. *Stress! Stress! Stress!* *(continued next page)*

Nectar Sources Which Can Stress Wintering Bees

Some late season nectar sources can contain indigestible elements that can stress wintering bees and contribute to *Nosema.* From left to right: aster, buttercup, buckwheat, soft drink syrups, goldenrod, mountain laurel.

Bee Prepared to Help Bees!

Bowie-Area Maryland Pollinator Week Activities

Maryland Pollinator Week is part of National Pollinator Week, a celebration of the valuable ecosystem services provided by pollinators. Bowie and friends will be buzzing! Some local events include:

- **June 18 (7 pm)–Maryland Pollinator Week Proclamation Presentation:** The Bowie Gardens for Wildlife (BG4W) Habitat Team, Bowie-Upper Marlboro Beekeepers Association (BUMBA), Maryland State Beekeepers Association (MSBA), and MOM's Organic Market are presenting Governor O'Malley's proclamation to Bowie Mayor Robinson and City Council Members. To view a copy of the proclamation, go to http://pollinator.org/npw_events.htm#md.
- **June 22 (7 pm)–Destination Pollination**—Exploring the World of Pollinators: Kerry Wixted, a biologist with the Maryland Department of Natural Resources, will discuss the many benefits of pollinators, their diversity, and the challenges they face. She will focus on pollinators found in Maryland and ways to attract them to your landscape. Hosts for this talk are the BG4W Habitat Team, BUMBA, MSBA, Old Bowie Wild Bird & Nature Store, Patuxent Nursery, All Saints Lutheran Church, and MOM's Organic Market. Come for the talk and stay for door prizes and light refreshments. All Saints Lutheran Church, 16510 Mount Oak Road, Bowie, MD 20716 (301.249.6300).
- **June 23 (12 pm)–Bee Seminar:** Linda Thompson, a Maryland-registered beekeeper, will talk about honeybees and native bees, the roles they play, the problems they face, and how you can help. Patuxent Nursery, 2410 North Crain Highway, Bowie, MD 20716 (301.218.4769).

June 18-24 will spotlight unique opportunities to learn about fascinating and fundamental creatures – bees, birds, butterflies, bats and beetles. Often overlooked and misunderstood, pollinators are essential to every 3rd bite of food that we eat. In the U.S. bees alone undertake the astounding task of pollinating more than $15 billion in added crop value, particularly for specialty crops such as almonds and other nuts, berries, fruits, and vegetables. Pollinators also play a critical role the health of our environment and are necessary for maintaining bio-diverse ecosystems. National Pollinator Week is a project of the North American Pollinator Protection Campaign (www.nappc.org). Established in 1997, the Pollinator Partnership (P2) is the largest 501(c)(3) non-profit organization dedicated to the health, protection, and conservation of all pollinating animals.

For information about all events taking place during Pollinator Week and to download free materials, visit *www.pollinator.org/pollinator__week_2012.htm*.

To learn more about the local hosts of Pollinator Week events in Bowie, visit "Bowie Gardens for Wildlife" Facebook page, *www.bumbabees.com, www.mdbeekeepers.org, www.polyxenes.com, www.patuxentnursery.com, www.momsorganicmarket.com*.

Nosema: A Call to Arms, *continued*

It is becoming apparent that Nosema is taking more of a toll on our bees than we realize. Years ago, it was a winter time problem/concern only. But now with incidents of *Nosema ceranae* on the rise, it is a year-round issue. Nosema-infected worker bees may not be very productive, but a Nosema-infected queen is not productive at all.

I suggest that you screen your bees early for Nosema in the summer months (mid July–August). If spore counts exceed 1 million and up over to 5 million, treatment is highly recommended so your bees enter early winter as Nosema-free as possible. Even with high thresholds of infected spores, your bees may still look healthy; but not for long and they are doomed as early winter confinement begins. Let me remind you, feeding bees prophylactically with Fumagillin is not the way. Early detection through screening your bees for Nosema spore levels is the answer. Contact your regional MDA Apiary Inspector for procedures and guidelines.

As always, read the manufacturer's label instructions for proper use of Fumagillin. Please adhere to label instructions strictly, since Fumagillin is an antibiotic and we do not want resistant strains of Nosema to appear. Remember what happened due to the misuse of Terramycin and the creation of resistant strains of AFB. Beekeeper misuse of this product over a short time led to that development.

