



# Wake County Beekeepers Association June 2009

---

## **Next Meeting: June 9th 2009 @ 7:30 pm**

Location: Wake County Commons Building, Cary Drive. Our Guest Speaker will be Donna Kleinert owner of PurEssence. She makes soap and products of the hive with honey.

Dan Brubaker, Steve Brown and Qugen Mao have signed up to bring refreshments. We need a couple of people to sign up to bring refreshments to the November 2009 and January 2010 meetings. If you have the time, it is not too much trouble to bring refreshments to a meeting: You can pick out your favorite things and submit your receipt to Vivian for reimbursement. If you wish to sign up let me know.

## **May Meeting Summary**

Thank you to Mitchell Wrenn, Paul Brown, Austin Wrenn and Ricky Barbour for bringing refreshments to the meeting. The NCSBA plans to continue Honey Sales at the State Zoo the goal is to be able to provide Honey for zoo goers to purchase at the concession stands. NC State Fair honey sales will be done by the NCSBA as well. They will purchase 60 Lb containers of honey for \$200. This needs to be Fresh 2009 honey and ready for bottling filtered, without foam or granulation. If you want your label on it, be available to do it. This year the emphasis will be on County. Email Danny if you wish to provide honey this year. Last year honey sales were \$8000. They will try and give back to contributing chapters. The NCBSA must get a % of course.

There was a meeting @ the NC Zoo for people who will work/volunteer. You can sell your honey- they will have bees, observation hives and signs.

Constitution Changes: James Knox made changes that the executive committee wants to make to our Chapters by Laws. The main one is the change to include both masculine and feminine gender. This will be to include He/She or Him/Her when referring to officers and club members. No prejudice is intended. There are hard copies available for you to peruse or you can email Danny for a copy. This will be voted on by the club at the next meeting before it is taken into action.

AS ALWAYS: we need beekeepers to do presentations for groups such as scouts, libraries etc. IF you are working on your Advanced, Journeyman or Master Certifications, then you need these credits. They also count toward Golden Achievement so keep track of them when you do one.

Mary spoke about the Annual Cooking with Honey competition at the Summer Meeting July 10th. Everyone- kids, adults, all ages and genders can enter. Bring your entries in between 9 & 10. Judging starts at 10. There are 17 categories- enter as many as you wish. A complete copy of the contest rules and categories are online [www.ncbeekeepers.org](http://www.ncbeekeepers.org). Remember when you cook with honey it tends to brown quicker. Mary has some cooking with honey cookbooks, and the current prevention magazine has some too. Winning recipes will be published, unless you specify otherwise on your entry. If you are harvesting honey (light, amber or dark) and want to compete in the fair, start preparing now. Set a gallon aside to get the air bubbles out. Larry Williams is the custodian of records. If you need the educational posters or the observation hive check with him. If you need an extractor, capping table or knife they are kept in different locations across the county. These are listed on the website and in the "Board of Directors" box in the newsletter. Unlike other clubs we do not charge fees for use of club materials. We do of course expect you to return them in the cleaned condition you receive them in. They should be washed with hot water (there should definitely NOT be any soap residue if you use soap). If you have a power washer, that is the best cleaning method.

Guest Speaker was Dr. Debbie Delaney a Postdoctoral Researcher in Dr. Tarpys Lab @ NC State University. She presented "Commercial versus feral honey bee populations in the U.S." Dr. Delaney became a keeper of bees in 1996. She had 75 hives and a small honey business in Oregon for about five years. She focused on studying the effects of coumaphos on drone sperm as she completed her Masters' degree at Oregon State. She worked on genetic diversity in US honey bee populations for her doctorate in eastern Washington State. She has worked with queen breeders, commercial beekeeping operations, and beekeepers like us.

Currently she is working on feral honey bee populations in the U.S. and also queen health studies. She mentions if you find a feral hive, she could use about 10 workers to collect for her research on feral colony genetics in NC. Log these on the <http://www.savethehives.com/>. If you need to reach her: [dadelane@ncsu.edu](mailto:dadelane@ncsu.edu) or 919-513-3967.

As we know, honeybees are important in all parts of the world. They are responsible for 1/3 pollination of food in the human diet. Pollination is a lucrative 14 Billion dollar industry, with 2 Billion spent on Almonds alone.

