



# WAKE COUNTY BEEKEEPERS ASSOCIATION

## FEBRUARY 2009



**Next Meeting: February 10, 2008 @ 7:30 pm**

Location: Wake County Commons Building, Cary Drive.

The topic will be "Preventing Swarms" by Ricky Barbour and James Knox

I missed the officers meeting, so I do not know who is signed up to bring refreshments. Remember, if anyone brings some goodies, you can always submit your receipt to Vivian our Treasurer for reimbursement. A sign-up sheet to bring goodies and refreshments to club meetings was circulated at the Jan. Meeting, and will be circulating again- there are still slots available. Be sure to sign up. It is nice to welcome new and not so new members with good food and beverages!

### January Meeting Summary

Thank you to Mary for bringing refreshments to the January meeting. Thank you to the door prize providers. Thanks to Jack Tapp for providing the Nuc box for the raffle. We need volunteers to bring refreshments to meetings for 2009 and Jan 2010. We need at least 3 people each meeting with our expanding club! If you wish to sign up see Mary Jaynes. Larry Green is ordering T-shirts and hats for the club. Place your order/requests for color with him. He is getting these to us at cost, but didn't have his paperwork with the exact prices. He is thinking they are approximately \$8-\$10.

Our members battling illness: Jack Tapp, JD Foust, Whit Joyner and Golden Pennington are recovering well. Hopefully everyone in the club will be feeling great and ready for a good 2009 honey harvest!

The pre-meeting Beekeeping introduction has had a time change. The New Beekeeper pseudo-class will be 6:30-7:00 to allow time for discussion and meeting preparation. In January, it was changed at the last minute and unfortunately only people signed up for the Beekeeping March class were notified. This change will be in effect for February and March- so everyone who wants to attend hopefully is able! To all of you experienced Beekeepers: Please volunteer to be a mentor and inspire and help new beekeepers starting out.

We have met and surpassed all requirements to attain chapter of the year- if you have not already done so- get your information and forms to the committee. Also, keep up the good work everyone- and keep records, we will be asking for them for 2009 as well.

The nominating Committee presented the officers for 2009 to vote on: James Knox has seen the club grow with good officers during his membership for the past 30 years. He spoke on behalf of electing 2009 officers. Steve Hildebrand told us he made sure to volunteer for the committee to twist arms getting officers rather than being one. The committee came up with: President: Danny Jaynes, Vice President: Ricky Barbour, Secretary: Jill Currin, Treasurer: Vivian Joyner, Program Chairman: Andy Currin, Board of Directors: Tim Huffman (3 year term). A motion was made and passed to accept the officers. Thanks to all the all hard work our officers have done and continue to keep doing! New officers will have a meeting Sat. Jan 24<sup>th</sup> to map out the schedule for 2009 and discussion of various topics. Also, the Golden Leaf Committee will meet and coordinate our application for club of the year.

The January meeting topic was "Advice from Mentors" Mark Reep the outgoing program Chair lead the forum. Three mentors James Knox, Jack Tapp and Charles Heatherly, shared their history with bees and helpful advice to those getting started.

**James Knox** is one of our members on the top of the list for longest time keeping bees- 62 years. Mr. Knox grew up where a neighbor had bees and he had been intrigued. He tells us when he was a kid, they did not have all the fancy magazines and reading material we have today. He used to peruse the Sears Roebuck catalog for fun. In the 1947 issue there was an ad for Hives and Bees. He decided to order a couple packages, equipment and get started. He tells us he

learned a lot by trial and error. In 1953, he took a Beekeeping Course at NC State University. James had to leave his hives behind when he was in the military but he picked back up when he returned home. Over his many years keeping bees he has maintained between 11 and 30 hives. He enjoys the bees as a hobby but when it becomes more work (extracting, filtering and bottling) and less fun he backs off.

