



BEE NEWS & VIEWS

The Mississippi Beekeepers Association Newsletter

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May-June 2016

Outdoor Business Workshop for Landowners

By Jeff Harris

The Natural Resources Enterprises program (www.naturalresources.msstate.edu) sponsored a 1-day workshop for landowners and farmers in the Lexington, MS area on May 4, 2016. The workshop presented a variety of topics including federal land management programs, legal issues and inheritance, and specific topics related to management of land for wildlife, beef cattle or hardwood forests. The primary goal was to provide relevant information to help folks get more value out of their land and to avoid situations in which value is lost from not knowing particular laws, etc.

I know this may sound boring, but I attended most of the conference, and I learned many things about estate planning, land ownership and retention and legal liabilities that never occurred to me prior to the meeting.

The afternoon session featured different types of land use activities that could enhance the economic input of land. Sustainable beef production, wildlife management for deer, turkey and waterfowl, fish pond management and hardwood forest management were all discussed in great detail.

Of course, I was the last talk of the day, and I informed the group on how beekeeping could enhance the value of their land through increased pollination of agricultural commodities or wildflowers and natural landscapes. Beekeeping itself was presented as a source of income from honey and beeswax and from the selling of bees. I also discussed the current views on Colony Collapse Disorder and the relative importance of Varroa mites, viruses, Nosema, Small Hive Beetle, nutrition and pesticides in causing losses of bee colonies.

I felt like the audience was more than politely attentive, and I may have even brought some new folks to beekeeping with my efforts. Obviously, this group of people is a slightly different set of folks from my usual beekeeping audience, and I enjoyed my interactions with them.

MS Tree Farmer of the Year and Honey Bees

By Jeff Harris

On two separate occasions in early and mid-May, Bobby Watkins of Aberdeen asked me to discuss gardening and pollinators with garden clubs that were visiting his tree farm. I had never met Bobby before our phone conversation, but he seemed genuinely interested in talking about nature with the gardeners, and he really wanted to include honey bees in the conversation. On both occasions I had a great time interacting with Bobby and his guests. I did my best to tell the gardeners as much as possible about the importance of honey bees as pollinators in agriculture and in nature. I also snuck in a few items about birds (which is my other passion in life).

I enjoyed meeting Bobby and his wife, Martha. I have even placed a couple of hives on their land to help pollinate their gardens and wildflowers. Their enthusiasm for preserving nature is genuine, and I hope to repeat my participation in their educational programs in the future. After meeting with them, I read a description of Bobby's tree farm that was printed in the MSU Extension Service magazine, *Extension Matters* (volume 2, issue 2), and I realized that he has been focused on land management and preserving nature for most of his life. If you would like to read more about Bobby, you can obtain the article online using this link:

http://issuu.com/msuextensionsservice/docs/emmag_v2i2c_snglf_m/36?e=0/35696670

UGA Young Harris Beekeeping Institute Celebrates 25th Year

By Jeff Harris and UGA Staff Writer

The University of Georgia (UGA) Honey Bee Program offers an annual Georgia beekeeping event in cooperation with Young Harris College. The beekeeping event is the brainchild of Dr. Keith Delaplane, who is the research apiculturist at UGA. Keith and Jennifer Berry, his research associate, are permanent lecturers and instructors for the Institute.

The Young Harris Beekeeping Institute was held during May 19-21, 2016. The event provided a vast amount of information in the form of lectures, workshops & demonstrations from esteemed local, regional, national and international beekeeping practitioners, authors, and researchers. The event also featured hands-on training classes, beekeeping and honey judging certification programs, a distinguished regional honey show, multiple awards programs, and a renowned dinner party, and many other educational opportunities. Since 1992, the UGA & Young Harris Beekeeping Institute (YHBI) has been the single most comprehensive opportunity in the Southeast for concentrated training in all aspects of practical beekeeping.

Held on the campus of Young Harris College, situated in the heart of the beautiful Blue Ridge Mountains, the Beekeeping Institute was a four-day event with separate curricula for beginners and more



Group photo at 25th UGA Young Harris Beekeeping Institute

experienced beekeepers. I participated as a guest lecturer and as a committee member during the oral exams in the Master Beekeepers program. Other guest lecturers included Dr. Dewey Caron, Dr. Jeff

Pettis, Dr. Jim Tew, Dr. Jennifer Tsuruda, Kim Flottum and Bob Binnie.