With all species of living organisms, diversity is extremely important. They need to establish effective and sustainable ways to fight diseases and pests while increasing health and longevity. Understanding diversity of honeybees will help us understand their history. Honeybees are not native to the US. Species here have various components to their lineage.

There are 10 Species in the Genus Apis (A.).

A. Cerana,

A. Florea (dwarf honeybees apparently pretty cute),

A. Dorsata (giant honeybees native to E. Asia)

A. Mellifera has a gigantic range including Africa, Europe, Central and Western Asia. They have adapted to different climates and ecologies.

One can genetically distinguish Italians from Russian but they are similar.

The "M Linage" or Apis Mellifera Mellifera is the dark brown German bees in N Europe. "C lineage" are the Italian, Carniolan, and Caucasian. "A lineage" are the Africa Lineage. "O lineage" are the Oriental subspecies from all lines brought to N. America.

Honeybees were imported to America in the Early 17<sup>th</sup> Century. The first record was in 1621, by the Virginia Company. They sent beehives, peacocks, apple trees, seeds according to ship logs. These were the M lineage, and they proliferated well in the Eastern N. America and Midwest. They are believed to be the only species brought here for 200 years. 7 additional subspecies were brought here from 1859-1922. A growing beekeeping industry brought in "better" bee stock. Years species brought in were:

1859 Ligustica "C"

1866 Lamarckii "A"

1877 Carnica "C"

1880 Cypria "O"

1880 Syriace "O"

1880-2 Caustica "O"

1891 Intermissa Africa "A"

1990 Scutellata "A"

There are 2 main commercial Beekeeping Regions in N. America: the WCBP (Western Commercial Beekeeping Populations) and the SCBP (Southeastern).

There are also feral bee populations. How well do they maintain their genetic stock? There are 3 factors: Queen Breeding Practice, Varroa Mites, and the History of bees brought to the US. There are 26 known subspecies out of the 8 species brought in. 1/3 of the different subspecies were brought to the New World.

Small samples of these populations used to create new populations will result in "in breeding". This will lead to a diminished genetic pool and may lead to increased mutation and problems. After many generations the gene pool will decrease significantly in size. This will result in the new population being very different from the original parent population. It is worrisome to lose diversity. Varroa largely eliminated feral populations ("or did it?" Dr. Delaney asks- she will get to that later). Untreated hives generally succumb to Varroa Destructor in 2 years (unless they adapt). Managed colonies also suffer- they become resistant to fluvate. There are only so many silver bullets. It is believed that Varroa drastically reduced managed colonies, 50% of them; while wiping out 90-95% of feral populations.

## Board of Directors

### President:

Danny Jaynes 567-9568

[djaynes101@nc.rr.com](mailto:djaynes101@nc.rr.com)

### Vice President:

Ricky Barbour 269-0108

[RickyBarbour86@yahoo.com](mailto:RickyBarbour86@yahoo.com)

### Secretary:

Jill Currin 906-4135

[jmcurrin@embarqmail.com](mailto:jmcurrin@embarqmail.com)

### Treasurer:

Vivian Joyner 387-0164

[vivnwhit@earthlink.net](mailto:vivnwhit@earthlink.net)

### Program Chairman:

Andrew Currin 868-4014

[acurrin@embarqmail.com](mailto:acurrin@embarqmail.com)

### Directors:

Jim Cook

321-0217

[jimcook@operamail.com](mailto:jimcook@operamail.com)

Mitchell Wren

269-9781

[wren@wans.net](mailto:wren@wans.net)

Tim Huffman

269-6790

[timjoehuffman@aol.com](mailto:timjoehuffman@aol.com)

### Phone Mentor:

Jerry Brantley 919-269-9333

### Website:

[www.wakecountybeekeepers.org](http://www.wakecountybeekeepers.org)

Yahoo group:

wakecountybeekeepers

To subscribe send mail to

[wakecountybeekeeperssubscribe@yahoo.com](mailto:wakecountybeekeeperssubscribe@yahoo.com)

Back copies of newsletters and the bylaws are available on this yahoo group.

### Location of Club Extractors:

The club owns extractors that are available for members to borrow.

