



The University of Georgia

College of Agricultural and Environmental Sciences
Department of Entomology



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Editor: Jennifer Berry, Agricultural Research Coordinator

University of Georgia Leads \$4.1 Million Grant to Reverse CCD



Dr. Delaplane, Project Leader of the UGA Bee Lab and Jennifer Berry, UGA Bee Lab Research Professional

This past July, Agriculture Secretary Ed Schafer announced that the University of Georgia is lead institution in a \$4.1 million CAP grant to study CCD over the next four years. CAP is short for “Coordinated Agricultural Project” and is funded through the USDA’s Cooperative State Research, Education and Extension Service (CSREES). UGA will serve as lead institution in a consortium of 19 scientists from 16 institutions working together to reverse honey bee decline.

The beauty of a CAP grant is implied in the title: Coordinated. Each of the 16 institutions will collaborate, pool resources, and offer their own distinct

expertise but at the same time be responsible for objectives which have been laid out in the grant protocol. Because of this, redundancy will be eliminated and precious time saved. A coordinated effort across different disciplines and state lines is exactly what's needed to find out what is causing CCD.

Four agents of concern that will be focused on are Varroa, *Nosema ceranae*, Israeli Acute Paralysis Virus (IAPV), and Deformed Wing Virus (DMV). The participants have agreed on a plan of action which includes four primary goals. First is to determine the causative agents of CCD and mitigate them. Second is to incorporate resistant traits and increase genetic diversity in honey bee populations. Third is to improve conservation and management for non-*Apis* bees, and the Fourth - to deliver this information to client groups.

The team scientists will bring to the table expertise in genomics, breeding, pathology, immunology and applied ecology in order to decipher why bees are dying. Here is a list of the players and their particular goals.

- Dr. Keith Delaplane is CAP project director as well as director of the UGA honey bee program. Dr. Delaplane is a Professor of Entomology and has been involved in honey bee research for 18 years. The UGA bee lab will be involved with an economic analysis of varroa IPM as well as a joint stock selection and maintenance program with colleagues at Washington State, University of Minnesota, Purdue, and Cornell.
- Dr. Kate Aronstein, USDA Bee Lab in Weslaco, Texas will be working on *Nosema ceranae* along with Drs. Tom Webster at Kentucky State, Zach Huang at Michigan State, Leellen Solter at the Illinois Natural History Survey, and Christina Grozinger, soon to move to Penn State.
- Dr. Anne Averill from the University of Massachusetts will be studying the effects of insecticides on non-*Apis* bees.
- Dr. Nick Calderone from Cornell will be studying genetic variability of northern bee populations. Desirable queens will be sent to Dr. Greg Hunt at Purdue University and Dr. Steve Sheppard at Washington State University. Both will incorporate these queens into their resistant breeding program. Dr. Calderone will also develop stock selection protocols for honey bee breeding programs.
- Dr. Diana Cox-Foster from Penn State will be developing pathogen diagnostic methods as well as working on pathology of viruses and their interactions with other stress agents.
- Dr. Robert Danka from the USDA Bee Lab in Baton Rouge will be working on finding honey bee strains resistant to Varroa. He will be collaborating with Dr. Hunt and Dr. Marla Spivak from the University of Minnesota.
- Dr. Frank Drummond from the University of Maine will be studying bumble bee management practices.
- Dr. Brian Eitzer from the Connecticut Agricultural Experiment Station will be performing pesticide residue analysis.
- Dr. Marion Ellis from the University of Nebraska will be examining sub-lethal effects of pesticides on honey bees.
- Dr. Greg Hunt at Purdue will be conducting work on the genetics of honey bee resistance, using the honey bee genome to develop marker-assisted selection techniques for breeding mite-resistant bees.

- Maryann Frazier and Drs. Chris Mullin and Jim Frazier from Penn State will be working on sub-lethal effects of common beekeeping chemicals.
- Dr. Nancy Ostiguy at Penn State will be working on the epidemiology of Israeli Acute Paralysis Virus (IAPV) and Deformed Wing Virus (DMV).
- Dr. Steve Sheppard at Washington State University will be looking for new sources of genetic variation in North American bee populations.
- Dr. John Skinner from the University of Tennessee will be collecting information from all collaborators and compiling it onto a dedicated bee website at eXtension.org.
- Dr. Marla Spivak from the University of Minnesota will be working with Drs. Danka and Hunt to develop mite-resistant stocks and teaching commercial queen breeders how to incorporate these traits into available queens.
- There will be six stationary apiaries established across the country to serve as sentinel sites for tracking disease and disorders. They will be located in California (Dr. Kirk Visscher), Washington, Texas, Pennsylvania, Minnesota, and Maine.