**Jack Tapp** also has been keeping bees along time. He became familiar with them in the early 1940s, thanks to his grandfather's hives. He would patiently watch the bees come and go. His granddad never allowed him to help during extraction. One day, Jack decided to take some honey on his own. It was not a pleasant experience, the dark german bees did not take kindly to this intrusion and Jack got stung so much that his eyes were swollen shut and his face and mouth were also swollen. Jack kept his distance for a few years, until he was asked to go help do a tree cut out at night. He was the one they had hold the light, so unfortunately, his second bee experience was also unpleasant. Jack also spent time in the military, when he returned home in 1986 Bill Shepard the State Apiary Inspector at the time encouraged Jack to keep bees to help with pollination. Jack did get some bees and blueberry pollination contracts throughout the Carolinas. As a relatively new beekeeper he was asked to speak at a convention of Blueberry growers. He said he had to wing it, but he must have impressed them because all of his bees were in demand. Jack also learned some lessons the hard way. One particularly tough lesson was about pesticide use on crops resulting in killing his bees. He of course picked back up and has since been maintain pollination contracts, raising and selling bees and equipment through his business Busy Bee Aparies.

**Charles Heatherly** is the most recent past president of the NCSBA. Charles has been keeping bees for about 15 years, he maintains about 10 hives. Like James, Charles wants to keep it more enjoyable and less labor. Charles had been familiar with bees from a young age. He said his Granddad was a "bee robber". He would steal honey form a feral beehive in a wall. Charles got into beekeeping for purely selfish reasons. Charles has been a life-long fan of Sourwood honey. His family came from Arden, up in Buncombe County where he could get sourwood honey whenever he wanted. When he moved to the Piedmont he would make regular trips to the mountains to get the Cadillac of Honeys. In 1992, he tracked down his sourwood source and found out he didn't have any. He told Charles that if he wanted to be sure to have sourwood honey he had to get his own bees. Since Charles was addicted already he decided to get and keep some hives of bees.

The first bit of advice for new beginners is to read publications and resources to be more educated. All mentors agree Bee Culture and American Bee Journal are good publications to subscribe to and read. Charles was lucky enough to have Kim Flottum the editor of Bee Culture and Keynote Speaker at the Spring 2008 meeting stay and visit with him. Mr. Flottum came during a snow storm in his native Ohio and could not get a flight home. They also tell us to be a good beekeeper you need to know Honeybee Biology. It is important to know this for becoming a Master Beekeeper as well. The Master Beekeeping Program has been in place for 20-25 years. It is designed to encourage beekeepers to learn more about bees. There are certain academic and public service criteria requirements for each level. This course is helpful, giving a structured way to study and learn all about bees. The highest level is Master Craftsman, there are 16 people who have attained this level including our club member JD Foust. There are 55 Master Beekeepers in the state. Over 4000 people have participated in the program. There has even been a Beekeeper from Michigan who liked the programs and travelled down here to take the tests and attain certification, since they offer nothing similar in nearer states to him.

### Editors Note:

One thing I learned listening to the experts at our last meeting is that we all start-out kind of stupid, making mistakes and learning hard ways.

My first mistake was in frame assembly, I did not know to take off the wooden strip to use to hold on the foundation. Then I did not know about the support pins. My mentor corrected me on all those.

Next, I discovered I wanted to have "little" bees. I had already ordered a bunch of standard foundation and decided I wanted small cell foundation instead. Then I decided I do not like the shallow supers. If I had all body and mediums it makes things easier. Plus, by then my muscley husband got interested- so he could help do more of the lifting!

When I first got bees, I was a little fearful, I suited up 100% of the time. I had been allergic to yellow jackets and wasn't sure if I was allergic to bees and really didn't want to get stung. Then as we got into the NC summers, I started using less and less of the gear. After getting a bee up my shorts to sting me in the groin I learned to at least wear pants. Also, I discovered tips like herbal and floral scented lotions and to avoid using them when working the bees.

I have learned getting stung is not that bad, in fact it is good for you. It stimulates the immune system and helps arthritis inflammation and pain. I got stung on the lip once and for a few days I looked like I had a collagen injection! The more I get stung the better my response. It used to be a red swollen area for days, now it only lasts a day.

Although, I know some people can develop allergies after years of not being allergic. One thing to learn quickly is to have an epi- pen in your first aid kit -just in case.