As with severe infections of Varroa mites leading to abundant symptoms of BPMS, DWV, CWV, IAPV, and Cruddy Brood, treatments may not be effective if detected too late. Such is true of over-threshold levels of Nosema spores–treatment may not be effective. Early detection is the answer.

In summary:

We beekeepers must not only be more diligent with survey/sampling/screening techniques for Varroa, Tracheal, AFB, EFB, Small Hive Beetle, but also now Nosema.

UMD Experiments with Tower Hives and Chemical-Free Varroa Control

Most beekeepers have never seen a Tower Hive, but at her upcoming presentation to the MSBA Spring Meeting on June 16, researcher Jennie Stitzinger will actually bring one along for you to look at! While tower hives may seem novel, they are an interesting approach to varroa control via drone brood removal.

UMD is looking for beekeepers with four (or a multiple of four) hives, some curiosity, and some time to gauge this approach to varroa control. Beekeepers must be able to provide 4 hives in a single apiary: two to be used in a Tower configuration, one to be managed as usual, and another standard hive managed with drone brood removal. Though this takes work, it creates an experiment with valid controls for measuring success and failure, a scientific approach often missing in sideliner beekeeping. Merely participating in such an exercise can help your ability to analyze and manage your own results.

Varroa preferentially infest drone brood, and both creating specific areas in the hive for drone brood creation and timely removal of the brood before emergence are known chemical-free methods of varroa control. Getting to those drone brood frames in a honey-laden summer hive can be one heck of a chore, though, and failure to remove drone brood can actually balloon the mite population in your colony. The Tower Hive is designed to make easy access to the brood nest possible even while leaving honey supers in place and minimally disrupting hive functions. By pairing two brood nests and having them share honey supers, beekeepers even get the superior honey production benefit of a two queen hive.

Tower hives consist of two brood areas placed right next to each other, with shared honey supers overlapping the area where the two colonies touch. A queen excluder sits under the supers, ensuring the two queens never meet. Modified telescoping hive covers protect the remaining exposed top of the brood areas. Underneath those modified covers are frames of drone comb. Instead of plowing through honey supers, the beekeeper can just lift a half-cover for direct access to drone brood.

The bees do not fight in the supers: they are carrying nectar and stores, and their scents are mixed from the brood nests below.

The protocol available from UMD (email Jennie at *jnstitz@gmail.com* or call 215-901-3857) and includes instructions for making the Tower Hive and detailed management and reporting requirements.

Recipe: Mountaineer Cheese with Honey and Smoked Pepper

During a recent dinner to celebrate the participation of beekeepers Kim Flottum and Kathy Summers in the White House Easter Egg Roll, Fairmont Hotel Chef Ian Bens prepared the following dish as one of over a dozen courses featuring local and varietal honeys, as well as locally produced meats, vegetables, and cheeses. "Mountaineer" is a hard, Swiss-style cow's milk cheese produced at Meadow Creek Farms in the Virginia Highlands.

Ingredients:

- Brioche
- Mountaineer or other strong cheese
- Blueberry honey
- Smoked Paprika or pepper

Directions:

1. For the brioche: Buy a loaf of brioche or other rich bread. Cut into rectangles about 1½" by 2½", in slices about ½" thick.

2. Set a flat frying pan over medium high heat, add some light vegetable oil to coat the bottom with a thin layer. Place the rectangles and toast until golden. Turn over and repeat. Let sit at room temperature.

3. Choose an aged sharp cheese like an old cheddar, Gouda or Mountaineer. Cut into rectangles 1" by 2" in slices about ¼" thick.

4. For the honey, choose a crystallized honey like blueberry or your preference. The honey must be crystallized in order to be spreadable!

5. Place a rectangle of cheese in the center of each toast. Use two spoons to make a very small oval 'quenelle' of honey on top of the cheese.

6. Sprinkle a bit of Urfa Biber pepper or other smoked paprika on top, serve at room temperature.

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www.mdbeekeepers.org, webmaster@mdbeekeepers.org

If your dues are not current, please pay them at the next meeting or mail to: MSBA Treasurer, Robert Crouse, 1606 Dogwood Lane, Bel Air, MD, 21015. Note: we will only accept dues payments for a single year.

THE BEELINE
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Address corrections requested

MSBA Member Charlie Brandts Featured in *American Grown*

Many apiary advocates hailed the inclusion of a beehive in the White House kitchen garden as a critical moment in the acceptance of hobbyist beekeeping in urban and suburban areas—if not everywhere! Perhaps the key figure in this event, MSBA member Charlie Brandts, is therefore getting a moment in the spotlight.