As you can see, it is an impressive list of scientists. At first glance \$4.1 million seems like a lot of money. However, once you figure in equipment, labor, travel, and being divvied up among 16 participants over four years, it quickly translates to rather modest awards for each lab. Research is expensive, and CCD will not be fixed with one or two grants. A sustained level of research support over many years is necessary to secure the future of bees and the American beekeeping industry.

UGA Bee Lab Welcomes New Employees



Kathryn busy counting mites, something we do a lot of around here.

Three months ago the UGA Bee Lab went on a hiring frenzy and acquired three new employees: Kathryn Miller, Charles Gwyn and Robert Collom. Kathryn is a Mathematics instructor at UGA and works part time now that classes have started back. Charles is a senior and will be graduating this December with his business degree at UGA. He will continue to work for the bee lab while pursuing entomological interests in graduate school. Robert is a beekeeper, father of four, and has been a construction manager for 22 years.



Charlie and Robert preparing for another full day in the field collecting data.



Jim Kenaston

In late August Jim Kenaston was hired as a full time employee who will be managing the CAP grant for the next four years. His primary duties will be managing budgets, facilitating information between team members, working with the web platform eXtension.org, assisting with research, and arranging logistics for regular team meetings.

We are fortunate to have all four working for us. Without them our research efforts would be unattainable.

UGA and Clemson Awarded \$96,000 Critical Issue Grant to Investigate Sub-lethal Effects of Miticides and Chemicals

This past spring UGA and Clemson University honey bee labs started a two-year project to investigate the sub-lethal effects of chemicals on honey bee colonies. There are three objectives for this study.

- Assess the effects of chemicals (labeled and non-labeled) on honey bee colony health and performance.
- Assess the effects of chemicals on brood survivorship and adult longevity.
- Assess the effects of the chemicals on worker learning and responsiveness to queen pheromone.

Commonly used miticides were chosen for this study: coumaphos, fluvalinate, and amitraz. Method of application for the miticides was Check Mite Plus™, (coumaphos), Apistan® strips (fluvalinate), Taktic® (amitraz), and Maverick (fluvalinate). Using Taktic® and Maverick in

honey bee colonies is illegal but has widespread use among the beekeeping community; therefore we felt it was important to include it in our study. An additional chemical is being studied - copper naphthenate which is applied to bee hive equipment as a wood preservative. A total of six treatments are involved with one being a control.

Two apiaries with 24 colonies each were set up this past spring. Each treatment is represented in each apiary. Two rounds of treatments will be applied each year as recommended for control of Varroa corresponding with data collection.

Pesticide Data May Tell Why Bees Die: Bayer Product at Heart of Lawsuit

The following was taken from The News & Observer, August 22, 2008. McClatchy-Tribune Information Services via COMTEX

A Bayer Crop Science pesticide is at the center of a legal battle for research data that could help explain what's killing U.S. honeybees in large numbers. The lawsuit, filed Monday in a Washington, D.C., federal court, accuses the U.S. Environmental Protection Agency of hiding the honeybee data. The Natural Resources Defense Council sued after the EPA missed a deadline to respond to a Freedom of Information request the council submitted July 17. It's not unheard of for federal regulators to take years to fulfill an FOIA request. But in the case of Bayer's pesticide chlothianidine, the Natural Resources Defense Council decided to push hard. "It's an aggressive suit," said the group's spokesman, Josh Mogerma. "But in a scientific mystery that threatens the U.S. food supply, business as usual is not acceptable."

Dale Kemery, an EPA spokesman, declined comment until the agency fully reviews the lawsuit. John Boyne, a spokesman at Bayer CropScience's U.S. headquarters in Research Triangle Park, said some of the data the Natural Resources Defense Council is seeking was published in a scientific journal a year ago. "I don't know why they filed the lawsuit," Boyne said.

Chlothianidine is made to coat corn, sugar beets and sorghum seeds and protect them from pests. But the chemical has the potential to be very toxic for bees. Three months ago, German regulators banned chlothianidine and related chemicals after the family of pesticides was blamed for the destruction of about 11,000 bee colonies earlier this year. The EPA approved the use of chlothianidine in 2003 on the condition that Bayer submit safety data, including how the use of the pesticide affects hives over the life of a honeybee.

