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How can I get the Georgia Bee Letter?

Send an email to listserv@listserv.uga.edu with the following single line as the message (no subject line):

subscribe ga-bee-letter yourfirstname yourlastname
The annual Young Harris College – University of Georgia Beekeeping Institute

2014

This past May, our UGA bee lab staff packed up and headed north for the 23rd annual YHC-UGA Beekeeping Institute. We hosted the largest crowd yet. The record-setting event offered beekeepers the latest in honey bee research and beekeeping information over several days of lectures, workshops, and demonstrations. Our special guest speakers were Dr. Mark Winston, Dr. Dennis vanEngelsdorp, and Dr. Giles Budge. Our own cast of recurring presenters were led by Dr. Paul Arnold, Dr. Keith Delaplane and myself (Jennifer). Once again, the evaluations received from the program participants regarding the presentations, event management, and facilities were overwhelmingly complimentary. For more pictures of the occasion, keep an eye on www.ent.uga.edu/bees.

Every year, the program is composed of the Institute proper, from Friday to Saturday, and a day of advanced lectures and exam administrations on the preceding Thursday for the Georgia Master Beekeeper and Welsh Honey Judge certification programs. There is an optional awards dinner, traditionally a shrimp boil & fish fry with entertainment, on Friday night for the advanced GA-MBP (Journeyman, Master & Master Craftsman) & WHJ (Judge & Senior Judge) certifications, and another awards presentation during the concluding ceremonies on Saturday afternoon for the GA-MBP initiate certification level (“Certified Beekeeper”).

2014 saw the christening our first female Georgia Master Craftsman Beekeeper, and she’s from... Louisiana?!?! Yes, that's right. Ms. Amy Weeks has become the second Master Craftsman in the history of the Georgia Master Beekeeper Program, and the first woman. CONGRATULATIONS, AMY! We also had 61 new Certified, 3 new Journeyman, and 4 new Master Beekeepers. Read more about the GA-MBP and the certification levels on www.ent.uga.edu/bees.
Young Harris College – University of Georgia Beekeeping Institute

2015

Next year’s Institute Proper will be May 15th and 16th with the Master Beekeeper and Welsh Honey Judge program lectures & exams on Thursday May, 14th. There may be expanded opportunities for Certified Beekeeper exams, also; so, stay tuned. We're ecstatic to announce our 2015 guest lecturers: Dr. Marla Spivak, Dr. Jeff Pettis, Dr. Tom Webster and Elizabeth Hill. You really don’t want to miss out on meeting them. Find bios on these superb researchers and beekeepers below:

Dr. Marla Spivak

For the past decade, we have tried to lure Marla to our Bee Institute. She is from Minnesota, and their research season is just getting revved up in May. Finally, after all these years of bugging her, she caved, and we are greatly honored to have someone of her caliber speak at the Institute. To say that Marla is one of the best honey bee researchers in the world is an understatement. Among her list of accomplishments and awards is the 2010 MacArthur Fellowship Award, or “Genius Grant,” which is awarded annually by the John D. and Catherine T. MacArthur Foundation; individuals in any field that "show exceptional merit and promise for continued and enhanced creative work" are eligible for this award. Marla has been working with bees since 1975. She started as a commercial beekeeper in New Mexico. She received her B.A. from Humboldt State University in northern California and, then, her PhD from the University of Kansas, under Dr. Orley "Chip" Taylor, in 1989. Her thesis research in Costa Rica focused on the identification and ecology of Africanized and European honey bees. Afterwards, Marla was a post-doctoral researcher at the Center for Insect Science at the University of Arizona. In 1993, she began her prestigious career at the University of Minnesota, where, for over 20 years, her research has centered on breeding honey bees for varroa resistance (Minnesota Hygienic) and social immunity for all pollinators, including the benefits of propolis to honey bee health.

Dr. Jeff Pettis

Dr. Pettis is an American born biologist and entomologist known for his extensive research on honey bee behavior. He is currently the research leader at the United States Department of Agriculture’s Beltsville Bee Laboratory (BBL). His research has led to significant breakthroughs in understanding and managing Colony Collapse Disorder (CCD), the primary explanation for North American bee population decline since 2006. He and Dennis vanEngelsdorp (Penn State University) discovered the ability of bees to detect pesticides and harmful fungi in collected pollen and to subsequently quarantine the harmful substances from the rest of the hive. His research has also included the synergistic effects of Imidacloprid on bees, which is an insecticide derived from nicotine that has been shown to contribute to CCD.  [adapted from Wikipedia]

Dr. Tom Webster

Dr. Tom Webster grew up in Illinois and received his undergraduate degree in Biology at Oberlin College. After completing his graduate work in entomology at the University of California at Davis, he did his postdoctoral research on pesticide poisoning of bees pollinating alfalfa in the San Joaquin Valley. During that time, he also advised the beekeepers of Belize on pesticide poisoning and the impending Africanization of colonies there. In 1988, Dr. Webster began his current apiculture research and extension position at Kentucky State University. His research now focuses on Nosema ceranae, a digestive-system pathogen of honey bees. This includes improving the understanding of this microsporida’s biology, development of appropriate and sustainable control measures, as well as accurate and inexpensive diagnosis methodologies for beekeepers. Recently, Dr. Webster began to study wintering problems because winter losses are the most expensive problem for Kentucky beekeepers. His extension work is composed mainly of educational events for beekeepers, administering KSU honey extraction equipment loaned to beekeepers, and the implementation of a Master Beekeepers Program for advanced beekeeper certifications. Since 2013, he has been teaching Apiculture and Pollination Biology at KSU and team-teaching other agriculture courses.
YHC-UGA Beekeeping Institute 2015 (continued)

Elizabeth Hill

Elizabeth (Izzy) Hill is the founder and director of the Center for Bee Research, a 501(c)3 research-based nonprofit based out of Washington, DC. She creates opportunities for beekeepers to participate in honey bee research through the areas of entomology, ecology, and the social sciences. Currently, she is working with her research team to examine how beekeepers can best use and rear their own beneficial nematodes as a biological control option against the small hive beetle (*Aethina tumida*). In spring 2014, her team launched an online platform, Bugonia.com, where beekeepers can actively participate in large-scale honey bee research studies using their own hives. Izzy previously worked for University of Maryland Extension as an Agricultural Extension Agent in Northern Maryland. There she collaborated with University faculty and local experts in offering educational programming that aimed to improve farm profitability and the adoption of sustainable agricultural practices. She also offered workshops and programming on native and managed bees. For the last seven years, Izzy has been in Washington, DC and is actively involved with the Maryland State Beekeepers Association, the DC Beekeepers Alliance, and the Mid-Atlantic Apicultural Research and Education Consortium.