County Extension Agents Convention in Natchez, MS

By Jeff Harris

County Agricultural Agents from Mississippi State University, Alcorn State University, Louisiana State University AgCenter and Southern University held their annual Professional Improvement Conference on May 24-26, 2016 at the Grand Hotel in Natchez, MS.



Grand Hotel Natchez

Agents received in-the-field training in just about any aspect of agriculture and wildlife biology that one could imagine. For each day of the conference, participants chose specific field trips or activities in which to attend. Topics included agronomy, grain elevators, wildlife biology, horticulture, forestry, medications in cattle, control of feral hogs, controlling termites and cleaning out spray tanks, to name a few.

There were also local tours to historic sites and featured courtyard gardens of the Natchez area, and many of these gardens have been featured in *Southern Gardening*, the MSU Extension program. For some reason, the booze tours to the Natchez Brewery Co., Charboneau Distillery and the Old South Winery appealed to me.

Beekeeping was offered as an alternative for agents on Wednesday afternoon, and I discussed basic bee diseases with *ca.* 20-25 agents at the Adams County Extension office. After an indoor lecture, we went outside to exam bee hives and to demonstrate sampling for Varroa mites.

I was also fortunate in that the A. H. Meyers & Sons, Inc. had dropped off an 18 wheeler load of about a hundred hives in an adjacent parking lot that the company uses as a staging area. This chance event gave me the opportunity to discuss commercial pollination and the rigors of transporting honey bees. I was able to show the confusion and balling of queens that can occur when bees are translocated on trucks. I hope the agents benefitted from their discussions with me, and it was good to see some old friends from Louisiana.

Beginners Workshop in Clarke County

By Jeff Harris

A new beekeeping club has been formed in Clarke County, and the group asked me to conduct a Beginning Beekeepers workshop. The event was held at Archusa Memorial Gardens in Quitman, MS on Saturday, May 28, 2016.

The information covered followed a typical itinerary for such an activity. We began with a description of personal protective gear and how to work bees. This was followed by a session on how to order and fit hive equipment with an emphasis on avoiding problems caused by mismatching frame sizes to the wrong hive body size, etc. The morning indoor session ended with a walk-through on how to install a nuc, how to feed it to draw combs, and strategies for getting it through the first winter. I emphasized how the time of year in which a nuc is received can dramatically affect the probable survival of the colony into the next year. Getting bees on the wrong or down side of a honey flow can mean the difference between survival or not.

We finished with a discussion of when and how to make splits. I emphasized that new beekeepers should develop a mindset of becoming self-sustaining. Their goal as a beekeeper should be to grow their new colonies of bees by splitting from their existing hives. They should also learn how to produce their own queens. Anyone learning to do these things does not have to be chained to the production calendars of commercial beekeepers who sell nucs and queens.

Making Connections at a Local Meeting

By Jeff Harris

I sometimes speak about honey bees to small local garden clubs or similar group in the Starkville area. One such club is the Oktibbeha Agriculture Club, and I entertained them with various aspects of beekeeping at their monthly meeting on June 2, 2016. I gave them an overview of my slant on the status of honey bees and pollinator decline in the U.S. I also outlined the factors which contribute the most to colony loss (Varroa mites, viruses, poor nutrition, pesticides, etc.).

As is usual with these kinds of talks, I was asked about the risk that neonicotinoids (a class of systemic insecticides used as seed treatments in most row crops in MS) pose to honey bees. I carefully outlined my sense of the data and the potential level of risk that this class of insecticides may pose to honey bees.

I did not dwell on any one topic for very long, and I made sure to cover the importance of honey bees as agricultural pollinators of crops (emphasizing the almond industry). I also threw in some folklore and myths about honey bees and human medicine. So, it was a real mixture of divergent topics.

The audience was very attentive, and they all seemed to glean something useful from my talk (*i.e.* I had several discussions with attendees afterwards to gauge their interest in what I had to say). I met several retired MSU Ag professors in the crowd, and then I met a journalist – which is something that I had not expected.

Mr. Hembree Brandon is the editorial director of the *Delta Farm Press*. He grew up in Mississippi and worked in public relations and edited weekly newspapers before joining Farm Press in 1973. He has served in various editorial positions with the Farm Press publications, in addition to writing about political, legislative, environmental, and regulatory issues.

He asked me if he could visit our *MSU Beekeeping Camp* during the following week, and I agreed to the visit. He spoke with me and some of the youth

participants, and he took photographs as we installed nucs into 10-framed hive bodies.