"We met all the requirements of the conditional approval," Bayer spokesman Boyne said. Results of a field study that monitored the long-term effects of chlothianidine on honeybees were published in the June 2007 Journal of Economic Entomology, Boyne added. The NRDC thinks the data from that study might show whether chlothianidine plays a role in the sudden loss of millions of U.S. honeybee colonies. The phenomenon, also known as colony collapse disorder, threatens a significant portion of the U.S. food supply. About one out of every three mouthfuls in the U.S. diet stems from crops pollinated by bees.

Varroa Found Once Again on the Island of Oahu

For decades the Hawaiian Islands have escaped infestation by Varroa mites. But it looks as though this may no longer be the case. Just recently mites were found once again on Oahu. They were discovered just outside Hilo on the eastern side of the island. A rapid response team is currently destroying all feral colonies within a 5 mile radius of Hilo Bay. Hopefully the plan will work and the mites will be eradicated from the island. But this seems almost impossible since mites were already discovered there in 2007.

Oahu is home to the largest queen exporter of the islands and one of the largest “organic” honey producers in the U.S. The mite could be disastrous for beekeepers on the island and have many concerned about their fate. Garnett Puett, owner of Captain Cook Honey Company, was quoted saying “It’s obviously a disaster, to say the least. This is probably the last place on the earth that has been clean of this (mite)”. Honey bees are responsible for a \$4 million dollar commercial industry in Hawaii which includes honey and queen production.

Michael Kliks, owner of Manoa Honey Company said he lost about two-thirds of his honey bee colonies when mites were discovered on Oahu last year. State employees are setting up swarm traps and sampling bee hives in Hilo. They are trying to discern if the newest discovery of mites is part of the established infestation from last year or a new one.

Last year when the mite was first discovered swarm traps were set around state ports for detection and elimination. The idea was to exterminate colonies around the Honolulu airport and harbor to prevent mite infested bees from hitchhiking to other islands. Beekeepers on the island are frustrated with the way the state handled the infestation situation. “The state should have killed all the bees on Oahu to rid the islands of the pest,” said Kliks, president of the Hawaii Beekeepers Association. “I was just terribly distressed and angry that the state Department of Agriculture didn’t take our advice,” he said. “If nothing else, that will buy you time. This is an irreversible process. Now we’ll have varroa mites here forever.” Administrator Wong defended the state’s efforts, saying there is no pesticide to legally kill all the bees. “We’ve done the best we could,” with the regulatory authority available, he said.

Management Calendar: September – November in Georgia

For months now the entire horticultural farm staff and myself (plus everyone in Georgia) has been praying for rain. Central Georgia was once again experiencing an exceptionally dry year. Everything was wilted or just plain dried up. For that reason during lunch we would sit around the table and imagine what it would be like if it were to rain. Our favorite fantasy was to think how wonderful it would be if a small hurricane or tropical depression would make its way up to our parched land and dump inches. And finally our wishes came true. This past week the remnants of Fay dumped almost three inches of rain in the Athens area. It was wonderful to see this wet stuff fall from the sky for more than 10 minutes. Actually it lasted for over 24 hours. To our north, west and south it was a different picture. Speaking to Bob Binnie in the North East

corner of Georgia, they received over five inches of rain in just one night. But the south was the hardest hit with some areas receiving over 20 inches. I just can't fathom that much rain.

Well as they say it is only a drop in the bucket, but at least we got a drop. Now that we aren't spending all our energy trying to save our gardens it's a good time to do some beekeeping. So, before chilling winds begin to blow we better ensure that our colonies are in the best shape possible. They are several demanding months ahead so let's give them all the help they can stand. Remember most colonies are lost during the winter months, but this doesn't have to happen.

Here is a list of things to check for.

1. Check colony honey and pollen stores
2. Assess colony mite levels
3. Check viability of queens
4. Examine equipment
5. Check for diseases
6. Provide proper protection

The leading cause of colony death over the winter is starvation. Now is the time colony food supplies need to be assessed. In the next few months we may experience a modest nectar flow, golden rod, but this all depends on location. My experience with the golden rod flow in the Piedmont region has been minimal to none. Don't rely on golden rod to supply your winter needs. Colonies lacking in the amount of food required to survive the winter need to be fed. If your colonies need a substantial amount of food you must start feeding today! Once the temperatures drop the bees won't be able to break cluster to collect the food. All the syrup in the world will be useless if the bees can't get to it.