Ricky Barbour: Zebulon 269-0108

Whit Joyner: New Hill 387-0164

Raleigh Myers: Raleigh 787-0058

James Knox: Raleigh 847-5098.

## Commercial Genetics:

To make Queens the breeders find proven queens. Queens that have desired qualities such as gentleness, productive, low swarming, cleanliness etc. They take small 3 day eggs and graft them into cups that are made into queen cells. We get the queen daughters from the queen mothers. In 1993&1994 603 Queen mothers were used to make 890,700 daughters. Out of 3 million registered hives, they replaced 1/3 of the managed colonies. In 2003-2004 473 queens were used to produce 869,500 daughters (this is a reduction in stock). Just in a 10 year span there has been a reduction in genetic diversity. Did the disappearance of feral hives have any effect on commercial Queen Breeding?

In the SE (GA, SC, FL etc.) There have typically been more feral hives- they flourished for longer.

Dr. Delaney and her mom took a road trip where she visited commercial operations and sampled workers from each queen mother. She also got samples from 692 feral nests in 11 southern states. These samples she genetically tested and showed us her comparison. To understand we have to know a little about DNA. Mitochondrial DNA is what is passed from mother to offspring. Nuclear DNA Microsatellites come from both mom and dad. These are repetitive strands and you can differentiate them by the amounts of repeats.

### DNA Patterns

WCBP 1994	52% "C" lineage	3% Melifera	1% loss in 2004
	57% "C2" lineage		

The south has more diversity:

SCBP 1993	46% "C2" lineage	in 2005	39% "C2" lineage
	47% "C" lineage		56% "C" lineage
			*2% "A" lineage* this is new*.

There are 7 different strains as opposed to the year prior. This research shows that the commercial operations are very stable- there is not much change. It also shows that WCBP and SCBP are genetically different from each other which are good. Their unique genetic structure can be separated out based on allele frequencies and we can see the difference.

Feral Populations: there were 10 Haplotypes- so they have greater diversity right off the bat. One interesting finding is that they have *A. mellifera lamarchii* a subspecies brought from the Nile Delta in the 1860s. They were hot tempered and early settler beekeepers probably focused on other species. However, their genes are still out there showing up in feral colonies. New genetic strains were created in different areas- the Spaniards came up with the M7A strain and Italy has the M7B strain. Commercial and Feral Populations have different genetic structure. It would be a huge loss if that was gone, and we wouldn't see the ramifications immediately.

### In conclusion:

- There has been no swift change in commercial stock over a decade.
- WBCP & SCBP not much different. The "loss" of the feral population has not affected their genetics.

Dr. Delaney said when she started working on the Feral Hive Project she has been inundated with people telling her about bee trees, and bees living in people's structures for many years. She is trying to collect non-managed colonies to get genetic samples. She is looking at Duke Forest and Natural populations. She showed us pictures of her swarm traps and her bee luring boxes. She learned this old luring technique from Tom Seeley a microbiologist at Cornell to locate bee trees. You make a box and find foragers to feed on the comb. You let them travel back and forth a few times, then move closer and closer. It should take a couple of days to find the hive. The bees do act different because they are essentially in robbing behavior.

Dr. Delaney has a goal to help increase genetic diversity and help the feral populations. There are many hobbyist backyard beekeepers; it would be good to be educated to know what we have out there. If you find a feral hive let Dr. Delaney get a few workers to sample for the save the hives.com project. She doesn't want the whole hive, just a few spare workers to genetically test when get gets enough together. NC is diverse with our geography from the mountains to the coast we need feral hive samples from more areas. To reach Dr. Delaney: <http://www.savethehives.com/>, [dadelane@ncsu.edu](mailto:dadelane@ncsu.edu) or 919-513-3967.

### Important Implications for the study of Genetics in the Apiculture Industry:

- Importation germplasm
- Track Africanized honeybees
- Use survivor stock
- Develop locally adapted stock
- Develop new and best management practices
- End a long debate

## Questions:

- Has there been intermixing of feral and commercial stock? There is some barrier, possibly time, weather. Each subspecies is different. Why not blended out? There may be harsh areas in between collection areas, geographical barriers such as mountains, or dry desert areas.
- Someone got a nuc of light colored bees, but caught a large swarm of dark colored bees. Is there a difference? Color is not always a good indicator.
- Someone asked about feral hives: In her opinion, there has been decimation, but not to what extent. There are people all over the state with bee trees and bees in structure. If feral hives have better diversity- why are they getting decimated? Varroa is not their native host.
- Is there an interest in WCBP and SCBP in sharing stock? Most breeders are using university lines of stock such as Minnesota Hygienic, SMR, New World Carniolians etc.