Finally, expect to see our recurring, regional experts along with a few surprises at the 2015 YHC-UGA Beekeeping Institute. As you can see, it promises to be another top-notch, honey bee and beekeeping-related, educational affair. Registration typically opens in early March. If you are interested in attending, please keep an eye on our website (www.ent.uga.edu/bees) for announcements and other helpful information. Be sure to check out the Master Beekeeper and Welsh Honey Judge programs, too. Remember, once registration opens, please don’t delay in sending in your registration form as registration in on a “first come, first served” basis and opportunities are limited. ☐

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Meet the UGA Bee Lab

Over the years, I’ve received numerous inquiries about the “behind the scenes” functioning of the UGA bee lab. In spite of my continued attempts at side-stepping -- in lieu of what I think would be MUCH more interesting topics for the GBL audience -- readers persist in wanting to know it all: the layout, process, activities, stories, etc. But, the truth be told, the ins and outs of our operations are singularly ascribed to the amazing people we have on staff who, despite all the practical challenges, scientific puzzles, and bureaucratic hurdles thrown their way, continue to pull off nothing short of minor miracles in achievement and excellence with every undertaking. To know these individuals is to have an understanding of how the lab functions, results are obtained, and departmental laurels are earned. I can’t think of a better gift to those interested than a brief yet colorful rundown of our “usual suspects!”
Meet the UGA Bee Lab (continued)

Dr. Keith Delaplane

While he may not always have his hive tool in his back pocket any longer, no presentation of the Bee Lab would be appropriate without beginning with our esteemed leader, Keith Delaplane, Professor of Entomology, Walter B. Hill Fellow, and Director of the Honey Bee Program at the University of Georgia. Keith’s introduction to beekeeping happened at age 13 in Indiana when his father bought a beginner’s beekeeping kit for him. It may have been prophetic that those first bees were a package shipped from Georgia. His beekeeping enterprise eventually exceeded 50 colonies, and he produced honey at semi-commercial scales in Indiana and Georgia. Following degree programs at Purdue and LSU, he joined the faculty of the University of Georgia in 1990, where he is now responsible for teaching, research, and continuing education on bee biology, pollination, and honey bee management. The centerpiece of the UGA Honey Bee Program's outreach efforts is the Young Harris Beekeeping Institute, which has been held every year since 1992 in cooperation with Young Harris College and serves as the administrative stage for the Georgia Master Beekeeper and Welsh Honey Judge programs; Dr. Delaplane shares in the credit for founding, or bringing to Georgia, each of these programs.

Dr. Delaplane and his associates have also distinguished themselves as researchers, lecturers, and authors on many aspects of bee biology and management. Between 2008 and 2012, Dr. Delaplane served as the National Director of the Managed Pollinator Coordinated Agricultural Project (CAP), a $4.1 million, USDA-funded, 17-institutional consortium of researchers and educators dedicated to reversing honey bee decline. In 2014, HM Queen Elizabeth II recognized Dr. Delaplane as an honorary member of the Most Excellent Order of the British Empire in recognition of a decade’s worth of research and educational contributions in beekeeping to the United Kingdom.

Brett Nolan

Brett Nolan is our current PhD student. Born and raised in Seneca, South Carolina, Brett’s colors are orange and purple - not red and black. He earned two science degrees from Clemson University: a Bachelor of Wildlife Biology and a Master of Entomology. While working at the Clemson bee lab during his undergraduate studies, he became interested in bees. During his graduate studies, he focused on the control of small hive beetles (Aethina tumida) in honey bee hives, specifically in trapping techniques.

While working on a joint UGA-Clemson research project, Brett was introduced to our UGA Honey Bee Program, and, upon finishing his master’s degree, moved the 60 short miles to Athens to continue his education in Bulldog country. His current research focuses on the host-parasite relationship between honey bees and varroa mites (Varroa destructor). In particular, he is looking at the transmission and virulence of varroa between honey bee colonies as related to colony distance and apiary density. In addition to his own studies and research, Brett regularly makes time to help with general fieldwork, lab work and brainstorming sessions at the Bee Lab.

Brett is married to Emily Nolan, and they have three daughters: Lucy, June, and Camille. His hobbies and interests involve being outdoors: hiking, camping, fishing, and hunting. In his younger years, Brett played soccer; today, he coaches his 5-year-old daughter’s soccer team. And, when he can get a break from the grind of graduate school and work, he enjoys grilling/smoking anything on the barbie and deep-frying delicious, dry-rubbed turkeys. Along these lines, over the years, Brett has spoiled our taste buds here at the lab with an assortment of tasty treats. Brett is an all-around, exceptional member of our team and, when the time comes to move on (graduation), will be greatly missed.

Nicholas Weaver

Nicholas began working with the University of Georgia in the summer of 2007 while an undergraduate at Gainesville State College. In 2012, he became the full-time, project supervisor and is now responsible for maintaining the University’s 300 colonies and carrying out the procedures of each research program.

Born and raised in Georgia, Nicholas has always been interested in agriculture. At age 13, he began keeping honey bees at his parents’ home in Cumming, Georgia after a family friend introduced him to the hobby. Shortly after that, Nicholas attended his first Young Harris Beekeeping Institute, where his interest in honey judging and
Meet the UGA Bee Lab (Nicholas Weaver, continued)

beekeeping certifications began. When he received it, Nicholas was the youngest person in the world to have achieved the Welsh Honey Judge certification. He also earned the highest score of anyone to take the GA-MBP Master Beekeeper written exam.

A strong advocate for honey bees, Nicholas gained attention in his hometown when the local code enforcement office cited him for having hives on his property. His story was published on local, state and national news, and an online petition in his favor received over 2,500 signatures from all over the world. Nicholas gathered supporters and honeybee advocates from throughout the state to attend public hearings with the Board of Commissioners in Forsyth County, resulting in a vote to allow honey bees - without any restriction - in every zoning district throughout the county.

At home, Nicholas maintains a few hobby hives with his four-year-old son, Zachary, whom he hopes will become the youngest person to ever pass the GA-MBP Certified exam. He also performs structural bee removal and swarm retrieval jobs in the northeastern Georgia area, and is available for presentations and honey judging to local bee clubs.

When Nicholas first started at the lab, he would adorn himself with a full bee suit including what we call, "big boy gloves." But, now, when working bees, he’s out there with just a veil and short sleeved shirt. He’s come a long way from when I first met him; he is now a husband, a father, as well as a worker the lab could not live without. Nicholas leads from the front. He consistently proves himself through his work ethic and is truly respected by his staff. I hope that he will stay on board forever.

Ben Rouse

Ben is our lab tech II here, and he serves in both lab and fieldwork. Born in Alpharetta GA, Ben grew up to become an eagle scout and member of the Phi Beta Kappa honors society. After high school, he ventured to Brigham Young University to pursue degrees in both public relations and psychology. Seeking a change in environment, he later returned to the southeast to finish his degrees at UGA, where his focus shifted to the broader perspectives of sociology with the idea of becoming a professor and writing on the topic of “the chemical society.” Since graduating in May 2011, Ben has also taken a strong interest in honey bees. He has chosen to balance this newest interest with his long-term passion in art; his most recent artistic work captures aspects of his experiences here at the lab. He has developed a duality of raising public awareness of bee decline though the fine art world. He recently exhibited his portfolio in New York and hopes to pursue art on a full time basis one day.

Ben came to work for us without the slightest idea of what he was about to get into. Within the first week, he had been stung so many times that I didn’t think he would stick with it, but he did. I attribute this perseverance to Ben’s attitude; he is one of those folks who never has a bad day. Through Ben’s proverbial lenses, the sun is always shining and his glass is always half full. Working with him just puts a smile on our faces every day. Ben is very talented, and I know that his future lies in painting and photography. While it will be a sad day when he moves on to become famous, at least I’ll be able to say “I knew him when he was just one of us at the lab....”

