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2007 Young Harris Beekeeping Institute



Young Harris College and the University of Georgia are offering the sixteenth annual Beekeeping Institute, May 17-19, 2007. Since its inception in 1992, the Institute has grown to become the largest and most comprehensive beekeeping educational event in the Southeast, offering classes for beekeepers at all levels of experience, sponsoring the Georgia Master Beekeeper Program (GMBP), and partnering with the Welsh (UK) Bee Keepers Association to provide North America's only licensing program for honey judges. For 2007 we are continuing the tradition of well-rounded instruction for beekeepers at every level of experience. Thursday May 17 is dedicated to training and certification examinations for the GMBP Journeyman, Master, and Master Craftsman levels as well as the Welsh Honey Judge qualifications.

Training and certification for the GMBP Certified (beginner's) level are incorporated into the normal activities for the beginners' track Friday and Saturday.

The Institute proper, Friday and Saturday, features a 2-track system – one track for experienced beekeepers and another for beginners. Facility limitations force us to cap enrollment at 150. If you cannot pre-register, please call first to make sure there's space before you make the trip. Besides a steady diet of beekeeping basics, the Institute offers a smorgasbord of the latest research and coverage of industry mega-trends. Participants in the 2007 Institute will benefit from the latest information on Colony Collapse Disorder, a new species of *Nosema*, new research on the economics of chemical-free beekeeping, and the implications of global warming on beekeeping.

One small change for 2007 is the addition of an optional lecture series on Friday and Saturday afternoons open to all students regardless of track. This will be simultaneous with the normal afternoon workshop offerings. We are also for the first time offering recertification credits for pesticide applicators registered with the Georgia Department of Agriculture.

One of the most rewarding opportunities of the Institute is the annual Honey Show. Besides typical categories in honey, the Honey Show includes classes in photography, art, candles, cut comb honey, mead, and beekeeping gadgets. We urge students to participate in the Institute Honey Show, even if you've never competed before. Cash prizes are awarded. All awards, certifications, and pesticide applicators credits are announced at the Closing Convocation Saturday. Details about all of this and more can be found on our website at www.ent.uga.edu/bees.

We look forward to seeing you at the 2007 Beekeeping Institute!

Colony Collapse Disorder

Probably by now you have heard about the latest problem facing the beekeeping industry: Colony Collapse Disorder or CCD. It has been a topic of conversation on most beekeepers lips for several months. Even the media has become interested. CCD has appeared in almost every small town or large city newspaper including the New York Times, has been aired on NPR's news programs, and even appeared on MSNBC's news show. It is a good thing that the media is putting a spotlight on the importance of our famed friend, but it can be difficult to distinguish truth from hype. Last Friday, a reporter called me for an interview and asked me if Georgia was experiencing catastrophic colony losses like the rest of the country. He said he read that 80% of the honey bee colonies in the US have died. It amazes me how quickly stories take on a life of their own and become so distorted from the truth.

So let's step back and look at what we know so far. Every year colonies are lost. Simple fact, however late last year, the beekeeping community became alarmed when colonies were suddenly dying off in record numbers. Reports of losses ranged from 30-90% with the upper range causing the most concern. After investigation, it was reported that this phenomenon of sudden colony collapse may have been occurring for the past 3 years. Late last year, researchers began collecting samples from affected colonies around the country. To date, there is no plain culprit.

But one common thread tying these colonies together is the symptoms being reported. Primarily, it is the absence of bees in the hive. One day there's a thriving colony with a good population and then the next, nothing but a queen, a few young bees and immature brood. No dead bodies on the bottom board, no dead bodies mounding out front of the colony, simply no bodies dead or alive. The worker bees, for whatever reason, are no longer in the colony. Then these colonies void of bees don't attract robbers or invasion by wax moths or small hive beetles. At first one thinks, ah ha, I got it, toxic residues must be lingering in the hive keeping the workers and ectoparasites at bay. Well, during the peak of these observations (fall/winter) these pests were not as active.

Last week a consortium of about 60 beekeepers, researchers, and representatives from industry and USDA met to try and put the pieces together. The strategy meeting was broken into four distinct sessions in order to address possible causes of CCD: parasitic mites and pests, pesticides in and outside the hive, pathogens and viruses, and stress and management. What could be the possible causes of CCD was the main question. Also, what type of research and extension efforts needs to be addressed? There are many questions, many theories, but no clear cut answers. So, let's explore some of the possible causes being investigated (sorry, but death by cell phones just didn't make the cut).

Diseases and parasites:

Honey bees are plagued with numerous diseases and parasites. The most common diseases in our country being American and European foulbrood, chalkbrood and Nosema (I'll get back to the Nosema controversy in a minute). A large number of these disease-causing organisms were discovered in the initial samples collected but were not the cause of the colony collapse. These organisms are usually associated with colonies under conditions of stress. One thought is the bees' immune system is weakened (by something?) and therefore these pathogens have the ability to rapidly reproduce.