Top feeder

Average sized colonies in this part of the country require a full medium super for winter survival. If a colony is in need of this feed them roughly five gallons of 2:1 sugar syrup. I wouldn't recommend feeding the five gallons all at once because sugar syrup tends to go bad, especially in warmer temperatures. But feeding one to two gallons at a time has not been a problem for us. Options for feeding large amounts of syrup at once are top feeders, and buckets. If you use the top feeders make sure they are

robber free. In other words robbers aren't able to enter from the outside. Also check for leaks. It could be devastating this time of year to have several gallons of sugar syrup pour into your colony.



Bucket feeder

Buckets are another easy way to feed large quantities of food. The suppliers usually sell 2 gallon buckets with a removable plug in the center. You fill the buckets with syrup and turn it upside down with the plug intact. Vacuum suction keeps the liquid from pouring out. But be careful! If the seal has been compromised or the plug isn't inserted properly, the syrup may pour out all at once. Not a good idea to drench your colony with two gallons of sugar syrup. When feeding we bring a 5 gallon bucket with us to the yard. Just prior to setting the bucket onto the colony we turn it upside down over the 5 gallon bucket and let it drain. It's also best not to let it spill onto the ground around your colonies. It will attract robbers, ants, the beloved yellow jackets and other sugar seeking, hungry critters. Once syrup is no longer dripping we place it onto the colony. By the end of the

day, depending on how many hives were fed, we may collect a gallon of syrup.

Now that you are confident that there is plenty of honey let's monitor colony Varroa mite levels. Varroa populations peak this time of year so it's important to check mite loads. If your colony has more than 60 mites on a sticky board inserted for 24 hours, it is time to treat. If you are unfamiliar on how to monitor mite populations in your colonies go to our web-site (www.ent.uga.edu/bees) and click on honey bee disorders and then Varroa mites. There's information available on how to examine mite populations along with IPM approaches like using bottom screens to reduce mite infestation levels. There are numerous mite control treatments out there to choose from, just check your bee supply company. Here at the bee lab we use Api-Life VAR (which is a Thymol based product) and powder sugar.

Another task to undertake is to check the queen's productivity. This time of year some queens are starting to gear down egg production. This is fine but you still want to see a tight brood pattern. However, if a colony has been limping along all summer, what is the point of keeping it around? Pinch the queen, and combine it with another colony, preferable one that may need a slight boost. Re-queening is also an option for queens that are past their prime. Older queens will stop laying too soon. You need a viable, young queen to continue laying into mid November to insure a proper winter population for survival. Also, check pollen supplies. To enhance the queen's egg laying performance you will need fresh pollen coming in. If you don't see pollen coming in the front door add pollen patties. There are numerous pollen substitutes on the market. We tend to use natural pollen mixed with a pollen substitute and honey. The bees consume it quickly probably due to the presence of the honey.

Even though Georgia doesn't experience quite the frigid cold temperatures like up north, we still need to examine our equipment for holes, and compromised spots to keep out what little cold weather we do receive. You don't want a chilly rain pouring in on the cluster when they are trying to stay warm. Don't just rely on duct tape either to fix the problem. Over time it will disintegrate leaving that gapping hole you thought wasn't a problem. Adding mouse guards to the entrance is also a good idea. Little rodents just love the comfy quarters a bee hive can offer.

If you see nuts and other debris mounting up in the back of your colonies, you have unwanted tenants. So close down those entrances now. One more thing, make sure your colony is properly placed. It is best facing in a southeastern direction so it will receive morning sun. Also, provide wind breaks, natural or artificial, to keep the cold northern winds from taking their toll.

While you are checking on your queen you might as well examine frames of brood and bees for any signs of disease. The main two culprits are AFB and EFB: American and European Foulbrood. The latter is not as disastrous as the first but neither is good. If you notice symptoms of either disease treat with Terramycin immediately. Again go to our website for information on the application procedures.

With the rain and cooler temperatures it is once more a pleasure getting out and working colonies. Don't forget to check on your girls before it gets too late in the season. Have a grand fall.

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 in a reference in the subject line that you are requesting the GBL. If you have sent me your address and not received *GBL*, please send it again. We sometimes experience computer viruses on campus. Also, notify me if there are changes to your club meeting times or contact persons.