An entire section of the recently published *American Grown: The Story of the White House Kitchen Garden and Gardens Across America* focuses on "The Very First White House Beehive," including Charlie's own words about beekeeping at 1600 Pennsylvania Avenue. Among other notes, the bees provoked the first and only apple crop on the White House Grounds!

Charlie retired on May 1, but will continue to help maintain the First Hive, along with the White House pastry chefs.

Charlie Brandts, from *American Grown*

American Grown: The Story of the White House Kitchen Garden and Gardens Across America, Michelle Obama, author, Crown Publishers, May 2012, suggested retail $30.

Dr. Mangum's "Intro to Top Bar Hive Beekeeping" Class Sells Out

The MSBA works to provide additional beekeeper education on special topics that are not easily available to local clubs, and our most recent offering along these lines was an April 14 "Introduction to Top Bar Hive Beekeeping" class taught by the legendary Dr. Wyatt Mangum in Baltimore. The class sold out all 50 seats and yielded a couple of dozen new members of the state association. MSBA thanks Pat Haskell for her key role in helping us organize the session.

In addition to providing special topics, the Intro TBH class was also offered in order to bring together both the TBH and the Langstroth communities on educational and beekeeping protection issues. In the eyes of the public, there is very little distinction between hive types, and we need to reach out to each other to maintain support for beekeeping across the region. MSBA was concerned that local clubs often lack instructors in TBH techniques, and newbees might therefore get started without exposure to best practices and pitfalls to avoid.

Members who completed this class or an equivalent will be qualified to participate in a later "TBH Fall and Winter Management" class to be announced to members via email and through local clubs.

The April class took place at the University of Baltimore—"UB"—an institution whose mascot turned out to be "Eubie the Bee!" Participants took on a full day of class, the question and answer session following it continued several hours more both in the classroom and in the parking lot!

Dr. Mangum has kept bees in top bar equipment for several decades, maintaining several hundred such hives and undertaking commercial pollination contracts using them. He is in the final stages of editing, illustrating, and proofing a textbook on the subject that includes over 300 photographs which depict the techniques discussed in class.

MSBA would be interested in hearing from members about session topics they would like to see in future, and would like to collaborate with county clubs in other parts of the state to bring this material to the widest possible share of our membership. Please email *msba@mdbeekeepers.org* with questions and suggestions!

Submitted by several members:

Bee Kills in the Corn Belt: What's GE Got to Do With It?

By Heather Pilatic, Pesticide Action Network North America

In the last few weeks beekeepers have reported staggering losses in Minnesota, Nebraska and Ohio after their hives foraged on pesticide-treated corn fields. Indiana too, two years ago. What's going on in the Corn Belt?

No farmer in their right mind wants to poison pollinators. When I spoke with one Iowa corn farmer in January and told him about the upcoming release of a Purdue study confirming corn as a major pesticide exposure route for bees, his face dropped with worn exasperation. He looked down for a moment, sighed and said, "You know, I held out for years on buying them GE seeds, but now I can't get conventional seeds anymore. They just don't carry 'em."

This leaves us with two questions: 1) What do GE seeds have to do with neonicotinoids and bees? and 2) How can an Iowa corn farmer find himself feeling unable to farm without poisoning pollinators? In other words, where did U.S. corn cultivation go wrong?

The short answer starts with a slow motion train wreck that began in the mid-1990s: Corn integrated pest management (IPM) fell apart at the seams. Rather, it was intentionally unraveled by Bayer and Monsanto.

Honey bees caught in the cross-fire

Corn is far from the only crop treated by neonicotinoids, but it is the largest use of arable land in North America, and honey bees rely on corn as a major protein source. At least 94 percent of the 92 million acres of corn planted across the U.S. this year will have been treated with either clothianidin or thiamethoxam (another neonicotinoid).

As we head into peak corn planting season throughout the U.S. Midwest, bees will once again "get it from all sides" as they:

a.. fly through clothianidin-contaminated planter dust;

b.. gather clothianidin-laced corn pollen, which will then be fed to emerging larva;

c.. gather water from acutely toxic, pesticide-laced guttation droplets; and/or

d.. gather pollen and nectar from nearby fields where forage sources such as dandelions have taken up these persistent chemicals from soil that's been contaminated year on year since clothianidin's widespread introduction into corn cultivation in 2003.