Parasites, like tracheal and varroa mites, take their toll on colonies every year, however they have been ruled out as sole cause. However, the viruses they transmit to their hosts are a whole different story and under extensive analysis at this point.

Now for an interesting development with Nosema. Several months ago Dr. Tom Webster at Kentucky State University found *Nosema ceranae* in one of their KSU hives. Until recently *Apis cerana*, the Asian honey bee, was thought to be the only host for *N. ceranae*. The causative agent for Nosema in the states has been believed to be *Nosema apis*. But this may not be the case any more. Since the discovery of *N. ceranae* in the states, the KSU and Beltsville labs have analyzed numerous samples by a PCR test (simply put, a technique used for the detection and diagnosis of diseases, among other things, by amplifying DNA). Some of these samples date back to the early 1990s. The samples are testing positive for *N. ceranae*. None of the samples to date have tested positive for *N. apis*. This poses some interesting questions: how long has *N. ceranae* been in the states and did it displace *N. apis*?

Pesticides in and outside the hive:

Each year beekeepers treat their colonies with a concoction of drugs and pesticides to ward off diseases and pests. Over time, researchers and beekeepers have become aware of the adverse side effects associated with their use, especially with queen and drone reproductively. But, how is long term use of these chemicals affecting our colonies as a whole? And at what concentration do these sub-lethal compounds become lethal? Or do combinations of these chemicals produce lethal compounds? These are all questions that now need to be addressed.

Just as with our colonies, farmers too must rely on chemicals in order to keep crops alive in the field. However, agricultural poisoning is probably not the cause of CCD since the time when CCD was widely reported was fall through winter. Plus, bee poisoning is easily detected by the number of dead and dying bees in front of colonies. However, new classes of chemicals are being developed everyday. These chemicals may not be as safe for the honey bee over long periods of exposure. Several years ago France banned the use of the insecticide Imidacloprid because of charges it caused large bee kills across the country. Imidacloprid belongs to a class of insecticides called Neonicatenoids. It is a systemic insecticide used for the control of sap sucking insects in crops and blood-sucking insects in animals. Even though it is a systemic, absorbed by the plant and not applied as a foliar spray, the product may still end up in the nectar and pollen. Recent studies on the effects of Imidacloprid proved that Imidacloprid impaired forager's cognitive ability. They became confused in the field and were unable to find their way home. What happens next is a slow dwindling of the colony's foraging force.

Pathogens and viruses:

The variety of viruses that affect adult honey bees is more likely one of the culprits to CCD. Honey bee viruses are more common than we think because most exist without causing symptoms. However, when colonies are inundated with other problems, varroa infestation, Nosema, poor nutrition, etc, viral loads increase causing illness much like viral infections in humans. Samples collected from colonies having CCD symptoms were analyzed and tested positive for viruses. Fungal infections (not chalkbrood) were also detected which has raised some concern.

Stress:

As mentioned earlier, colonies undergoing “stress” are more susceptible to diseases. So what is causing the bees to be stressed? How about having to deal with 10s of thousands of your siblings each and every day. Ok, maybe that’s not it. Bees are stressed in many different ways. Loading them on trucks and hauling them for pollination services puts stress on colonies. Lack of nutritional floral sources causes stress. Inclement weather (drought, heat, cold, wind, etc.) can put colonies under stress. Certain management practices can cause stressful conditions for colonies. And then the problems already mentioned above cause stress for colonies.

At this point the jury is still out on the actual cause of CCD. But one thing is becoming clear; there doesn’t appear to be one single factor responsible for CCD but a combination of things.

Management Calendar: May - July in Georgia

It seems our weather pattern is getting stranger every year. The exceptionally warm winter brought on an explosion of blooms earlier than usual. Colonies flourished during this time and here at the lab they actually put up one to two supers of honey. New comb was being drawn out in early March which is something we usually don’t experience in the Piedmont region until April. Then overnight it came to a crashing halt when temperatures plummeted to the lower 20’s for several evenings. The bees faired just fine, however, the fruit and ornamental growers in our area got hit hard. The entire peach, blueberry, apple and strawberry crops were wiped out from Macon north. Ornamentals were also hit hard along with several tree species.



Tulip Poplar

Tulip poplars terminated most of their blooms, hence the poplar flow was at a minimum to none for the entire state. Farther to our south frost posed a problem also for the Tupelo trees. All the newly formed, tender leaves and flowers just could not withstand the freezing temperatures, therefore most of the trees were defoliated. If that wasn’t bad enough, now the southeast is experiencing raging wild fires. Over 80,000 acres have burned and are still burning.

Once the smoke clears we will see how hard the area was hit, but I can only imagine numerous apiary sights were lost. Also, with the ground being so dry, farmers are having a hard time

getting crops in the field. To our south, cotton provides a good source of nectar, but with the lack of rain, it too may be in jeopardy.