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 Arts Center, Canton
Coastal Empire Beekeepers Association	6:30 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 fourth Thursday	Forsyth County Main Library, Cumming
Heart of Georgia Beekeepers Association	7:00 pm third Tuesday	Houston Co. Gov't Building, Perry
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	Waona 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

Bartow Beekeepers Association Bill Posey (770) 386-3311 billsbeefarm@yahoo.com	Georgia Dept. of Agriculture Barry Smith, Manager Apiary Program P.O. Box 114 Tifton, GA 31793 (912) 386-3464 bsmith@agr.state.ga.us	Tara Beekeepers Association Gary Cooke, President (770) 507-4661 Lcooke77@aol.com
Chattahoochee Valley Beekeepers Assoc. Jim Harris, President 34333 Pontiac Drive Columbus, GA 31907 (706) 563-4186 hhonybee@bellsouth.net	Heart of Georgia Beekeepers Association Steve Nofs ganofs@cox.net	Town County Coordinator Robert Brewer Georgia Master Beekeeper Coordinator PO Box 369 Hiawassee, GA 30546 (706) 896-2024 RBrewer@uga.edu
Cherokee Beekeepers Club Ryan A. Sarks, President (770) 639-0868 beehavenapiaries@gmail.com	Metro Atlanta Beekeepers Richard Kiefer, President rokmak@comcast.net	University of Georgia Jennifer Berry Apicultural Research Coordinator 1221 Hog Mountain Rd. Watkinsville, GA 30677 (706) 769-1736 jbee@uga.edu
Coastal Empire Beekeepers Association Greg Stewart, President 124 St. Ives Way Savannah, GA 31419 (912) 961-9501 grstewart@bellsouth.net	Mountain Beekeepers Association Larry Sams, President 158 Needlemore Drive Hayesville, NC	University of Georgia Keith S. Delaplane Professor of Entomology University of Georgia Athens, GA 30602 (706) 542-2816 ksd@uga.edu
Coweta Beekeepers Association Charles Olsen (770) 304-2737 ceolsenga@juno.com	Northeast Mountain Beekeepers Assoc. John Haaseth, President (706) 865-1085	
East Central Georgia Bee Club Roosevelt McWilliams, President Waynesboro, GA 30830 rncwill@uga.edu	Northwest Georgia Beekeepers Association Dave Reed, President 6807 Cedar Wood Court East Ridge, TN 37412	
Eastern Piedmont Beekeepers Assoc. Bill Owens, Chairman (770) 266-6619	Southeast Georgia Beekeepers Assoc. Ben Bruce 159 Homeplace Road Homerville GA 31634 (912) 487-2001 nutnhoney@windstream.net	
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		County Extension Coordinator



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**Georgia Beekeepers Association Fall Meeting
September 26th -27th
Rabun County Civic Center**

In just a few short weeks the Georgia Beekeepers Association will be holding their annual fall meeting at the Rabun County Civic Center in Clayton, Georgia. So, if you haven't registered don't worry, there is still plenty of time to do so. Just go to www.gabeekeeping.com and download the registration form. Fill it out and send it to the GBA treasurer, Virginia Webb (address on the website). Walk-ins are also welcomed if you decide to come at the last minute. On the website you will find a list of hotels in the area. Several are within walking distance of the civic center.

If you have never been to Clayton then you are in for a treat. Clayton is located in the North Eastern mountainous region of the state hence a beautiful site to have a meeting. The civic center, a restored old school gymnasium, is a perfect place for a GBA meeting. It has a grand ballroom upstairs with a restaurant downstairs where the lunches and Low Country Boil will be held. Friday night after dinner there will be an auction so plan to stick around so you can socialize with your fellow beekeepers. Venders from around the region will also be joining us to show off their wares. If you wish to attend the business meeting it will be held at 7pm on Thursday night at the Civic Center.

Bob Binnie, the GBA president, has invited top notch speakers to discuss topics important to beekeepers in the 21st century. Whether you have one or 1,000 colonies the information provided at this meeting will make you a better beekeeper. Here is a list of our speakers followed by the program. I hope to see you there.

Dr. Tom Rinderer will be joining us to share his experiences in research and queen rearing. Dr. Rinderer has been the Research Leader for the USDA lab in Baton Rouge for 35 years which focuses on honey bee breeding, genetics, and physiology research. Dr. Rinderer has spent the better part of eight years in Central and South America studying Africanized bees. He has also been heavily involved with developing genetically resistant lines of queens. The line he is most passionate about originated in Russia and are called, easy enough, "Russians". He will talk about his experiences with the Russian line, their traits and the Russian Bee Breeder Program.