Philip Quinn

Philip Quinn is a certified GA Master Beekeeper from Atlanta, GA. He maintains multiple apiaries made up largely of feral bee colonies obtained from performing live bee removals from properties.

Philip is a two-term past President and “2011 Beekeeper of the Year” of the Tara Beekeepers Association in Forest Park, GA. He is a current member of the Georgia Beekeepers Association and Eastern Apicultural Society. Over the years, he has presented various public beekeeping courses and workshops, and is a highly regarded instructor at our annual YHC-UGA Beekeeping Institute. He also speaks to beekeeping clubs, garden clubs, schools and other groups on various honey bee, beekeeping and pollination-related topics.

At the Bee Lab, Philip manages our website, edits and contributes to professional publications, compiles and analyzes research data, as well as develops and administers project management software. His other duties include coordinating the
Meet the UGA Bee Lab *(Philip Quinn, continued)*

annual YHC-UGA Beekeeping Institute, grading the associated Georgia Master Beekeeper certification exams, and maintaining the historical GA Master Beekeeper records. Philip joins in the apiary work on large-scale initiatives such as queen rearing, moving bees, splitting hives and setting up new research projects. He has contributed directly to the collection of research data over the years through lab and fieldwork, including dissections and microscopy.

Philip is one of those people who, when you rely on him for something, will not only get it done, but will do it very well. He is one of the most conscientious people I know when it comes to his work and it shows, which is probably why we rely on him for so much. Philip also has a wicked sense of humor and a deep, hearty laugh, which are greatly appreciated here at the lab. Now, if we could only get him to move from Atlanta to Athens, we could get him to help us with even more stuff!

**Nathan Beach**

Nathan was born in Maryland. He spent his childhood in Texas and his young adulthood in South Carolina. His interest in honeybees was sparked at a young age. While in England, his family visited an apiary, where little Nathan observed bees at work in an observation hive and learned all about the beneficial products and services bees provide to humans. After that experience, he knew that he wanted to become a beekeeper - at least as a hobby. At age 6, he tried to start a bee colony by baiting bees into a jar with honey, but all he caught were yellow jackets.

While that experiment might have gone awry, he has come a long way in his knowledge of bees since then.

Later, Nathan saw a beekeeper’s exhibit at the state fair and his beekeeping desire grew. After moving to South Carolina and attending a beginner beekeeper course hosted by the Aiken Beekeepers Association, he and his mom started their first hive. Nathan joined the association and, after about a year, was elected Secretary; he helped to revise their newsletter and establish their website. He next served as vice president for two years. During this time, he ran two beginner and one intermediate beekeeping courses. He was awarded the SC Junior Beekeeper of the Year award for his efforts.

Nathan put his beekeeping endeavors on hold while he attended Bob Jones University and received a Bachelor of Science degree in Business Administration. He worked for two years at a marketing agency in Greenville, SC. In the fall of 2013, he married his best friend, Tori. The following year, he sensed that the “ad man” life was not what he wanted, and he started exploring opportunities to work with bees again. Nathan has recently joined the UGA Bee Lab, and, from what I have seen, shows great potential for a successful entomology career!

**Jack Garrison**

Jack is our resident student worker at the bee lab and assists with just about everything that needs to be done, from making sugar syrup and assisting in the fieldwork to counting mites on sticky screens and other lab duties. Jack hails from Madison County, GA. He grew up on the family chicken farm; so, hard work is not a foreign commodity to him. Currently, he is enrolled at North Georgia University as a Biology major, but he looks forward to transferring to UGA and completing his undergraduate pursuits here. If we have our way, he will soon be a graduate entomology student here in the Honey Bee Program!

The work with honey bees appeals to Jack’s interest in Biology and has proven to be a valuable scientific experience for him. When not working, going to class, or studying Chemistry, his time is spent outdoors: biking or backpacking the many trails in the Appalachian Mountains. Jack finds peace and relaxation in the highlands. He also enjoys wakeboarding and other watersports.

I actually met Jack while he was working as a cashier at Publix supermarket. He asked what I was up to. You know... it was the typical grocery checkout aisle chitchat. But when I told him that I work with honey bees, his eyes lit up and a cascade of questions followed. Eventually, the question, “How can I work there?” came up. His excitement was engaging. I told him that, by coincidence, we were looking for more help at the lab, and, if he was interested, he should give me a call. Two days later, we hired him. Jack is eager and energetic. We are lucky to have added another team member with a passion for honey bees.
Meet the UGA Bee Lab (continued)

Trey Watkins

Trey is a senior at Madison County High School, the middle linebacker for their football team, and also a member of their track team. Upon graduation, he plans to enlist in the United States Navy, where he hopes he’ll have the opportunity to try out for the Navy football team. Trey’s other passion is engineering, and he plans to pursue a degree. We’ve tried over the years to sway him toward entomology, but his heart just isn’t in it. I suppose that engineering will be ok, too.

This past summer was Trey’s second year working at the bee lab. He’s a neighbor of mine, and he started working for me on my bee farm years ago. I noticed quickly that he was a hard worker. He showed up on time and didn’t sit around toying with the cell phone (not my typical experience of teenagers...). That’s why I asked him to come to work at the UGA bee lab over the summer. Self-initiative, which Trey has lots of, is very important around here since there is so much going on each day. Hopefully he’ll be able to work for us one more summer before he "ships off" towards his future.

Jennifer Berry

Bees weren’t always in my life, but, if I had been paying attention back in high school, maybe they would have entered much earlier. My first “real” job was at the Burger Queen restaurant in the thriving, booming, and tomato growing metropolis of Ruskin, Florida. Burger Queen was the first fast food diner to arrive in town. Hence, every high school kid wanted to work there. When I first applied, I was too young. So, once 15, I re-applied and got a job. The manager informed me to arrive "first thing Saturday morning and to be ready to take on the breakfast rush."

Ruskin is a small town south of Tampa Bay with a disproportionate representation of retired folk. So, on weekends, the biscuits and gravy plate was a huge success. The fried chicken plate was the hit on Wednesdays. And, of course, practically everyone asked for the senior citizen discount. Anyway, I was excited to start my new job. I really couldn’t wait to wear that gaudy, orange and white polyester uniform with matching garrison cap. I envisioned all my friends seeing me at the cash register or dropping a basket of fries into the deep fryer. But, if I was lucky and the stars lined up perfectly, I might just be given the best job of all: the drive-thru window operator! Not only did you get your very own station, with a sliding window and cash register, but, coolest of all, you got to wear the fab headset. The drive-thru person was queen for the day. Unfortunately, my day had "being a different kind of queen" in store for me...