Gallberry is also at risk. With little to no rain experienced in our state, gallberry will more than likely not produce much. Gallberry needs good moisture in the spring months in order to set the blooms and then hot and humid weather. The heat is here but with drought conditions, humidity levels are extremely low. The sourwood trees to our north seem to be ok at this point but only time will tell.



Gallberry



Blackberry



Privet

On a brighter note, the blackberry, privet, and clover have rebounded just fine and we are experiencing another nectar flow. It's a guessing game at this point on how decent of a flow we will have, but so far it is looking fair to good.

Even if the flow in your area proves to be at a loss, colonies still need to be managed. Make sure the colony has a healthy, young queen with a solid brood pattern. Medications for disease prevention along with Varroa and Tracheal mite treatments should have already been completed. However, Varroa mite treatments may be unnecessary if your colony mite level is below the economic threshold of 60-190 mites in a 24-hour sticky sheet test.

Continue to be vigilant about swarm prevention and control. Colonies will still swarm even into the late summer months. If you are in an area where a summer flow doesn't occur, make sure to leave enough honey on the colony to survive the summer and winter months. An average colony in our region needs 35-40 lbs of honey to survive. If the flow was negligent then you will need to feed the colony to gain the weight. Another problem during the dearth periods is robbing. Strong colonies will literally "rob" all of a weaker colonies food supplies. Once robbing gets started in an apiary, it is almost impossible to stop it; therefore, precautionary measures should be taken. Colonies should be equalized throughout an apiary. Weaker colonies are very vulnerable to robbing from stronger colonies. Entrances should be reduced by screen and all gaps and cracks should be taped to discourage foreign bees from entering a colony. If this dry weather pattern continues, you may also have to provide water for your colonies if none is nearby.

Hopefully the weather will turn around and we will have a decent summer flow.

Electronic Delivery of *Georgia Bee Letter*

If you would like to receive *Georgia Bee Letter* via email, send me your address at jbee@uga.edu. Please put a reference to the GBL in the subject line so I know you are requesting the newsletter. Every day I receive numerous advertisements or "spam," and I delete them immediately. If you have sent me your address and not received the *GBL*, please send it again. Since the last time I sent out this newsletter I was hit with a virus which wiped out all my new/old mail. Yes, this has happened before so I have changed my e-mail address which should be more secure. Also, notify me if there are changes to your club meeting times or contact persons, or any interesting information about your club.

How to Get Georgia Bee Letter

GBL can be received electronically by emailing your request to jbee@uga.edu

Regular Meetings

Bartow Beekeepers Association	7:00 pm, second Tuesday	Agriculture Services Building, Cartersville (320 West Cherokee Ave)
Chattahoochee Beekeepers Association	7:00 pm bimonthly, second Monday	Oxbow Meadows Nature Center, Columbus
Cherokee Beekeepers Club	7:00 pm third Thursday	Cherokee County Justice Building, Canton
Coastal Area Beekeepers Association	7:00 pm second Monday	Southbridge Tennis Complex, Savannah
Coweta Beekeepers Association	7:00 pm second Monday	Coweta Fairgrounds Conference Center
East Central Georgia Bee Club	7:00 pm fourth Monday, (bi-monthly)	Burke Co. Office Park Complex
Eastern Piedmont Beekeepers Association	7:30 pm first Monday	Bishop Community Center, Bishop
Forsyth Beekeepers Club	6:30 pm third Monday	Forsyth County Library, Cumming
Heart of Georgia Beekeepers Association	7:00 pm second Monday	GA Farm Bureau, 1620 Bass Rd., Macon
Metro Atlanta Beekeepers Association	7:00 pm second Wednesday	Atlanta Botanical Garden, Atlanta
Mountain Beekeepers Association	7:00 pm first Tuesday	Mountain Regional Library, Young Harris
Northeast Mountain Beekeepers Association	7:00 pm second Thursday	Northeast Georgia Regional Library, Clarksville
Northwest Georgia Beekeepers Association	7:00 pm second Monday, Jan - June & Sept	Walker County Agric. Center, Rock Spring
Southeast Georgia Beekeepers Association	7:00 pm fourth Tuesday, Aug-March	Wacona School Building, Waycross
Southwest Georgia Beekeepers Association	7:30 pm last Tuesday, even months	Swords Apiaries, Moultrie
Tara Beekeepers Assn (Clayton Co. area)	7:30 pm third Monday	Reynolds Nature Preservation

Beekeeping Subscriptions

<i>American Bee Journal</i> , Hamilton, Illinois 62341	(217) 847-3324
<i>Bee Culture</i> , 623 W. Liberty Street, Medina, Ohio 44256	(330) 725-6677
<i>The Speedy Bee</i> , P.O. Box 998, Jesup, Georgia 31598-0998	(912) 427-4018

Resource People for Georgia Beekeeping

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