BEE NEWSLETTER

Henderson County Center

Summer 2016

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This newsletter written and/or edited by
Marvin A. Owings, Jr.

To: Henderson County Beekeepers

From: Marvin A. Owings, Jr., County Extension Director

Dear Beekeeper,

In summary, this bee season has been a "mixed bag". In the Spring we had frost and freeze events, plus rain the entire week during full apple bloom. This situation coupled with high winds made foraging very difficult. May and June were dry, producing spotty Sourwood nectar flow. Unfortunately, the rain came too late for many locations. But... some beekeepers that have their "sweet spots" produced some beautiful Sourwood honey! For most beekeepers the spring honey flow was light and spotty.

Many inspected hives contained heavy loads of mites. Especially, those that didn't swarm. Now is the time to treat your hives. NCDA, WNC Bee Inspector, Lewis Cauble recommends usingwith Apiguard rotated with ApiVar. Other recommended treatments are Api Life Var and MAQS.

We had a good Black Locus bloom, but not much honey produced. Late Summer and Fall we should expect late swarms between our daily showers. August, we should expect good production from: Golden Rod, Kudzu, Chinese Knotweed, Golden Seal, Crape Myrtle plus local wild flowers.

I look forward to seeing a great beekeeper turn out for the NC Apple Festival, H C Beekeepers Educational Exhibit, 9/2 - 9/4 (set up Thurs. 9/1 at 6:00pm on Main St.) at the same location as in years past.

This is also a great opportunity to sell excess honey.
Hope to see you there.

David Tarpy
Professor and Extension Apiculturist
Entomology & Plant Pathology

As you may or may not have heard, South Carolina recently had an incident with Africanized honey bees (AHB) earlier this year. While so much attention has been paid to CCD, varroa, pesticides, and many other threats to honey bees (and rightly so), we tend to have neglected the ever-looming threat of this long-time scourge, but I think we do so in NC at our own peril.

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NC State University A&T State University COOPERATIVE EXTENSION
Empowering People · Providing Solutions

Update from Lewis Cauble

Apiary Inspector, Western NC Region, NCDA&CS

June was relatively quiet with a generally lackluster honey harvest from the spring flow. Some are blaming the weather for the low production but it may also be related to the mild winter and the heavy swarming in April and May. There have been slightly higher than normal cases of European Foul Brood but the incidence rate is still quite low and while it is interesting it is not worrisome. Beekeepers who overwintered well and managed against swarming in the spring are seeing heavier than average mite loads and this is the greatest concern as we begin to prepare colonies for overwintering. Early reports regarding sourwood production have been very positive but the final outcome remains to be seen.

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The incident in Charleston, SC still remains ambiguous. The first reports came out that they were AHB, but a follow-up press release said that they tested as negative. While this may sound conflicting, both may be right! Remember that it can be fairly fuzzy to define or distinguish EHB from AHB, but in general there are two ways to do so.

First, officials can use morphometrics (careful measurement of body parts). There is a "quick" means to do so (called FABIS, which stands for the fast Africanized bee identification system) that simply measures wing lengths (AHB are slightly smaller, on average), and there is a "comprehensive" means to do so (called USDA-ID, that measures dozens of body parts simultaneously). Second, officials can use genetic techniques to distinguish EHB from AHB, typically testing the mitochondrial DNA inherited through the maternal line. Thus it is quite plausible that a given sample may test both positive for AHB (e.g., smaller wing lengths) and negative for AHB (e.g., European mitochondria).

The incident in South Carolina should remind us about the potential consequences of AHB being found in North Carolina: all of the public good will and positive perception about bees engendered by their plight will likely be all for naught once any and all bees are deemed "killer bees." Thus we should remain vigilant, proactive, and ready for any change in the beekeeping landscape when it comes to the AHB so that we can minimize their impact when (not if) they arrive.

What have we been up to?