Dr. Delaney's presentation was very informative and interesting, but by far the cutest part of her presentation was the budding beekeeper snuggled on her front.

Article Submitted by WCBA Member Michelle Barry

<http://www.sciencera.com/Biology/Zoology/Whats-All-the-Buzz-When-Honey-Bees-Swarm.705569>

## What's All the Buzz: When Honey Bees Swarm

by [nutuba](#), May 12, 2009

**When a bee hive swarms, the beekeepers (and family) are as busy as, well, bees!**

The gilded skies and dew drenched grass had ushered in what promised to be a warm sultry day in the heart of North Carolina's piedmont. All of us -- my parents, Minnesotans who bravely faced the change in climes for the sake of visiting the grandkids, included -- were busily focused on any of the several projects or tasks underway that morning. The cry of the circular saw was fading and the mockingbird, perched high in the paper birch above us, laughed in anticipation of seeing another board nailed into place on the new chicken coop. The six big chickens were out, scouring the yard for worms and insects and the occasional small snake; the eleven baby chicks, at five weeks old, were in the caged "chicken tractor" under the watchful eye of one of the kids; and soaring high overhead was a red tailed hawk, seeking an opportunity to strike.

I heard a voice cry out, "Swarm!" It was my wife who had issued forth this one word; and instantly all of us -- well, all of us except my parents, who hadn't experienced this before -- knew what that meant. Our plans had changed for the morning, beginning with that solitary word. Hearing my wife proclaim that there is a swarm is in some ways similar to the effect one sees when playing the childhood game Duck Duck Goose. Sitting in the circle, the participant is almost lulled to a catatonic state from hearing "duck" repeated continuously as the "goose" makes his or her way around the circle, tapping each person on the head; then "goose" is heard, and instantly the new goose springs into action, standing up and chasing the chooser around the circle.

When our family hears "swarm," we know that one of the bee hives is now a fireball of activity and that a lot of effort will be made in an attempt to keep the bees from leaving the premises.

I looked over at the hives in the garden, and sure enough, one of them had a cloud of bees, each bee flying around the hive in a way that always reminds me of the science cartoons we watched in school of electrons flying around an atom. On warm spring days, hives always have bees coming in and out; but the swarming hive literally has thousands of bees in a small cloud.

The cloud usually settles in a nearby tree, wrapping itself around a branch and forming a solid ball the size and shape of an overinflated deformed basketball. sometimes even bigger.

Why do bees swarm? Well, the simple answer is that a hive has reached an overcrowded state and half or more of the bees, following the queen, leave to go search for a new home.

The slightly more complex answer is that a hive's goal in life is to swarm. Why would that be? The bees want to thrive and increase their population; a healthy hive will grow and become crowded and seek to expand.

It's a tricky balancing act for the beekeeper. As the hive's population increases, the beekeeper will typically have an empty hive box ready. When



the hive's population is strong, the beekeeper may try to do a "split" and put perhaps half the bees into the new hive. The new hive then produces a new queen, and the cycle begins again.

If a split is done before the hive is strong enough, the danger is that either the new hive or the old hive (or both) will not be strong enough to sustain itself.

When bees swarm, the whole event happens quickly; in a matter of a few hours, the swarm can move from the hive to a tree and then from a tree to their new home, which had been found by the scout bees from the swarm.

We've had numerous swarms in our yard, usually in trees not too far from the hives. In this particular instance, the swarm landed on a tree just outside the garden area where we keep the hives.



It takes effort to capture a swarm. Fortunately, bees in a swarm are not aggressive; they're not upset or on the defensive. Their focus is on going to a new home.

This particular Saturday, the swarm was high enough in the tree that it was a little tricky attempting to capture it.

I set up the ladder against a lower branch, and then my oldest son (also a certified beekeeper) and my wife alternated as they held up a long pole with a combed frame and placed the frame next to the swarm. The bees were attracted to the comb and would gather onto the frame. The frame would then be brought down to the new hive, and the beekeeper would shake the bees off the comb onto a sheet so that the bees could easily go into the new hive.