Since the stars did not line up perfectly, or even show up for me that first day (actually, my whole first week), I was denied work at the counter, deep fryer, and the window; instead, I spent it outdoors wearing the “Burger Queen Bee” mascot costume (complete with a large, plastic, suffocating, honey bee head, with a gold crown, and a pair of wobbly antennae, a furry, oversized, barrel-shaped bodice, yellow and black tights, and huge, black, clown-shoes). No, I’m not making any of this up. Yet, the worse part of all was the attached gold-tipped stinger. Really?! As I adorned myself with this ridiculousness, the other employees attempted to console me by saying that "it was just a regular right of passage for ‘newbees.’ Everyone, at some point, had to wear the costume." So, long story short, I guess that you could say that my first job DID actually have “something” to do with bees - since I WAS one, standing on the side of a busy highway, in the full Florida sun, in a ridiculous costume, praying that no friends of mine would recognize me waving at the ocean of cars driving by. Oh, the shame of it all...

Eventually, I graduated from high school, left Florida, and tried my hand at acting in college and afterward. After my Hollywood dream was crushed (another story for another day), it was back to school for me, and I found my way to UGA. I entered graduate school and joined the bee lab. What can I say? I love my jobs. Not only do I get to work with bees every weekday at the university and every weekend with my queen-rearing and nuc business, but I also get to work with the awesome crew whom I’ve just introduced to you. And, when I travel the county, across the state, or out of the country to speak to, and mingle with, earnest entomologists and beekeepers, life is good. So, I guess the stars did line up for me; it was just not on burger alley or Hollywood Boulevard, but, instead, it was in the bee yard! ☺
Australia's Bees In Trouble
By Alan Harman

Australia’s European honey bees (Apis mellifera) are at risk of breeding themselves into extinction by mating with the invading Asian honey bees (Apis cerana). The Western Australia Farmers’ Federation says beekeepers are being warned about the risk of unnatural matings with a new study showing honey production and pollination services could be at risk due to the presence of Asian honey bees in Queensland. The mating makes the European bees' eggs unviable and as the Asian honeybee becomes more widespread, the inter-specific mating will increase, resulting in fewer worker bees.

The Australian Rural Industries Research and Development Corp (RIRDC) says Prof. Ben Oldroyd and Dr. Emily Remnant of the University of Sydney conducted the research into the impact if the two species mate after the Asian honey bee became established around Cairns in 2007. The research found queens and drones of the two species often meet and mate as they fly at similar times and places. Genetic testing using DNA markers showed the presence of Asian honey bee sperm in the sperm storage organs of one third of the Australian commercial queens sampled in Cairns.

The mating is only one way with beekeepers saying Asian honeybee queens can die if they mate with the European honeybee drones, because they’re much larger. In a report for the RIRDC, Oldroyd and Remnant say previous studies in Japan showed that if there are no other males to mate with, A. mellifera queens will mate with A. cerana drones. “After such matings eggs either fail to hatch, hatch into drones, or, rarely, into female clonal offspring of the queen,” they say. “Drones of both species fly at similar times of day, so there is opportunity for queens and drones of different species to meet and mate.”

Researchers developed DNA tests to determine if they could find A. cerana sperm in the spermathecae of A. mellifera queens and A. mellifera sperm in the spermathecae A. cerana queens. They tested 12 A. mellifera queens from Cairns and found four had mated with one or more A. cerana males. A test of 22 A. cerana queens found none had mated with A. mellifera drones. The researchers tested 213 eggs from three naturally mated queens in the Cairns area with their DNA test. The three queens all had A. cerana sperm in their spermatheca, but the researchers did not detect any hybrid eggs and say this led them to assume that hybrid eggs do not hatch and are removed by nurse workers.

They also used artificial insemination to cross five A. mellifera queens with sperm collected from A. cerana drones. They tested the eggs of these queens with the DNA test. One queen produced heterospecific eggs. One queen produced a thelytokous worker. That is, the egg fertilized itself and produced a copy of the queen’s genotype. “Thelytoky is a potential major worry for the industry,” the report says. “In South Africa there is a thelytokous strain of honey bee called A. mellifera capensis. Workers of this strain enter production hives and parasitize them with their eggs. These workers never do any work, so the host colony quickly collapses and dies.”

Honey Bee and Pollination Program advisory committee chairman Dr. Michael Hornitzky says both commercial and hobby beekeepers are on the front line of biosecurity and need to be aware of possible threats to bees, such as interspecies mating, as well as best practice management and control methods. “Australia’s European honey bee colonies will become increasingly at risk of collapse if mating with Asian honey bees becomes a regular occurrence,” Hornitzky says.

“Depending on the proportion of Asian and European honey bee males that mate with the queen, her fertility will be reduced and her eggs will not hatch, reducing the productivity of colonies headed by European honey bee queens that mate in areas where Asian honey bees are present.” Hornitzky says this is in turn could lead to bees being less effective at honey production and pollination. “We know that in Australia approximately 65% of horticulture and agricultural crops produced require pollination services from honey bees, so this is a key concern, especially as it will impact feral bee colonies as well as managed hives,” he says. “This important research serves as a warning to beekeepers that it’s better to source queens only from areas where Asian honey bees are not present. “We should do everything we can do to stop the spread of Asian honey bees south into Australia’s major queen breeding areas,” Hornitzky says.
Australia's Bees In Trouble (continued)

Australian Honeybee Industry Council executive director Trevor Weatherhead says the industry expected inter-specific breeding and the council wants the Queensland government to set up a control area in the north of the state to protect domestic and international bee markets. “We've been proposing that we have either a control area or biosecurity zone ... so that bees in that northern area wouldn't be able to come south without a permit,” he tells the Australian Broadcasting Corp.

Cairns beekeeper **Maurie Damon**'s bees were involved in the research, tells the broadcaster the findings are concerning but not critical. He hasn't noticed any major impact and the queens, who mate with multiple drones, are still productive enough, and the reject eggs become a food source. “The workers... pick up immediately that the eggs that are hybrids... are not right... so they (eat) them as a protein source,” he says. □

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Worker Bees ‘Know’ When to Invest in Their Reproductive Future:
Reproductive Cycle Triggered When Colonies Reach 4,000 Members

**New York | Heidelberg, 20 August 2014**

When a colony of honeybees grows to about 4,000 members, it triggers an important first stage in its reproductive cycle: the building of a special type of comb used for rearing male reproductive, called drones. A team of experts from the Department of Neurobiology and Behaviour at Cornell University, led by Michael Smith, studied what starts the reproductive cycle of honeybee colonies. The results are published in Springer’s journal Naturwissenschaften - The Science of Nature.

Reproduction isn’t always a honeybee colony’s top priority. Early in a colony’s development, its primary focus is on survival and growth. When the colony reaches a certain stage, its workers start investing in reproduction. The first step in this whole reproductive process is building cells of drone comb, the special comb made of large cells in which drones are reared.

Drones are male honeybees that develop from unfertilized eggs. Their sole purpose in a colony is to mate with virgin queens from other colonies, thereby spreading the genes of the colony that produced the successful drones. Virgin queens in turn need to mate with drones before they can lay fertilized eggs that will become workers. Queens will mate with over a dozen drones during their single nuptial flight, after which they are stocked with sperm for life.

Smith and his team were puzzled about precisely which colony features kick-start this key process of building drone comb. Is it the number of workers in the colony? Is it the total area of worker comb in the colony? Is it the amount of brood in the colony? Or perhaps it’s the size of the colony’s honey stores? The Cornell University researchers therefore set out to carefully manipulate each of these features in different groups of colonies, while keeping the other colony features identical.