There has been a huge turnover in our program these last few months, which is always a good thing! Most excitingly, Margarita has accepted her job offer from Penn State and will be starting her tenure-track faculty position there later on this year, congratulations Margarita! We've also had many of our undergraduate researchers either graduate or move on, so thanks also to Sam Freeze, Jennifer Fulp, Cameron Johnson, Omar Halawani, Jackie Fitzgerald, Joli Stavish, Allison Fowler, and Andrea Fitzgerald. Fortunately, we've been joined by a new grad student Joe Milone, an NCSU undergrad research Christopher Juberg, and a visiting undergrad from the University of Exeter (UK) Viki Blanchard, so welcome aboard! We've been keeping busy during this active field season collecting data on several projects, including the in vivo and in vitro rearing of queens. Deniz has been particularly busy in the Queen & Disease Clinic this year with samples from all over the country, so we hope that bodes well for increased traffic of samples going forward.

Both articles from
Wolfpack's Waggle, Issue 3, July 2016

USDA Scientists and Beekeepers Swap Colonies to Better Bees

BELTSVILLE, Md., June 21, 2016 —The U.S. Department of Agriculture's (USDA) Agricultural Research Service (ARS) Bee Research Laboratory and Geezer Ridge Farm apiary have begun an unusual partnership that may help honey bees take another step up the survival ladder.

"Usually with science, researchers finish a study and turn the results over to beekeepers to apply; then researchers start on the next experiments and so on," explains entomologist Jay Evans, research leader of the Beltsville, Maryland lab and one of the USDA's pioneers in bee health science.

This time, the Bee Research Lab is studying the success Geezer Ridge Farm in Hedgesville, West Virginia, has had improving honey bee health after applying USDA research results.

Last winter, beekeepers Cheryl and Ed Forney lost only 4 percent of their bee colonies compared to the national average of 30 percent.

"We believe strongly in science-based beekeeping. It's the Bee Research Lab—some of the most talented and published researchers in the country—that helped us get our colonies as healthy as they are now. From their (ARS') information, we've adapted management strategies and bred bees that are tailored to the Mid-Atlantic's climate," Ed Forney said.

To see if this success is scientifically repeatable, Geezer Ridge Farm and the ARS Bee Research Lab are exchanging colonies. Forty USDA hives have already taken up residence in West Virginia and another 80 may join them to see if they will survive the 2016-2017 winter in better condition under Geezer Ridge Farm management.

"This is an opportunity to give back. We are going to see if we can stabilize the USDA research colonies and make them as sustainable as the stock here at Geezer Ridge Farm," Forney added.

Thirty-five of Forney's 250 colonies have come to Beltsville where ARS researchers will study their basic biology and genetics to see if they differ from the average honey bee. In the process, they'll try to pinpoint whether their increased survival is due to better genetics, better management, or both.

Three ARS Bee Research Lab scientists are involved in the partnership with Geezer Ridge Farm. Each focuses on a different research area addressing threats to bee health. Insect physiologist Miguel Corona, who initiated this collaboration, focuses on bee nutrition such as devising new ways to deliver more protein in honey bee diets. Entomologist Steven Cook is studying how to improve honey bees' physiological health as well as their abilities to overcome stress. Lastly, Jay Evans's work concentrates on researching and combating bee disease.

The Agricultural Research Service is the U.S. Department of Agriculture's chief scientific in-house research agency. The Agency's job is finding solutions to agricultural problems that affect Americans every day from field to table. ARS conducts research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to ensure high-quality, safe food, and other agricultural products; assess the nutritional needs of Americans; sustain a competitive agricultural economy; enhance the natural resource base and the environment and provide economic opportunities for rural citizens, communities, and society as a whole.

ARS News Service at NewsService@ars.usda.gov, by Kim Kaplan, June 21, 2016

BIP winter-loss survey shows last winter to have high losses (which is now normal)

In Groundhog Day, Bill Murray's character (Phil Connors) is a misanthropic TV weatherman who relives the same day ad infinitum while covering whether or not Punxsutawney Phil (the infamous groundhog in Western PA) sees his own shadow. Sometimes I feel like the reports about our managed honey bee population is stuck in a similar loop…

The Bee Informed Partnership recently published its latest survey results, and in many ways they aren't too different from past years. Average losses were 14.7% over the summer, 43.7% over the winter, and 49.0% over the entire year. This isn't all too different from the running average totals since 2006 (see Figure), with some years being higher than others but none being within the range that beekeepers deem acceptable.