When I first got bees, my sister was afraid of having her kids play in my yard when they visited. She would remind me not to let them by the hives. (Unbeknownst to my sister, I did satisfy their curiosity- suiting them up of course and no one got stung). Her fear did not last too long either and doesn't even get mentioned anymore. We have played kick ball and other things near to the hives with no problem. Bees really are docile creatures. They will check me out in the yard, and unless I am in the flight path- I am safe.

I know there is a lot more I will continue to learn and the members of our club have been instrumental in helping me. Which reminds me: I have heard Purple Martins will eat bees- does anyone know if they would eat a large amount or can they co-exist because I would like some martin houses and haven't yet.

Jill Currin, Secretary

## **What are some good Resource Books to help become a better beekeeper?**

Jack: "First Lessons in Beekeeping" by Keith Delaplane. This book omits the old improper methods of inserting package bees ( Not shaking them in, instead you turn them over and let them walk in their new home- much less damaging to the girls.) This book also contains other common sense things. This is the book you get included with your taking the Class with our club in March. You can also purchase one- we usually have extras.

James recommends: "The Hive and The HoneyBee" by Dadant & Sons and the "ABCs and XYZs of Beekeeping" by Roger Morse. James also mentions if you need supplies to see Jack. Jack is a local distributor for Brushy Mountain with his business Busy Bee Aparies in Chapel Hill. He has a multitude of supplies on hand and makes regular trips to fulfill orders and keep up with demand.

Charles tells us the best way to learn is to make mistakes and learn to fix them. After 3 or 4 years keeping bees, Charles was feeling pretty confident, he was getting a ton of honey out of his 10 hives and knew a lot. Then, all but 2 of his hives starved to death.

Jack had a hard lesson with one of his pollination contracts. Don't believe everything 100% of everything someone tells you. He had a farmer tell him he did not spray, only to find out he does. It almost put him out of business by killing so many bees. That reminds me of a quote someone told me: "A smart person believes half of what they hear, A brilliant person knows which half to believe".

James tells us to try things, you will hit and miss and learn in the process. When he first started removing bees from structures, He claims he was "stupid" he thought of it as a service beekeepers do. Since then he has smartened up and knows it is valuable, may be labor intensive and can be dangerous if the hive is high such as in a 3 story building. James tells us the WCBA mentor program is designed to give you someone to call if you have a question. Some mentors will let you go see their apiary/ honey operations, others may come visit or help you in your bee yard. He tells us, if you get in a pinch you can always call Jack. The staff at Busy Bee: Jack, Betsy, Bobby, and Matt etc. are very helpful. You can also get some hands on experience. You can go out and spend some time out there shadowing Betsy or helping do splits, assembling equipment, making nucs and other necessary activities. You can also call Jerry Brantley, our phone mentor. Charles tells us, many of the older WCBA members are very generous in their help and advice giving. Make sure you have a lot of time if you ask one of them. In addition to being a beekeeper, Charles is a woodworker and he tells us one big difference is with beekeepers and woodworkers is that woodworkers will learn a new trick and figure out how to set up a workshop and charge to share the knowledge, whereas beekeepers appreciate the honeybee and want to share all they can to help others gain appreciation as well.

### **Please be a Mentor:**

All of us started out as novices. Remember when you decided you wanted bees, but were maybe a little fearful of getting stung, or scaring your neighbors, or just weren't sure how to assemble frames?

Some of us after a couple of years keeping bees, still consider ourselves novices. Mentors are very important. I was very grateful to my mentors (and regular club members whose phone numbers and emails I got a hold of to ask questions when we first started.

When you buy frames, they do not come with instructions. Seeing and doing things in a bee yard makes more impact than reading in a book.

It also helps when you see something you think is particular to call a mentor and ask. When a new batch emerges and you wonder if all the activity is normal, when you see an inordinate amount of bees on the outside of the hive and want to freak out it helps to call a mentor... if you see robbing and need to quickly ask someone what to do.

Last year, we had the MENTOR list online, if you do not want to be posted on the website, indicate that to me when you sign up.

### **The floor was opened for questions:**

Is it possible to raise organic bees?