We also had a subsequent interview in my office in which we discussed wide ranging issues, but with an emphasis on insecticides and honey bees. Our talk was unhurried and comfortable, and I felt like I had known Hembree my entire life. He is currently writing an article based on our conversations that will likely be featured in the *Delta Farm Press* in the near future – so keep an eye out for it.

MSU Beekeeping Camp

By Jeff Harris

Every year the Mississippi State Extension Service hosts a *Beekeeping Summer Camp* on the main campus of Mississippi State University. The camp was held during June 5-9, 2016 this year at the Clay Lyle Entomology Building. The beekeeping camp is often scheduled the week prior to the *Bug & Plant Camp*, which is a much older and well-established camp at the same locale.

Dr. John Guyton and I co-directed both camps each year. Both of us have youth education as part of our job assignments. Additionally, I enjoy many aspects of entomology beyond apiculture, and John's interests vary through a broad range of science and nature and include beekeeping. We help each other to deliver the fun and informative camps to hungry students.



Instructing students on how to exam a colony of honey bees

The beekeeping camp is inter-generational, and a typical kid attended with a parent or guardian. All campers were housed in dormitories on

campus, and we car-pooled to get them to and from dorms, classrooms and bee yards. Although the minimal age for beekeeping camp was set to 10 years old, there is no upper limit. This year the oldest tandem pair included Jill Phillips and her

daughter, Christyna Durham, who came all the way from Kansas to participate.

Our course began with the basics. We trained students on personal protective gear, the proper lighting and use of smokers and how and what beekeeping and hive equipment should be ordered



Students looking for the queen and young brood

prior to buying bees. We emphasized smoker safety, and tried to curb the pyromania that often develops in some of the kids (right, Amory!).



Amory Hunt holds a frame of brood

We showed them how to work a colony of bees, install and grow a nuc, and how to feed sugar and protein supplements to bees when necessary.

Seasonal management and strategies for surviving the first summer and winter were also discussed. The students removed honey supers from hives and participated in all aspects of the extraction process, bottling, wax melting and the making of cosmetics, candles and soap.



Jill Phillips bottles honey



Processing beeswax

We also had a little fun every day when possible. We scheduled an hour long dessert period after supper in which some tasty homemade snack was consumed, and of course, each snack included honey as a main ingredient. We enjoyed the treats and each other's company during these periods.

Afterwards, our students engaged in a College-Bowl-style competition that we called the Langstroth Games. The competition allowed the students to show-off what they had learned during each day. During each round of competition, two teams of four players were challenged with questions about bee biology and beekeeping.

A timer and two sets of switches, buzzers and lights were used to acknowledge the first person to “buzz in” to answer a question. Although the competition was fierce, we had a lot of fun playing the game. The older campers (the Geezers) were pitted against the younger campers (the Punks) each evening, and I am sworn to secrecy and cannot tell who won most of the games!



Beekeeping Camp Group Photo

I greatly enjoyed the beekeeping campers this year. The interest and enthusiasm from everyone was extremely high. I learned much from all of them, and I can only hope that they learned as much from us.

Note: *All photos (except the group photo) in this article were taken by Laura Daniels, photographer for the MSU Office of Public Affairs. Laura worked virtually unafraid of the bees. She even laid and rolled on the ground in front of bee hives to get a good shot!*

MSU Bug & Plant Camp

By Jeff Harris

The Mississippi State Extension Service sponsors the *Bug & Plant Camp* on the main campus of Mississippi State University every summer. The camp originally began with Dr. Mike Williams, who was a row crop extension entomologist in the Department of Entomology. Currently, Dr. John Guyton directs the camp, and I have helped co-direct the camp during the last three years.

This camp focused on insects and other arthropods, and key interactions among insects, plants and humans were emphasized. The participants spent many hours outdoors with collecting field trips, nature walks and targeted collections of aquatic insects from ponds and creeks.

Each night of the camp included several hours of night collecting using black lights and mercury vapor lamps in a variety of forested locations. Participants learned taxonomic relationships among different insects, and they received extensive training on collecting, preserving, labeling and displaying insects in permanent collections. The kids also received lectures from experts in a variety of fields that included forensic entomology, insect taxonomy, insect physiology and morphology, medicinal plants and botany, insect husbandry and electron microscopy. Apiculture, entomophagy (eating insects) and insect photography were also included.



Bee beard at the end of camp

As with the MSU Beekeeping Camp, this camp was inter-generational. Campers stayed in dorm rooms, and meals were catered on site.