As usual, there are a lot of data in these reports, so some things that really stood out this year were that summer losses were much higher in commercial beekeeping operations and winter losses were much higher in backyard or hobbyist operations. While there is power and utility in looking deeply into the results for any given year, there is also tremendous value to look across time to see if there are any trends among years. While there does not seem to be any evidence that things are getting better or worse in terms of colony losses, there are some interesting trends that have emerged since 2006 as to what beekeepers are attributing to the causes of their losses (see Figure page 4).

In particular, the top-ranked issues that beekeepers have been facing over the last decade have consistently been related to environmental factors and management practices; starvation is a function of local forage availability, 'weak in fall' can be addressed by colony manipulation, and weather is just that. Interestingly, 'queen failure' ranks above all disease-related issues — significantly higher than parasitic Varroamites, Colony Collapse Disorder (CCD), nosema, and even pesticides. For this reason, our research has been focusing on improving queen reproductive quality in an effort to mitigate queen problems and therefore improving colony productivity and fitness.

	2009	2010	2011	2012	2013	2014	Avg.
Starvation	37%	59%	39%	31%	30%	36%	37%
Weak in fall	11%	24%	34%	34%	32%	33%	28%
Weather	16%	52%	31%	10%	18%	46%	26%
Queen failure	20%	17%	24%	32%	26%	19%	24%
Varroa	15%	21%	20%	17%	23%	17%	20%
CCD	6%	8%	7%	9%	11%	7%	8%
Nosema	7%	7%	12%	6%	6%	5%	7%
Pesticides	4%	5%	5%	7%	8%	7%	6%
SHB	-	-	4%	4%	6%	5%	5%
No. beekeepers	571	1587	2682	2887	4681	4903	
Reference	vanEngelsdorp (2010). *JAR*	vanEngelsdorp (2011). *JAR*	vanEngelsdorp (2012). *JAR*	Spleen et al. (2012). *JAR*	Steinhauer et al. (2014). *JAR*	Lee et al. (2015). *Apidologie*	

Results from the Bee Informed Partnership surveys, ranking the most common causes of honey bee colony mortality. 'Queen failure' ranks higher than any specific disease or parasite, making means to mitigate queen loss a top priority for the apiculture industry.

In Your Bee Yard

September in Your Beeyard:

- Requeen if necessary or planned
- Provide ventilation for wintering
- Inspect for stores and have a minimum of 45 pounds of feed on each colony
- Feed Fumidil-8

October in Your Beeyard:

- Package all hive products: Honey, Mead, Polish, Propolis, Candles, Beeswax, Gift Boxes
- SELL, SELL, SELL!

November in Your Beeyard:

- Develop more markets for your products & sell
- Buy Equipment for next year at this year's prices
- Prepare supers for honey flow.
- Advertise for bee removal service.

December in Your Beeyard:

- Develop more markets for your products & sell
- Buy equipment for next year at this year's prices

American Foulbrood Update

American Foulbrood Found in Greenville County

Wanted to inform the all beekeepers that we have confirmation from the Beltsville Bee Lab of American Foulbrood in Greenville County. To be more specific AFB was found in the Cleveland Park area of Greenville. We are not planning to conduct a formal survey, however by informing fellow beekeepers we hope to get cooperation and reporting…

From:
Stephen Bradley Cavin
Chief Apiary Inspector /Plant Pest Specialist,
Clemson University

In NC please contact:
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I recommend you practice good hygienic behavior in your apiary. Keep activity from outside visitors to a minimum. Know where any visitors have been sticking their tool.

From the Clemson Extension Ocenee County Facebook page

Henderson County Center
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We are in the planning stage for our Annual Bee School. It will start in January 2017, and will be held at the Mountain Horticultural Crops Research and Extension Center in Mills River on Monday evenings. Watch for more details in the coming months!

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Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly and human errors are possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying any pesticide.

Persons with disabilities and persons with limited English proficiency may request accommodations to participate in programs mentioned in this newsletter, by contacting Marvin Owings 828 697-4891 or in person at the Extension Office at least 4 days prior to the event.

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