Charles tells us unless you live on a remote island it is impossible. You have to be very careful about marketing- you cannot use the term organic honey- even if you do not use any chemicals. It is impossible to control where your bees go- so they could very well forage outside of your maintained areas. Some people do raise bees using "organic methods" and mite resistance breeding programs. With the perilous mites, sometimes they may face big losses. James tells us it is impossible to raise organic bees, they will travel within a few mile radius, and everyone in that area would have to not use any chemical fertilizers or sprays. (For those getting started there is an organic beekeepers Yahoo group with people all over the world sharing information about chemical free beekeeping. Many use small or natural cell size and top bar hives. I did hear Kirk Webster speak at the one of Buncombe County Advanced Bee School Classes- he has maintained hundreds of hives of chemical-free bees for decades. He used standard foundation but has been breeding specific mite resistant stock for many years. He is also up in VT-

so he has snow to contend with as well. When someone asked him about small cell- he said he did not want to spend the money to convert over- but he has a friend in AL who did and both are successful with their various sizes of bees.

In winter the weather is colder, is there anything special to do such as wrapping with a blanket or insulation?

In our region here it does not get cold enough where we would need to insulate the hives, but you do need to make sure bees have plenty of food. Get a feel for the heaviness of the hive by gently lifting up on the back. When it is too light you risk starving them to death if you do not feed them. Another thing you need to do is monitor the humidity in the hive. If there is condensation under the lid, Nosema may form. Crack lids to ventilate or use screened bottom boards.

Has CCD affected NC bees?

Jack tells us he has participated with a study committee looking at CCD here. So far, NC beekeepers have not had any losses attributed to CCD. There have been losses in hives, but it's due to poor management, lack of food/care and mites.

If you are starting out do you have to have your bee yard in one area, can they be moved? What is the maximum per area?

You can move bees to other areas, if you need or want to. You of course do not want to move them too much so that the queen does not get injured. In general, you can have about 25 hives in one area. If the conditions are right, you can have many more. If you have an area adjacent to a river (or good water source) and woods of Tulip Poplar trees you can have a few hundred. Jack tells us it is best to start out with 2 hives. You want to start out slow –don't go too fast. One mistake many new beekeepers make is going in the hives too frequently- disturbing the bees too frequently. You also do not want to make it a point to look for the queen, she can get injured. Any time you open the hive you risk hurting the queen. They can also fall out of the hive when you are inspecting hives. We had one that must have fallen out. For a few days we knew something was up, but not sure what. Then we noticed the swarm under on the screened bottom board- she must have crawled up there. I brushed them away to see the queen and grabbed her gently with my hand. My grip was loose, to be gentle with her. It was too loose, she started crawling out between my fingers as Andy opened the hive to replace her. Then she tried to fly but with my quick reflexes I grabbed her gently again and did get her back in. The Girls superseded her shortly thereafter.

How much do you need to feed a hive?

Theoretically, you should not have to feed an established hive. However, in late winter and early spring you may have to feed them, if they have gotten through their stores they will die. In late winter and early spring it is good to feed them to ramp up brood production. Once you start feeding them, you cannot stop until the honey flow is on (and they are not taking it). If you are starting a package of bees, you need to feed them until they do not take any more food. Last year, due to the drought, we had to feed more than normal. James Knox tells us not to be so "hoggish" when you steal honey leave them some for food or you may have to feed them.

James Knox tells us he is currently feeding 2 of his 10 hives that he split late last year (in August). He also mentions he has not treated for Varroa 8 years and not treated for tracheal mites in 15 years. He advises us, you want tolerance in your bee population, let the weak ones die and split the survivors. He uses 2 deeps and a super for each hive. He also advises us to re-queen every year. With your membership to the State Association you will get a calendar that helps you know what to do at various times of the year. It is also a good resource.

What about keeping bees in neighborhoods and suburban areas?

The best piece of advice is pick nice neighbors. If bees are kept in areas where resources are low they may use a neighbors pool, or bird bath as a water source, they also eat at of hummingbird feeders.