The camp is so well established that many campers return year-after-year, and many of these older participants have become instructors or lecturers to help train the newest, youngest campers. We tried to keep activities both entertaining and informative. For example, we surprised campers this year with me donning a bee beard, which was graciously applied to me by John, as the campers departed on the last day of camp.

Meeting with the Southeast Beekeepers

By Jeff Harris

I was the guest speaker at the June monthly meeting of the Southeast Beekeepers group that meets in the Laurel, MS area. I gave a presentation on harvesting honey and the issues related to handling honey this time of year. My primary goal was to provide an overview of honey harvest for the brand new beekeeper, which tends to profile a large portion of



Group photo of the MSU Bug & Plant Camp participants and instructors. This was the camp's 24th year!

my beekeeping audiences these days. I described how and when to remove honey from hives, uncapping and extraction, bottling, storage and problems with fermentation and granulation of honey.

I mentioned some of the legal issues related to selling honey in the state of Mississippi. I can provide documents that describe the proper labeling of honey. Additionally, I can provide information on who needs to be inspected and the requirements by the MS Health Department that must be met before being legally licensed to sell honey via retail stores or second-hand sales. If interested, please email me at jwh545@msstate.edu for more information.

The meeting ended with a Q&A session, and this was probably the best part of the meeting. I encourage everyone to ask questions at any such event whenever the opportunity arises. Generally, there are others in the audience who have the same questions, and some of them may be too shy to ask (or fear looking silly or uninformed).

I enjoyed the meeting greatly, and this group of beekeepers has become one of my favorites to visit. It is a widely divergent group that consists of experienced beekeepers, some with hundreds to thousands of colonies and > 30 years of experience, and novice beekeepers. They feed me well too!

Making Highways Safe for Bees, Butterflies and other Pollinators

Posted by Transportation Secretary Anthony Foxx

The U.S. interstate highway system helps society. Highways help people get to and from work and get goods to market – thereby supporting the world's

most powerful economy. Thanks to a partnership signed last month by the FHWA with six states, the highway system is also helping to strengthen the pollinator community, which includes bees and Monarch butterflies, along I-35 from Texas to Minnesota.

Every third bite of food on our plates is there thanks to the work of pollinators, making the health of our bee and butterfly population an issue that affects everyone. And now, the transportation community is playing an important role in keeping them healthy and thriving by helping to turn our roadways into pollinator-friendly habitats.

When it became law late last year, the “Fixing America’s Surface Transportation (FAST) Act” committed the USDOT to urge states to develop roadside habitat for honey bees, monarch butterflies and other pollinators so they would have way-stations for their annual migration. This requirement built on the foundation set by a Presidential

Memorandum from early last year which directed USDOT and FHWA to work with states to increase pollinator habitats along our roadways.

And today, the Administration is releasing the Pollinator Partnership Action Plan (PPAP), building on Federal actions to improve pollinator health by facilitating additional state and private-sector engagement. The PPAP furthers President Obama’s June, 2014, memorandum that focused the attention of Federal agencies on the plight of the pollinators—honey bee colony mortality rates that impact the viability of commercial beekeepers and

agricultural pollination services; monarch butterfly declines that threaten its iconic continental-scale migration; and other pollinator species quietly slipping toward extinction.

Here at USDOT we have worked with the U.S. Forest Service and other partners to make re-vegetation a key part of project development – from project planning to management and maintenance. FHWA supports the efforts of the states along I-35 that choose to enter into a Memorandum of Understanding that commits them to creating a “Monarch Highway.”

All across the country, a number of states have stepped up to find and implement better ways to improve pollinator habitats in their rights-of-way. We’re grateful for their efforts and for their willingness to share what they’ve learned. As we go forward, it will be important that we keep communicating and sharing information. Like America’s many roads, communication is a two-way street – so we’re asking states to let us know what they’re doing, what’s working, what’s not, and what they need so they can continue supporting pollinator habitats.

As an added bonus, these pollinator-friendly efforts don’t have to be difficult or expensive. In fact, because there’s less mowing or maintenance involved, pollinator habitat can actually be a cost-saver compared to grass. Some states only have to make minor changes to their operations – at little or no cost – and get great results.

The FHWA has taken this effort to heart, including setting up an apiary at its Turner Fairbank Highway Research Center outside Washington, D.C., and they have also replaced grass on several of sections of land at the facility with native Virginia plants to reduce water runoff and, we hope, to make a more compelling way-station for butterflies as they make their way along the East Coast. Even butterflies need a rest area.