GE corn & neonicotinoid seed treatments go hand-in-hand

Over the last 15 years, U.S. corn cultivation has gone from a crop requiring little-to-no insecticides and negligible amounts of fungicides, to a crop where the average acre is grown from seeds treated or genetically engineered to express three different insecticides (as well as a fungicide or two) before being sprayed prophylactically with RoundUp (an herbicide) and a new class of fungicides that farmers didn't know they "needed" before the mid-2000s.

A series of marketing ploys by the pesticide industry undergird this story. It's about time to start telling it, if for no other reason than to give lie to the oft-repeated notion that there is no alternative to farming corn in a way that poisons pollinators. We were once -- not so long ago -- on a very different path.

How corn farming went off the rails

In the early 1990s, we were really good at growing corn using bio-intensive integrated pest management (bio-IPM). In practice, that meant crop rotations, supporting natural predators, using biocontrol agents like ladybugs and as a last resort, using chemical controls only after pests had been scouted for and found. During this time of peak bio-IPM adoption, today's common practice of blanketing corn acreage with "insurance" applications of various pesticides without having established the need to do so would have been unthinkable. It's expensive to use inputs you don't need, and was once the mark of bad farming.

Then, in the mid-to-late 1990s, GE corn and neonicotinoid (imidacloprid) seed treatments both entered the market -- the two go hand-in-hand, partly by design and partly by accident. Conditions for the marketing of both products were ripe due to a combination of factors:

a.. regulatory pressures and insect resistance had pushed previous insecticide classes off the market, creating an opening for neonicotinoids to rapidly take over global marketshare;

b.. patented seeds became legally defensible, and the pesticide industry gobbled up the global seed market; and

c.. a variant of the corn rootworm outsmarted soy-corn rotations, driving an uptick in insecticide use around 1995-96.

Then, as if on cue, Monsanto introduced three different strains of patented, GE corn between 1997 and 2003 (RoundUp Ready, and two Bt-expressing variants aimed at controlling the European Corn Borer and corn root worm). Clothianidin entered the U.S. market under conditional registration in 2003, (continued page 12)

News Briefs:

Breaking Bee Info from Around the Web

EAS to Feature New Bigger and Better Honey Show this Year

EAS is working hard this year to both boost participation in its honey show, and to increase beekeeper understanding and ability to participate through beefed up online resources, including tips, techniques, and encouragement!

Mike Palmer is in charge of the EAS 2012 Honey Show, and Anne Frey is working with him to make this the best honey show in years.

Anne and Mike have created a set of online resources that would be useful to any beekeeper looking at any honey show: take a look at http://www.easternapiculture.org/resources/57.html. These include "Honey Show Tips," links to webinars on topics such as candle making, mean, processing beeswax, and even basic honey harvesting.

There are links to online articles by beekeeping experts, recommended books and websites, and the details of EAS' own rules and show schedule.

The Eastern Apicultural Society is an educational organization dedicated to the promotion of bee culture, education of beekeepers, certification of Master Beekeepers and excellence in bee research. Each summer EAS hosts a short course and conference and this year it will be 8/13-17 in Burlington, Vermont..

More Posh Hotels House Bees

Hotels in our area, including Annapolis, Baltimore and Downtown DC, have featured honeybee hives for years now. But you know that the beekeeping trend has hit pay dirt when one of the most historic hotels in the world joins the movement!

Honeybees have taken up residence at the Waldorf-Astoria New York, one of New York City's most famous institutions and a favorite stopover for many U.S. presidents. The hotel plans to harvest its own honey and help pollinate plants in the skyscraper-heavy heart of the city, joining a mini beekeeping boom that has taken over hotel rooftops from Paris to Times Square.

Andrew Cote, an urban beekeeper who helped lead the successful effort to legalize beekeeping in New York City, will manage the bees on behalf of the hotel. More at *http://online.wsj.com/*

Beekeeping Webinars to Check Out, Free!

"Webinars" are online seminars in which you can participate via computer, with recorded sessions available for later review. The beekeeping world now includes wider and wider offerings of this nature, from supply merchants to academic institutions to the USDA> Here are a few of which you may not be aware!

The USDA National Resources Conservation Service offered "Common Bees and Bee Plants of the East" in April, and that session is now available via download: be aware, it is 72 MB.

Beekeepers in Ohio and other states are invited to attend a free, monthly educational webinar series taught by Ohio State University experts. June 20's topic is "Mites and Honey Bees."

Offered by Ohio State's Bee Lab, those interested in participating will need a computer with Internet connection; iPad and iPhone users can also join using these devices, but they need to download the Adobe Connect app.