## Attention New and Soon to be Beekeepers

If you are interested in learning tips from our knowledgeable veteran beekeepers arrive to the meeting at 6:30pm for a half hour discussion on getting ready for your bees. Various getting started topics will be covered. Then, use the ½ hour from 7-7:30 to socialize with veteran beekeepers and new club members.

The Beginners Beekeeping Course is scheduled for Saturday March 14<sup>th</sup> at the Raleigh Police Club from 8:00 am - 4:30pm . Cost of class is \$30.

You will learn all you need to know to get started with bees and receive a book, handouts and a hot dog lunch. More importantly, there are drawings to win hives and bees to get you started! (Club members feel free to volunteer to help if you are free that day)

### Swarm Retrievers:

There is currently no swarm list. The guidelines for swarms are being discussed: tune in later in the month when they are finalized, if you agree to the terms you can sign up.





### **January Meeting Statistics:**

We have to keep attendance records for the Golden Achievement Program. I am going to try and put them in the newsletter for ease of compiling for next year.

- We had 59 members sign in for the January meeting.
- If for some reason the sign in sheet does not make it to you see me (Jill Currin) after the meeting to sign in. If you happen to have 2 sign in sheets pass by you-only sign one please. We have one on each side of the room: the door side and the window side.
- We had many guests (none signed on the attendance sheet, I guess I forgot to mention it)
- We had a bunch of new members: We have had 28 new members join during the month of January.
- We have 86 members currently paid 2009 Dues!

### **Upcoming Events for 2009:**

Wake County Beginner Beekeeping Class:  
March 14<sup>th</sup> @ the Raleigh Police Club

NCSBA Spring Meeting: March 6<sup>th</sup>, 7<sup>th</sup>  
and 8<sup>th</sup> is held with SCSBA in Rock Hill,  
SC.

NCSBA Summer Meeting will be held July  
8<sup>th</sup>-10<sup>th</sup>. The location is to be determined,  
possibly Charlotte or Wilkes County.

Southeast Organic Beekeepers Conference:  
February 7<sup>th</sup> and 8<sup>th</sup> in West Palm Beach  
Florida. <http://seobc.beekeeperspbc.com/>

2<sup>nd</sup> Annual Organic Beekeepers  
Conference: February 27<sup>th</sup> – March 1st in  
Oracle, Arizona information on Organic  
Beekeepers Yahoo Group.

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

### **Bee-leive it or not: Bees can become addicted to drugs!**

**I think Club Member (and Webmaster) Bill Cole  
sent this article from NY Times to me:**

#### **Food Dance Gets New Life When Bees Get Cocaine**

[http://www.nytimes.com/2009/01/06/science/06bees.html?\\_r=2&hp](http://www.nytimes.com/2009/01/06/science/06bees.html?_r=2&hp)

To learn more about the biochemistry of addiction, scientists in Australia dropped liquefied freebase cocaine on bees' backs, so it entered the circulatory system and brain. The scientists found that bees react much like humans do: cocaine alters their judgment, stimulates their behavior and makes them exaggeratedly enthusiastic about things that might not otherwise excite them. What's more, bees exhibit withdrawal symptoms. When a coked-up bee has to stop cold turkey, its score on a standard test of bee performance (learning to associate an odor with sugary syrup) plummets. "What we have in the bee is a wonderfully simple system to see how brains react to a drug of abuse," said Andrew B. Barron, a senior lecturer at Macquarie University in Australia and a co-leader in the bees-on-cocaine studies. "It may be that when we know that, we'll be able to stop a brain reacting to a drug of abuse, and then we may be able to discover new ways to prevent abuse in humans." The research, [published in The Journal of Experimental Biology](#), advances the knowledge of reward systems in insects, and aims to "use the honeybee as a model to study the molecular basis of addiction," said Gene E. Robinson, director of the neuroscience program at the [University of Illinois](#) at Urbana-Champaign and a co-author