Another heavy hitter in the Russian world of queen rearing is Carl Webb. He will be giving us more information about the Russian line and how to keep bees without using chemicals. Carl has been a beekeeper since 1965 and operates Mountain Honey in Clarkesville, Georgia with his wife, Virginia. After retiring from the Forest Service in the 1980's, Carl took to beekeeping full time and currently sells honey, nucs, and queens.

Dann Purvis, owner and originator of Purvis Brothers' Apiaries, will be sharing his experiences with queen breeding and how he developed his own resistant stock by selecting for survivability. Dann is known for his innovative techniques for achieving chemical free beekeeping.

A Californian will be joining us also. If you have recently picked up an issue of the American Bee Journal then you have come across the name Randy Oliver. Randy is a monthly contributor to the magazine focusing on issues that effect beekeepers today. He is a teacher, a beekeeper and researcher in all things to do with honey bees.

Steve Forrest, always a crowd pleaser, will be talking about the evolution of beekeeping equipment. Steve is owner of Brushy Mountain Bee Farm and has been in the business of honey bees for over thirty years.

Berry Wright is a commercial beekeeper from Gainesville, Georgia and has been a beekeeper for 46 years. His sole operation, Wrights Honey, keeps him busy with 500 colonies to attend to. He will be teaching about fall management while working colonies in the beeyard.

Greg Rogers is a commercial beekeeper from Asheville, NC, where he produces honey, pollen, and pollinates commercially.

Samantha Girardot is a high school student from Conyers, GA and will report her findings from a recent study which was partially funded by the GBA.

And of course Robert Brewer will be helping us to prepare honey for show. Robert has been a beekeeper since 1991 and an extension agent for 25 years. Robert is a Certified International Honey Judge and is cofounder of the Young Harris Beekeeping Institute.

Here is the program for Friday and Saturday.

Friday Sept 26th

7:00 AM Registration begins

8:15 - 8:30 Welcome and Orientation

Bob Binnie - President

8:30 - 9:20 Dr. Tom Rinderer - Russian Bees and the Russian Bee Breeding Program

9:30 - 10:20 Workshops:

Berry Wright - Fall Management

Robert Brewer - Preparing honey and hive products for show

Dann Purvis - Small and large scale queen production and preparing queen cell builder-finishers

10:20 - 10:50 BREAK

10:50 - 11:40 Workshops:

Berry Wright - Classroom in the bee yard. Bring your veil (highly recommended for beginners)

Robert Brewer - Preparing honey and hive products for show

Dann Purvis - Small and large scale queen production and preparing queen cell builder-finishers

11:40 - 12:40 LUNCH - Cajun Jambalaya prepared by Tony Becnel from Allied Label

12:40 - 1:30 Randy Oliver - Nosema Cerana and the latest research on viruses

1:30 - 2:15 Steve Forest - The evolution of beekeeping equipment and "the 8 frame hive shall rise again"

2:15 - 3:05 Dann Purvis - Selection for survivability

3:05 - 3:40 BREAK

3:40 - 4:30 Dr. Tom Rinderer - Pollination issues, the California Scene, and questions and answers

4:30 Business Meeting

6:00 DINNER - Low Country Boil provided by J.M. and Frieda Sykes

Beekeeper of the Year Award

Live Auction by Louise Henry

Saturday Sept 27th

7:00 AM Registration begins

8:15 - 8:30 Welcome and Orientation

Bob Binnie - President

8:30 - 9:20 Randy Oliver - Bee breeding and questions and answers

9:30 - 10:20 Workshops:

Berry Wright - Fall Management

Carl Webb - Chemical free beekeeping

Greg Rogers - Pollen substitute; What, how, why and when...

10:20 - 10:50 BREAK

10:50 - 11:40 Workshops:

Berry Wright - Classroom in the bee your, bring your veil

(Highly recommended for beginners)

Carl Webb - Chemical free beekeeping

Greg Rogers - Pollen substitute; What, how, why and when...

11:40 - 12:40 LUNCH

12:40 - 1:10 Samantha Girardot - Comparison of food types when fed to honeybee colonies

1:10 - 1:30 Honey Show Awards

1:30 - 2:30 Randy Oliver - Beekeeping in the 21st Century

2:30 - 3:00 BREAK

3:00 - 4:00 Dr Tom Rinderer - Africanized honey bees and all topics questions and answers

4:00 Meeting Adjourned