To participate, join the Bee Lab contact list at http://go.osu.edu/beelablist. Webinar log-in instructions will be provided.

Penn State Extension conducted a virtual Beekeeping for Beginners class between March and May 2012. This webinar course was designed to create a foundation of beekeeping knowledge in order to help beginners manage honeybees. You must register with the Friends of Penn State for free at https://fps.psu.edu .

Pentagon Not Defensive on Honeybees

On May 16, Air Force Lt. Col. Craig Bucher, via the Beekeepers of Northern Virginia, successfully contained an unauthorized incursion onto U.S. military-held territory. But he was deprived of the opportunity to do so single-handedly, since so many people wanted to help.

Yes, my friends, there was a swarm at the Pentagon.

With reporting based on a request to the BANV swarm team and excited mainstream media stories, it appears that a swarm of bees landed about 8 feet up in a crepe myrtle tree near one of the Pentagon entrances, and the Pentagon police quickly decided that they would do what they could to see that the bees were properly collected, rather than killed.

The working population of the building was treated to updates throughout the process, including warnings to avoid the entrance and assurances that "bee specialists" were on their way. It turns out that several beekeepers work at the facility, and turned up to help if needed.

At least one television news crew arrived to document the encounter, and filed a relatively accurate and sympathetic description of swarm catching, docile bee behavior, and the likely outcome of a happy hive at someone's home. (You can see the video at *http://abcnews.go.com/blogs/politics/2012/05/pentagon-faces-new-enemy-10000-honey-bees/*)

It's a tribute to beekeeper education of the public that, rather than move immediately to eradicate a perceived threat, the community worked to save the bees. This is a facility where literally thousands of people are working at any time, but the entire population appeared to arrive at a consensus that the bees were both worth saving and no particular threat to the security of the free world.

And our neighbor beekeepers in Northern Virginia deserve a lot of credit for being aware, willing, skilled, and well spoken enough to pave the way for more stories like this one the next time.

Bee Kills in the Corn Belt, *continued*

and in 2004 corn seed companies began marketing seeds treated with a 5X level of neonicotinoids (1.25 mg/seed vs. .25).

... and in the space of a decade, U.S. corn acreage undergoes a ten-fold increase in average insecticide use. By 2007, the average acre of corn has more than three systemic insecticides -- both Bt traits and a neonicotinoid. Compare this to the early 1990s, when only an estimated 30-35 percent of all corn acreage were treated with insecticides at all.

Adding fuel to the fire, in 2008 USDA's Federal Crop Insurance Board of Directors approved reductions in crop insurance premiums for producers who plant certain Bt corn hybrids. By 2009, 40 percent of corn farmers interviewed said they did not have access to elite (high-yielding) non-Bt corn seed. It is by now common knowledge that conventional corn farmers have a very hard time finding seed that is not genetically engineered and treated with neonicotinoids.

Enter fungicides

In 2007, what's left of corn IPM was further unraveled with the mass marketing of a new class of fungicides (strobilurins) for use on corn as yield "boosters." Before this, fungicide use on corn was so uncommon that it didn't appear in Crop Life's 2002 National Pesticide Use Database. But in the last five years, the pesticide industry has aggressively and successfully marketed prophylactic applications of fungicides on corn as yield and growth enhancers, and use has grown dramatically as a result. This despite the fact that these fungicides work as marketed less than half the time. According to this meta-analysis of efficacy studies, only "48% of treatments resulted in a yield response greater than the economic break-even value of 6 bu/acre."

Back to the bees. Neonicotinoids are known to synergize with certain fungicides to increase the toxicity of the former to honey bees up to 1,000-fold, and fungicides may be key culprits in undermining beneficial bee microbiota that do things like make beebread nutritious and support immune response against gut pathogens like Nosema. Fungicide use in corn is likewise destroying beneficial fungi in many cropping systems, and driving the emergence of resistant strains.

As with insecticides and herbicides, so too with fungicide use on corn: Corn farmers are stuck on a pesticide treadmill on high gear, with a pre-emptively pressed turbo charge button (as "insurance"). Among the many casualties are our honey bees who rely on corn's abundant pollen supply.

Keeping us all tethered to the pesticide treadmill is expected behavior from the likes of Monsanto. But what boggles the mind is that all of this is being aided and abetted by a USDA that ties cheap crop insurance to planting patented Bt corn, and a Congress that refuses to tie subsidized crop insurance in the Farm Bill to common-sense conservation practices like bio-intensive IPM.

Try explaining that with a waggle dance.