They found that while every colony built worker comb (non-reproductive comb), not every colony built drone comb (reproductive comb). In fact, only an increase in the number of workers stimulated the workers to start constructing drone comb. This was seen whenever colonies contained 4,000 or more worker bees.

The researchers were still left wondering about precisely how an individual worker bee ‘knows’ how many other workers there are in its colony. Smith and his team speculate that this might have to do with how crowded individuals feel while working side-by-side in the hive. They are currently engaged in further research to shed more light on this mystery.

“Colonies with more workers built a greater proportion of drone comb, but colonies with more comb, more brood, or more honey stores, did not do so,” Smith summarizes. “We estimate that a colony needs approximately 4,000 workers to invest in building drone comb.” The researchers believe that their findings are also relevant to other social systems in which a group’s members must adjust their behaviour in relationship to the group’s size. □

Cascadian Farm ‘Bee Friendlier’ Effort Enlists Public to Help Protect Insects

By Andrew Adam Newman

Alarm has grown in recent years over the widespread loss of bee colonies, not just because of the canary-in-the-coal-mine implications about how factors like pesticides and parasites might be to blame, but also for a more direct reason: Bees pollinate an estimated 75 percent of food crops.

As part of a continuing cause-marketing campaign, “Share the Buzz,” in 2013 Whole Foods released a photograph of one of its fully stocked produce sections and another with the bee-reliant fruits and vegetables that account for 52 percent of its produce removed. In June, Whole Foods released similarly stark before-and-after photos of a dairy case, explaining that bees pollinate the clover and alfalfa fed to dairy and beef cows. Now Cascadian Farm, the 42-year-old organic brand owned by General Mills, is promoting its own campaign, “Bee Friendlier.”

A new online video features Chris Burley, who founded Seedles, which developed gumball-size pellets that combine wildflower seeds, compost and clay, to provide nectar and pollen to nourish bees. Seedles are tossed on the ground without planting, and the seeds leach into the soil when it rains. (Uncovered seeds tossed on the ground can be blown away or eaten by birds.) Also featured is Emma Torbert, an organic farmer in Yolo County, Calif., who agreed to let Cascadian Farm plant one of her fields with wildflowers. (http://bee-friendlier.com/)

In the video, a crop-duster is loaded with Seedles and, as children lined up along a fence cheer it on, the plane flies over the field and drops the pellets. Slow-motion footage from a camera affixed to the plane shows the pellets as they are released, while at the ground level they are seen hitting the soil and bouncing, like hail. Viewers are encouraged to do their part. “Whether they use Seedles or not doesn’t matter to me, just grow some wildflowers, plant some seeds, do something,” Mr. Burley says in the video. “This is like the matchstick, the catalyst, for inspiring a lot of other small collective actions because we’re going to need many, many millions more flowers.” The “Bee Friendlier” campaign, including the video and digital ads that will promote it, is by Solve Advertising and Branding in Minneapolis.

The annual loss of bees among commercial beekeepers had long been about 5 percent, but in the last eight years it jumped to an average of almost 30 percent, according to the United States Department of Agriculture. In a 2013 TED Talk, Marla Spivak, an entomologist with the University of Minnesota Bee Lab, said that there was no single cause for so-called colony collapse disorder. Rather, she showed a schematic of “multiple, interacting causes of death” for the bees: parasites that attach themselves to the insects, pesticides, flowerless landscapes and monocultures — the commercial farming practice of cultivating a single crop over vast acreage, often at the exclusion of blossoming plants even bordering fields. At the close of her talk, which has garnered more than 1.7 million views online, Professor Spivak urged the audience to plant wildflowers to help bees.

John Colasanti, the chief executive of Solve, who studied with Professor Spivak to get his beekeeper certification, said the point of “Bee Friendlier” is less to highlight causes of the problem than to point out one way to help address it. “It’s more about action than it is about awareness,” Mr. Colasanti said. “As we looked at what just about everybody could do to make a significant difference, it came down to planting wildflowers, so we focused on that.”

In June, Cascadian Farm introduced a cereal, Buzz Crunch Honey Almond, available only at Whole Foods, with the brand donating $1 for each purchase. As much as $100,000 will go to the Xerces Society, which is dedicated to the conservation of invertebrate species, including bees. Scott Lee, director of marketing for Cascadian Farm, said the overall “Bee Friendlier” effort serves a dual purpose. “If bee colonies continue to crash and those hives continue to go away, it puts strain on the food supply and our supply chain,” Mr. Lee said. “Also, it’s something that more and more consumers are becoming aware of, so it’s an issue that’s important to our consumers as well.”

But what is important to many consumers about Cascadian Farm — its use of organic ingredients and avoidance of genetically
Cascadian Farm ‘Bee Friendlier’ Effort (continued)

modified ingredients — is not General Mills’ overall approach, and the incongruity has not gone unnoticed. GMO Inside, which helped lead a consumer campaign to persuade General Mills to remove genetically modified ingredients from the original version of Cheerios, addressed the introduction of the Buzz Crunch cereal and Cascadian Farm’s other “Bee Friendlier” efforts in a blog post in July. The post, which estimated that Cascadian Farm represented less than 3 percent of the company’s business, said pesticides associated with conventional ingredients in many General Mills products threatened bees more than efforts by its organic brand helped them. “Less than 3 percent of General Mills’ sales are working toward ‘saving the bees’ while 97 percent are killing them,” the post said.

General Mills in September announced plans to buy another organic brand, Annie’s, for $820 million. This caused an uproar on Annie’s Facebook page, where fans noted that Annie’s had pushed for tougher G.M.O.-labeling requirements while General Mills had opposed them.

But Mr. Lee, of Cascadian Farm, said General Mills offered a range of choices. “General Mills understands there are varying degrees of beliefs and consumer interests and offers non-G.M.O. and organic brands like Cascadian Farm,” he said. “So from a brand standpoint, ‘Bee Friendlier’ is very much aligned with our beliefs, and General Mills recognizes that.” □

Honey Bees Get Stung by California’s Severe Drought
by Mark Koba

There’s very little in California’s agriculture industry that’s been left untouched by the ongoing drought, and bees are no exception. Besides making honey, bees are crucial to pollinating about one-third of all U.S. crops.

But the drought, heading into a fourth year, is threatening honey production and the ability of beekeepers to make a living in a state that was once the top honey producer in the country. "My honey production is down about 20 percent from the drought," said Bill Lewis, president of the California Beekeepers Association. Lewis, who manages around 50 billion bees in Southern California, explained that the lack of rain has reduced plants that provide food for the bees and the nectar they turn into honey.

Lewis said he’s had to feed his bees much less nutritional food such as sugar water that’s threatening the health of the bees and slowing the generation of honey. "It doesn’t have the minerals that real food from plants have," he said. "It’s like putting them on Twinkies." Lewis added that feeding the bees this way costs him more but it's a cost he can't pass on to consumers. "Imports of honey keep me from raising my prices," he said. "It's a real challenge, financially."