I’m excited about this issue – partly because it’s unique – and also because it isn’t something people normally consider when they think about transportation. But supporting a healthy ecosystem with our infrastructure is not only possible, it’s the right thing to do, and it’s gratifying to use roadsides as habitats and help put food on America’s tables.

With our highway system, we want everyone to get home safely – even the bees, butterflies and other pollinators upon whom we all depend.

Honeybees Pick Up 'Astonishing' Number of Pesticides via Non-crop Plants

By PHYS.ORG News May 31, 2016

A Purdue University study shows that honeybees collect the vast majority of their pollen from plants other than crops, even in areas dominated by corn and soybeans, and that pollen is consistently contaminated with a host of agricultural and urban pesticides throughout the growing season.

Christian Krupke, professor of entomology, and then-postdoctoral researcher Elizabeth Long collected pollen from Indiana honeybee hives at three sites over 16 weeks to learn which pollen sources honeybees use throughout the season and whether they are contaminated with pesticides.

The pollen samples represented up to 30 plant families and contained residues from pesticides spanning nine chemical classes, including neonicotinoids - common corn and soybean seed treatments that are toxic to bees. The highest concentrations of pesticides in bee pollen, however, were pyrethroids, which are typically used to control mosquitoes and other nuisance pests.

"Although crop pollen was only a minor part of what they collected, bees in our study were exposed to a far wider range of chemicals than we expected," said Krupke. "The sheer numbers of pesticides we found in pollen samples were astonishing. Agricultural chemicals are only part of the problem. Homeowners and urban landscapes are big contributors, even when hives are directly adjacent to crop fields."

President – Austin Smith (601.408.5465); **Vice President** – Johnny Thompson (601.656.5701); **Treasurer** – Stan Yeagley (601.924.2582); Secretary – Cheryl Yeagley (601.924.2582); **At-Large Director** – Harvey Powell, Jr. (203.565.7547); **At-Large Director** – Milton Henderson (601.763.6687); and **At-Large Director** – John R. Tullos (601.782.9362)

Long, now an assistant professor of entomology at The Ohio State University, said she was also "surprised and concerned" by the diversity of pesticides found in pollen.

"If you care about bees as a homeowner, only use insecticides when you really need to because bees will come into contact with them," she said.

The study suggests that overall levels of pesticide exposure for honeybees in the Corn Belt could be considerably higher than previously thought, Krupke said. This is partly because research efforts and media attention have emphasized neonicotinoids' harmful effects on pollinators and their ability to travel and persist in the environment.

Few studies, however, have examined how non-crop plants could expose bees to other classes of pesticides. Looking at Midwestern honeybees' environment through this wider lens and over an entire season could provide more accurate insights into what bees encounter as they forage, Krupke said. Krupke and Long collected pollen weekly from May to September from hives placed in a nonagricultural meadow, the border of a cornfield planted with neonicotinoid-treated seeds and the border of a cornfield planted with non-treated seeds. They waited to begin their collection until after growers had planted their crops to avoid the heavily contaminated dust that arises during the planting of neonicotinoid-coated seeds.

The samples showed that honeybees collect the overwhelming majority of their pollen from uncultivated plants, particularly the plant family that includes clover and alfalfa.

The researchers found 29 pesticides in pollen from the meadow site, 29 pesticides in pollen from the treated cornfield and 31 pesticides in pollen from the untreated cornfield.

"These findings really illustrate how honeybees are chronically exposed to numerous pesticides throughout the season, making pesticides an important long-term stress factor for bees," Long said.

The most common chemical products found in pollen from each site were fungicides and herbicides, typical crop disease and weed management products.

Of the insecticides, neonicotinoids and pyrethroids were the most common in the pollen samples and pose the highest risks to bees, Krupke said. While both are toxic to bees, they differ in their relative risk levels. Neonicotinoids are more poisonous to bees but are primarily used on agricultural land. Conversely, pyrethroids are typically used where pollinators are likely to be - near homes and gardens with a diversity of flowering plants - potentially exposing bees to higher levels of chemicals and on a more frequent basis. The study showed distinct spikes of pyrethroids in August and September, months when many homeowners spray these chemicals to knock out mosquitoes, hornets and other nuisance pests.

Pollen from all three sites also contained DEET, the active ingredient in most insect repellants. Krupke said that little is known about how these diverse pesticides interact with one another to affect bees. The toxicity of insecticides, for example, can increase when combined with certain fungicides, themselves harmless to insects.

The researchers did not assess colony health in this study.

The study was published in *Nature Communications* DOI: 10.1038/ncomms11629

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