Each time the frame was brought down the ladder, the busy beekeepers would search it, trying to find the queen. The bees are much more likely to remain in the new hive if the queen is in there as well.

We kept close watch on the new hive; the bees would enter, and then the bees would come back out and fly around the hive in a sort of agitated state because the queen was not yet there.

For over an hour, my wife and son climbed the ladder, gathered some bees onto the frame, dumped them onto the sheet near the new hive, and then climbed the ladder again.

Finally, one of them came down the ladder with a large mass of bees, and though they didn't find the queen at the time, they guessed that they had the queen. They dumped the bees onto the sheet and, sure enough, the bees went into the hive and remained there.

After a couple of hours, most of the bees in the swarm followed their brethren into the new hive, and my wife moved the hive to its new location back in the garden.

The attempt at capturing the swarm had been successful! And we now have another hive in our little enclave in the bee world.



### **What To Do this Month in the Bee Yard: June**

The honey flow is winding down, the bees will be returning to clover. Now is the time to harvest HONEY!! (If you use club equipment return items cleaned properly and in a reasonable amount of time.)

After the major flow: Check on your hives. Look for presence of a queen. Don't look for her- to reduce chance of injuring her. Make note of the brood pattern- if it is not good think about re-queening.

Submitted by WCBA member Temple Porter:

## Wild Bees Make Honeybees Better Pollinators

ScienceDaily (Sep. 24, 2006) — Up to a third of our food supply depends on pollination by domesticated honeybees, but the insects are up to five times more efficient when wild bees buzz the same fields, according to a study published Aug. 28 in the journal Proceedings of the National Academy of Sciences of the USA.

"As honeybees become more scarce, it becomes more important to have better pollinators," said Sarah Greenleaf, a postdoctoral researcher at UC Davis and first author on the study. As a graduate student at Princeton University, Greenleaf carried out a two-year study of honeybees used to pollinate sunflower crops on farms in Yolo County, Calif., near UC Davis. Compared to honeybees, wild bees did not contribute much directly to crop pollination. But on farms where wild bees were abundant, honeybees were much more effective in pollinating flowers and generating seeds, Greenleaf found. There appear to be two reasons for that. Male wild bees, probably looking for mates, will latch onto worker honeybees, which are sterile females, causing them to move from one flower to another. Secondly, female wild bees appear to "dive bomb" honeybees, forcing them to move. Frequent movement between flowers spreads pollen around more effectively. Greenleaf and her co-author Claire Kremen, now a professor at UC Berkeley, calculated that wild bees contributed about \$10 million of value to the \$26-million sunflower industry alone. All the fields in the study were conventionally farmed, but varied in their proximity to natural habitat, Greenleaf said.

### Upcoming Events

NCSBA Summer Meeting will be held July 9<sup>th</sup>-11<sup>th</sup> in N. Wilkesboro. Mark your calendar to attend. "Chapter of the Year" will be announced at this meeting. Danny thinks we are going to win and would like many members to erupt in cheers when we are crowned Chapter of the Year! Mary Jaynes is NCSBA's **Cooking with Honey** Contest Coordinator for 2009. She wants to remind us to think about entries.

Northeast Treatment Free Beekeeping Conference: July 31<sup>st</sup>-August 1<sup>st</sup> near Boston, MA: <http://BeeUntoOther.com/>

This is taken from Mecklenburg Co. Beekeepers Newsletter:



### **Pesticides indicated in Bee Deaths** By Julia Scott

Agriculture officials have renewed their scrutiny of the world's best-selling pest-killer as they try to solve the mysterious collapse of the nation's hives.