In 2003, California was the top honey producer in the U.S., but it has since fallen behind North Dakota, Montana, South Dakota and Florida. And according to the Department of Agriculture, California’s honey crop fell from 27.5 million pounds in 2010 to about 10.9 million pounds in 2013, or less than 5 percent of the country’s yearly $317 million crop.
California’s Severe Drought (continued)

<table>
<thead>
<tr>
<th>State</th>
<th>Pounds Produced</th>
<th>Dollar Value of Production</th>
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<tr>
<td>North Dakota</td>
<td>33,120,000</td>
<td>$67,565,000</td>
</tr>
<tr>
<td>Montana</td>
<td>14,946,000</td>
<td>$31,088,000</td>
</tr>
<tr>
<td>South Dakota</td>
<td>14,840,000</td>
<td>$30,570,000</td>
</tr>
<tr>
<td>Florida</td>
<td>13,420,000</td>
<td>$27,377,000</td>
</tr>
<tr>
<td>California</td>
<td>10,890,000</td>
<td>$22,869,000</td>
</tr>
</tbody>
</table>

Leading Production States Source: US Department of Agriculture

But beyond honey production is bees’ crucial role in the pollination of numerous crops, like plums, strawberries, melons, lemons, broccoli and almonds. "It’s hard to overstate the importance of bees to our industry," said Bob Curtis, associate director of agricultural affairs at the Almond Board of California. "The drought has decreased forage for bees within California, and ensuring a variety of forage is a long-term challenge."

Pollination also is a revenue source for beekeepers, but a lack of irrigation water has left many fields empty. An estimated 420,000 acres of farmland went unplanted this year—about 5 percent of the total in the state. That means that fewer farmers are renting hives and beekeepers have less income. "I've had to raise my prices to farmers who do rent, which hasn't been easy," said the California Beekeepers Association's Lewis. "If we don't get any water, there will be more cutbacks on commodities," said Eric Mussen, a professor of entomology at the University of California, Davis. "And that will affect bees, honey production and pollination of crops going forward."

As bad as the situation in California is—80 percent of the state is in extreme or exceptional drought—the Almond Board's Curtis said the lack of rainfall has not prevented almond growers from getting sufficient bee pollination so far. But the drought is just one hazard making honeybees suffer. Beehive losses worldwide have increased over the years due to pesticides, parasites and colony collapse disorder, by which adult bees disappear from colonies due to various causes. However, for Lewis, the drought is enough of a crisis to make a plea for help, even if it means using more water. "It's devastating," Lewis said. "What people can do here is plant flowers wherever there's dirt. The bees need them." □

Corn & Soy Insecticides Similar to Nicotine Found Widespread in Midwest Rivers

USGS news

Insecticides similar to nicotine, known as neonicotinoids, were found commonly in streams throughout the Midwest, according to a new USGS study. This is the first broad-scale investigation of neonicotinoid insecticides in the Midwestern United States and one of the first conducted within the United States.

Effective in killing a broad range of insect pests, use of neonicotinoid insecticides has dramatically increased over the last decade across the United States, particularly in the Midwest. The use of clothianidin, one of the chemicals studied, on corn in Iowa alone has almost doubled between 2011 and 2013. "Neonicotinoid insecticides are receiving increased attention by scientists as we explore the possible links between pesticides, nutrition, infectious disease, and other stress factors in the environment possibly associated with honeybee die-offs." said USGS scientist Kathryn Kuivila, the research team leader.

Neonicotinoid insecticides dissolve easily in water, but do not break down quickly in the environment. This means they are likely to be transported away in runoff from the fields where they were first applied to nearby surface water and groundwater bodies. In all, nine rivers and streams, including the Mississippi and Missouri Rivers, were included in the study. The rivers studied drain most of Iowa, and parts of Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Wisconsin. These states have the highest use of neonicotinoid insecticides in the Nation, and the chemicals were found in all nine rivers and streams. Of the three most often found chemicals, clothianidin was the most commonly detected, showing up in 75 percent of the sites and at the
Insecticides Found Widespread in Midwest Rivers (continued)

highest concentration. Thiamethoxam was found at 47 percent of the sites, and imidacloprid was found at 23 percent. Two, acetamiprid and dinotefuran, were only found once, and the sixth, thiacloprid, was never detected.

Instead of being sprayed on growing or full-grown crops, neonicotinoids can be applied to the seed before planting. The use of treated seeds in the United States has increased to the point where most corn and soybeans planted in the United States have a seed treatment (i.e., coating), many of which include neonicotinoid insecticides. "We noticed higher levels of these insecticides after rain storms during crop planting, which is similar to the spring flushing of herbicides that has been documented in Midwestern U.S. rivers and streams," said USGS scientist Michelle Hladick, the report's lead author. "In fact, the insecticides also were detected prior to their first use during the growing season, which indicates that they can persist from applications in prior years."

One of the chemicals, imidacloprid, is known to be toxic to aquatic organisms at 10-100 nanograms per liter if the aquatic organisms are exposed to it for an extended period of time. Clothianidin and thiamethoxam behave similarly to imidacloprid, and are therefore anticipated to have similar effect levels. Maximum concentrations of clothianidin, thiamethoxam and imidacloprid measured in this study were 257, 185, and 42.7 nanograms per liter, respectively.

The US Environmental Protection Agency has classified all detected neonicotinoids as not likely to be carcinogenic to humans. □

Management Calendar: November through January in Georgia
Keeping Bees Alive Till the Nectar Flow
(adapted from Bee Culture, February 2014)

At this point, you still have time to order packages, nucs, and even queens for the 2015 season from most bee operations. However, by the end of 2014, package, nuc, and queen supply houses will stop taking orders – especially for the early delivery dates. For those of you who have colonies now, please remember that winter has just begun.

The next few months in Georgia are always a critical time for honey bee colonies. For the last five or six months, they have lived off the pollen and honey stored in the spring, fought off mites, beetles and other pests, and are now utterly at the whim of mother nature (or, if they’re lucky, a gracious beekeeper!) to provide some oft-needed relief. However, some colonies may have already died or are about to. Hopefully, you were paying attention to the mite loads throughout the season because now is when colonies begin to crash from unchecked summer/fall loads. For hives with adequate stores of resources, mites and the viruses associated with them ARE the problem. Really! When significantly compromised by viruses, the fall and winter bees simply do not survive. One month, you have a colony full of bees. Then, the next month, the box is empty. "What happened?" you exclaim!

We start getting the calls around the end of summer. Beekeepers are often finding either extremely small populations or no bees at all... With unrestrained mite level escalation, viral impact increases as well. More mites produce more viruses, which yield more sick and, eventually, dead bees. Compromised bees are unlikely to last the winter season. So, each day, a few to several hundred are dying, usually in the field, and they leave little trace as to what happened. In contrast, you would see the evidence of a pesticide poisoning, with dead bees all over the ground in front of the hive, or starvation, with dead bees head-first in the cells and piled on the bottom board inside the hive; you see the evidence. The slow, viral killers associated with varroa are found in every colony, yet they’re not obvious. Best practices dictate not to wait until late fall to start doing something about mites. At a minimum, you need to start in July because that’s when the bees that will produce the winter bees are being produced; healthy winter bees are critical for winter survival.

As many of you realize, winter survival for bee colonies is not a given. Getting colonies to this point either means that you did some important things very well or that your unmanaged bees have rolled the dice and somehow beaten the odds. Typically, successful winter survival begins with late summer and fall preparations, including: ensuring queen health and productivity,
Management Calendar (continued)

assessing food stores, managing mite loads, and adjusting honey and pollen frames around the bees and brood. No matter what you did or didn’t do, hopefully your bees are healthy and alive today. But, now is not the time to rest on your laurels (or luck!). Your bees could be in dire need of your assistance.

Winter management for the beekeeper begins with assessments. In Georgia, the winter months will usually offer a few days, here and there, that are suitable enough to open hive covers and assess honey stores, pollen stores and population levels. However, care must be taken. Let’s start from the beginning.

Temperature is an important factor to take into consideration when you’re about to open a hive. But, before you begin, look at what the bees are doing (or not doing) outside the hive. Over the years, I’ve noticed bees in my apiary flying in ambient temperatures in the 40s (°F); however, they are in full sun with no wind, no clouds and low humidity. With these conditions, we opened the hive covers and examined the honey frames. Given the cold weather, we did it quickly to check stores and gauge populations, but the cluster was never compromised. In other words, the frames in which bees were clustered were NOT disturbed (pulled for examination). This is important. Muy importante! There is a common misconception that the bees keep the interior of the hive warm during the winter; they do not. They only maintain temperature in the cluster. Removing hive covers will not harm bees in the conditions mentioned above. But, if covers are opened during cold, wet, and blustery days, or if the cluster is broken by pulling brood and bee frames, there could be significant harm done. Remember that individual bees have very little body mass and chill easily, and chilled bees become immobile. When bees become separated from the cluster and fall onto the bottom board or the ground, they will typically not be able to crawl back and will die. Keep this in mind as well when moving bees in extremely cold weather. Bees jarred out of the cluster may not be able to return. However, it is better to open covers and check whether the colony has ample food than to do nothing at all.

But, if temperatures are too cold, you can lift a colony to feel the weight without opening it. This may give a false impression of what’s really going on if you’re not attuned to the feel of weight variations. One day, the crew and I were out in the field lifting colonies in the rain with temperatures in the 30s, as conditions were not suitable to opening hive covers. Upon cursory examination, all the colonies seemed to pass muster. So, back into the truck we went to warm our chilled bones. As we were about to drive away, I noticed one hive on the end with a few dead bees on the landing tongue of the bottom board. Back out into the cold I went to inspect closer. I knocked on the side of the hive and heard nothing. So, I knocked again even harder, but there was still no buzzing sound. With concern, I progressively began to dismantle the hive looking for signs of life. I did not find a single bee or cell of honey. Hmmm? Yet, the box had felt heavy enough during a quick pass of Lift Tests! What does this mean? Well, while conditions may dictate limiting hive inspections to just the Lift Test, this example goes to show its subjectivity and potential for error. We were just feeling the weight of the woodenware. Be careful when using this procedure. Make sure you are feeling the weight of the honey stores and not misinterpreting the weight of the woodenware, brood and bees. If you’ve ever picked up a frame packed from corner to corner with brood and bees, you know that it is dense and quite heavy. By February, some colonies may be bursting with brood and bees. So, when possible, the best assessment method is to see for yourself whether there are adequate honey stores by inspecting the frames.

Now, if the colony is light on stores, you must feed, or they will starve. November through January will provide nothing in the form of sustenance. Once February rolls around (in Georgia), there may be a few drops of nectar here and there, but what’s mostly available is pollen from red maple trees. The heavy nectar flow won’t begin until mid-March to April – depending on location (latitude). Then, there’s always the question of what ratio (cane sugar to water, by weight) to feed: 2 to 1, or 1 to 1? We’ve never been as meticulous at the UGA Bee Lab (or home) as to weigh components, we just have a feel for it. Granulated sugar is added to about the ¾-full point in a five-gallon bucket, and, then, hot water is stirred in until full. I imagine that our concoction is somewhere in between.

Also, what’s the best way to feed? After trying all the feeding contraptions out there, we’ve settled on two-holed (with 2 7/8” apertures), migratory covers with inverted half-gallon mason jars to feed our bees (see Figure 1).
Management Calendar (continued)

Your apiary location will dictate how much pollen and honey can be foraged in a nectar flow season. Heavily-developed areas may not yield as much resources compared to fallow land with bramble and flowering weeds. However, friends of mine in downtown Atlanta have had several good honey yields in the recent past. So, who knows? But, the old proverb “location, location, location,” is always applicable - even though the harvest may vary from year to year. You wouldn’t put a cow in a pine forest, because there is nothing to eat. Well, the same idea applies to a bee hive; it is best kept in a location that provides enough food for the colony’s survival and, hopefully, a surplus for the beekeeper.

One more thing to consider when opening hives; honey bees use propolis, a resinous substance collected from conifer (sap-bearing evergreen) trees, to seal cracks and crevices, and fill spaces between lids, inner covers, hive bodies and frames. They use this substance to protect the colony against the weather. It also helps to seal out (and sometimes confine or corral) invasive critters while undergirding a hive’s structural integrity. Plus, its antibacterial properties serve to sterilize the interior of the hive as well. With that said, every time we crack open a colony, we break those protective layers that the bees have so painstakingly applied. Further, since propolis is hard and brittle in cold temperatures, it won’t conform to the contours of the hive body surfaces when haphazardly placed back into position. This renders useless the hard work of the bees to prepare their home for winter. So, when making mid-winter observations, be mindful of this by minimizing hive inspections, returning woodenware in the same orientation that it was found, and avoiding the usual beekeeper impulse to scrape away excess propolis.

Another item on my list for upcoming bee duties around the end of January is to reverse hive bodies. Reversing hive bodies will actually accomplish several things. First, the practice is an incentive for the beekeeper to inspect their hives and get a sense of what is going on with the bees when weather permits:
- Is there enough food (honey and pollen)?
- Has the queen started laying?
- How does her pattern look (only if it’s warm enough to actually separate the frames and disturb the cluster)?
- How is the population level?
- Do you see Deformed Wing Virus, mites, beetles or other signs of disease?
- Has a sneaky little mouse moved into the bottom on the hive without paying a deposit?

However, don’t reverse hive bodies until the nectar flow is on. If a particular colony is out of resources and you are performing emergency feeding (as described above), reversing may leave the food source too far away from the cluster.

The second reason to reverse the hives is to allow more space above the bees. This relieves congestion, which is a major step in swarm control and may buy you some extra time before the bees hit the trees (swarm). As the winter months tick on by, the bee cluster is slowly moving upward consuming their honey reserves. This leaves nice, drawn, empty comb below and, perhaps, some missed honey frames along the periphery. If the hive has honey frames, and the cluster is no longer in the bottom hive box, it is possible to reverse the boxes to put the bees and brood back on the bottom. Then, rearrange any remaining honey frames directly over the brood.

Another important strategy in reversing hive bodies is to maintain the integrity of the brood, i.e., keeping the cluster order intact as found. If the cluster spans across two supers, then keep those two supers together when moving them down (as a unit) onto the bottom board. We are only moving empty boxes from below and putting them on top. If you split the cluster, where half is on the bottom of one super and half is on the top of the other, the bees and brood will die.