May 18, 2009 | Gene Brandi will always rue the summer of 2007. That's when the California beekeeper rented half his honeybees, or 1,000 hives, to a watermelon farmer in the San Joaquin Valley at pollination time. The following winter, 50 percent of Brandi's bees were dead. "They pretty much disappeared," says Brandi, who's been keeping bees for 35 years. Since the advent in 2006 of [colony collapse disorder](#), the mysterious ailment that

continues to decimate hives across the country, Brandi has grown accustomed to seeing up to 40 percent of his bees vanish each year, simply leave the hive in search of food and never come back. But this was different. Instead of losing bees from all his colonies, Brandi watched the ones that skipped watermelon duty continue to thrive. Brandi discovered the watermelon farmer had irrigated his plants with imidacloprid, the world's best-selling insecticide created by [Bayer CropScience Inc.](#), one of the world's leading producers of pesticides and genetically modified vegetable seeds, with annual sales of \$8.6 billion. Blended with water and applied to the soil, imidacloprid creates a moist mixture the bees likely drank from on a hot day. Stories like Brandi's have become so common that the National Honeybee Advisory Board, which represents the two biggest beekeeper associations in the U.S., recently asked the U.S. Environmental Protection Agency to ban the product. "We believe imidacloprid kills bees -- specifically, that it causes bee colonies to collapse," says Clint Walker, co-chairman of the board. Beekeepers have singled out imidacloprid and its chemical cousin clothianidin, also produced by Bayer CropScience, as a cause of bee die-offs around the world for over a decade. More recently, the same products have been blamed by American beekeepers, who claim the product is a cause of colony collapse disorder, which has cost many commercial U.S. beekeepers at least a third of their bees since 2006, and threatens the reliability of the world's food supply.

**From the NC State Zoo:**

*You are cordially invited to join us for the Grand Opening of the Zoo's newest exhibit: **The Honey Bee Garden**, sponsored by the NC State Beekeepers Association.*

*When: Friday, June 19, 2009, Dedication program starts at 1:00 pm.*

*Where: Please meet at the Stedman Education Building at 12:45 pm for transport to the Honey Bee Garden. Light refreshments will be served at the Farm Bureau Honey Bee Barn.*

*Please RSVP by June 12, 2009. Call 336-879-7262 or email: [kpowell@ncoo.com](mailto:kpowell@ncoo.com)  
Comfortable walking shoes are recommended.*

**Editors Note:**

I know I am not the only unlucky one, because I have talked to other members who have purchased nucs or boxes of bees only to have their money fly away. We had a box abscond then a swarm who really wanted to leave our property for no apparent reason. We had one swarm out of one of our best hives. These gals left in the evening, but we caught them hanging on a cherry tree. We put them in a nice new 5 frame nuc box home. We gave them some food they could go to town building comb. However, they had other ideas... I checked on the feeder the next day and did not see them lined up on the feeder screen. I guess they did not like that home because they were gone. I was not sure when they left because I was at work. I did not see them anywhere. So, I thought there were long gone. I went inside and shortly thereafter saw a flurry out the window by the maple tree. They did not make it very far, and there were fewer of them it seemed. The swarm was small and probably not worth the bother, but I thought I would see if I could locate the queen. Since I was getting up close and personal with them, I put my veil on. Good thing I did, because several jumped on... I walked in the house to get my camera and they stayed put. To the right is a picture of why you might want to wear your veil getting a swarm. I got the queen in the queen catcher. She was unmarked but I am sure she was the same one Andy and I captured 2 nights before. Hopefully this time they stick around. We will have to steal a frame of nurse bees and brood from another hive and I am sure they will stay put.



The girls hitching a ride before I located the queen.

One of our dear members Golden Pennington, passed away this month: As our tradition, WCBA will make a donation of honeybees as a living memorial to Heifer International. <http://www.heifer.org/site/c.edJRKQNiFiG/b.2668675/>

(from the N&O) Golden (Penny) Pennington, 93, died peacefully on his beloved Sabbath at home supported by family and friends. He was born in Albemarle, NC on May 24, 1915 to the late Maude Bowers and John Fink Pennington. He eventually moved to Raleigh where he met and married Mildred Clement on December 26, 1940. Raleigh and the house they bought together in the early years of their marriage became his home. He was admired respected and loved by all who knew him. He was truly Golden generously giving of his time, talent and treasure to anyone who needed it. He will be missed by his family from Stanley County, his wife's sisters to whom he became a father figure, his numerous nieces and nephews aka fishing protégées, his Seventh-day Adventist Church family, his neighbor family and his loyal friends from the Beekeepers and American Watchmakers Associations. He was admired for his memory, his humor, his kindness, his strong faith, his respect for others and his unparalleled determination to live a full life. By Example, he taught us all a lot about life and love.