Once temperatures begin to rise, don’t leave too many empty supers on top since the excess room is a perfect place for unwanted pests like small hive beetles and wax moths to gain a foothold. We just want enough room for the bees to be able to expand and store the incoming nectar. This is also a good time to put queen excluders between the brood chamber and those new, empty supers on top. This will keep the queen from laying in the honey frames. Just BE SURE (doubly sure!) that the queen is not in any of those empty supers that you’re reversing and, hence, trapped above the excluder. ☐
A Survey of Georgia Beekeeping Clubs with their meeting times & locations:
A complete listing of associations can also be found at: [http://www.ent.uga.edu/bees/associations.html](http://www.ent.uga.edu/bees/associations.html)

<table>
<thead>
<tr>
<th>Association Name</th>
<th>Meeting Time</th>
<th>Location/Address</th>
</tr>
</thead>
</table>
| Bartow Beekeepers Association  
[sites.google.com/site/bartowbeekeepersclub](sites.google.com/site/bartowbeekeepersclub) | 7:00 pm, third Tuesday | Bartow Co. Extension Office (behind Cartersville Library), 320 W. Cherokee Ave, Cartersville |
| Chattahoochee Valley Beekeepers Assn  
[www.chattahoocheebeekeepers.com](www.chattahoocheebeekeepers.com) | 7:00 pm bimonthly, second Monday | Varies between Columbus Library, 3000 Macon Road, or Oxbow Meadows Nature Ctr, 3535 South Lumpkin Rd - both in Columbus |
| Cherokee Beekeepers Club  
[www.cheerokeebeeclub.com](www.cheerokeebeeclub.com) | 7:00 pm third Thursday | First Baptist Church Holly Springs, 2632 Holly Springs Pkwy, Holly Springs, GA 30142 |
| Clarks Hill Beekeepers Association  
[www.clarkshillbeekeepers.org](www.clarkshillbeekeepers.org) | 7:00 pm, first Monday (bi-monthly - only EVEN months) | Casaga Lake Club House, 6343 Yelton Rd, Appling, GA 30802 (Walden Pond, off Hwy 221) |
| Coastal Empire Beekeepers Association  
[www.cebeekeeping.com](www.cebeekeeping.com) | 6:00 pm second Monday | Oatland Island Wildlife Ctr, 711 Sandtown Rd, Savannah, GA 31410 |
| Coweta Beekeepers Association  
[www.cowetabeekkeepers.org](www.cowetabeekkeepers.org) | 7:00 pm second Monday | Coweta Extension Office, 255 Pine Rd., Newnan, GA |
| East Central Georgia Bee Club  
Roosevelt McWilliams, 706-554-2119 | 7:00 pm 4th Monday (bi-monthly) | Burke Co. Office Park Complex, 715 W 6th St, Waynesboro, GA 30830 |
| Eastern Piedmont Beekeepers Assoc.  
[www.facebook.com/EasternPiedmontBeekkeepers](www.facebook.com/EasternPiedmontBeekkeepers) | 7:00 pm first Monday | J. Phil Campbell Sr. Research Ctr, 1420 Experiment Station Rd, Watkinsville, GA 30677 |
| Gwinnett County, Beekeepers Club of  
[www.gwinnettbkeepers.com](www.gwinnettbkeepers.com) | 7:00 pm, second Tuesday | Hebron Church, Bldg A - 3rd Floor, 202 Hebron Church Road, Dacula Ga 30019 |
| Forsyth Beekeepers Club  
[www.forsythbeekkeepersclub.org](www.forsythbeekkeepersclub.org) | 6:30 pm, fourth Thursday | Sawnee Mountain Preserve, 4075 Spot Road, Cumming, Georgia 30040 |
| Henry County Beekeepers  
[www.henrycountybeekeepers.org](www.henrycountybeekeepers.org) | 7:00 pm, second Tuesday | Public Safety Bldg Community Room, 116 Zack Hinton Pkwy South, McDonough, GA 30253 |
| Heart of Georgia Beekeepers Association  
[www.heartofgeorgiabeekeepers.com](www.heartofgeorgiabeekeepers.com) | 7:00 pm, third Tuesday | Camp John Hope, FFA-FCLLA Ctr, 281 Hope Entrance Rd, Fort Valley, GA 31030 |
| Lake Country Beekeepers Association  
Bruce Morgan, 478-357-4029 | 7:00 pm, third Monday | Hancock Co. Extension office, 12534 Augusta Highway, Sparta, GA 31087 |
| Lake Hartwell Beekeepers  
[www.lakehartwellbeekeepers.com](www.lakehartwellbeekeepers.com) | 7:00pm, first Thursday | First Baptist Church - Family Life Center 95 Bowman St, Lavonia, GA 30553 |
| Metro Atlanta Beekeepers Association  
[www.metroatlantabeekeepers.org](www.metroatlantabeekeepers.org) | 7:00 pm, second Wednesday | Atlanta Botanical Garden, 1345 Piedmont Ave NE, Atlanta, GA 30309 |
| Mountain Beekeepers Association  
Glen Henderson, 706-745-1795 | 7:00 pm, first Tuesday | United Community Bank 25 GA Hwy 515, Blairsville, GA 30512 |
| NE Mountain Beekeepers Association  
[negbabeekeeping.com/](negbabeekeeping.com/) | 7:00 pm, second Thursday | Habersham Co. Extension, 555 Monroe St, Clarkesville, GA 30523 |
| NW Georgia Beekeepers Association  
[www.northwestgeorgiabeekeepers.com](www.northwestgeorgiabeekeepers.com) | 7:00 pm, second Monday | Walker County Civic Center - Agriculture Ctr 10052 N Hwy 27, Rock Spring, GA 30739 |
| Oglethorpe County Bee Club  
[www.ocbeeclub.org](www.ocbeeclub.org) | 7:00 pm, third Monday | Oglethorpe Co. Farm Bureau, 925 Athens Rd (US 78), Crawford, GA 30630 |
| Southeastern Beekeepers Association  
Barry Hart, 912-337-5464 | Spring & fall meetings, by announcement | TBA |
| Southwest Georgia Beekeepers  
Sonny Swords, 912-941-5752 | 7:00 pm, third Monday | Colquitt Co. Farm Bureau, 1899 Sylvester Hwy, Moultrie, GA 31768 |
| Sowega Beekeepers Club  
[www.sowegabeekkeepers.org/](www.sowegabeekkeepers.org/) | 6:30 pm, second Thursday | Chehaw Park, Creekside Educational Ctr, 105 Chehaw Park Road, Albany, Georgia 31701 |
| Tara Beekeepers Association  
[www.tarabeekeepers.org](www.tarabeekeepers.org) | 7:00 pm, third Monday (except Oct & Dec, see website) | GA Power Building, Kiwanis room, 752 Main Street, Forest Park, GA 30297 |
| Troup County Association of Beekeepers  
[www.ent.uga.edu/bees/associations.html](www.ent.uga.edu/bees/associations.html) | 7:00 pm, third Monday | Troup County Agriculture Center, 856 Vulcan Materials Road, LaGrange, GA 30241 |