with Dr. Barron, and Ryszard Maleszka and Paul G. Helliwell at Australian National University. The researchers looked at honeybees whose job is finding food — flying to flowers, discovering nectar, and if their discovery is important enough, doing a waggle dance on a special "dance floor" to help hive mates learn the location. "Many times they don't dance," Professor Robinson said. "They only dance if the food is of sufficient quality and if they assess the colony needs the food." On cocaine the bees "danced more frequently and more vigorously for the same quality food," Dr. Barron said. "They were about twice as likely to dance" as undrugged bees, and they circled "about 25 percent faster." The bees did not dance at the wrong time or place. Cocaine only made them more excited about the food they found. That's like "when a human takes cocaine at a low dose," Dr. Barron said. "They find many stimuli, but particularly, rewarding stimuli, to be more rewarding than they actually are." Now, scientists are studying whether bees begin to crave cocaine and need more for the same effect, like humans. The testing occurred in Australia, and, Dr. Barron said, "my dean got extremely twitchy about holding cocaine on campus. It's in a safe bolted to a concrete floor within a locked cupboard in a locked room in a locked building with a combination code not known even to me. A technician from the ethics department has to walk across campus to supervise the release of the cocaine." That, Dr. Barron said, for a bee-size supply of "one gram, which has lasted me two years. One gram, a human would go through in one night. I'm not like the local drug lord."

## **What To Do this Month in the Bee Yard in February:** Copied From NC Cooperative Extension Website

The month of February can be called the beginning of the beekeeping year. Brood rearing will have started and the bees will get the first pollen from shrubs, maple tree blooms, ironwood bushes, and willows found along streams.

Usually, the temperature will be high enough the last part of February to make the first examination of the colony. The first important thing to learn about the colony is whether or not the queen survived the winter and is beginning to lay at least a few eggs.

If there is no honey in the brood chamber, the bees will be clustered in the super or supers, and the queen will be found laying eggs there. When the weather is warm enough, about 60 degrees, remove the idle super or brood combs and look for eggs or worker brood. Check the colonies honey supplies as well.

Recognizing that the colony will utilize a lot of honey during the brood rearing season, if you see only a small amount of honey in the supers you will need to supply additional honey or feed the bees. As a general rule, if there is less than a half super of honey, that colony will soon need extra food. If you have other hives that have more honey than they will need, transfer some of that honey. If no honey is available, feed sugar water. Use only white sugar and mix half sugar and half warm water. A quart soft drink bottle is a good container for the solution. Make several small holes in the cap and shake the water into the empty super combs, being careful not to put any in cells that contain eggs or brood. Do not spill sugar water outside the hive as this might start robbing.

If a colony needs to be fed in February or March, it will likely have to be fed until the start of the poplar honey flow, usually about the second or third week in April. It is best to avoid using front entrance feeders. The bees can't utilize the water in cold weather and putting the water in front might start robbing. When feeding bees, it is a good idea to provide this mixture very late in the evening, if possible, to reduce robbing potential. Do not mix more sugar water than can be used in a few days as it will ferment. While a small amount of fermented sugar water can be fed to the bees in warm weather, it is not first class food for them.

If the queen is found to be missing at the first examination of the colony, another queen should be secured as soon as possible. Most of the queen breeders in the southern states do not furnish packages of bees until April 1. However, queens may be available earlier in the year. Check with the NC Department of Agriculture for any restrictions that might exist regarding purchasing queens.

It is unfortunate for NC beekeepers that the poplar trees, which are our main source of honey, bloom so early. If they bloomed a month later, the colonies would have more time to build up and we would get a lot more honey.

Bill Cole also sent this in: This article is straight out of the New York Times on January 27, 2009.

### **Guest Column: A Low-Tech Treatment for Bee Plague**

By [Aaron E. Hirsh](#)

On a bright day last spring, I hiked at dawn into the foothills behind our house in Colorado. Snow still lay in the shadows beneath boulders and pine trees, but the morning was warm — so warm the honeybees I keep up there would soon awaken, emerge from their wooden boxes and begin searching out their first nectar of the new year.

As I climbed the final slope, I could see that two of the hilltop hives were already thrumming with activity: bees lifted off from the entry holes, catching the light and rising like sparks on a wind; and bees spiraled in for a landing, returning already from their first outings. The third hive, however, was conspicuously quiet — its entrance a small dark hole offering no sign of life. Colony Collapse, I thought: The bee plague.

As you've probably heard, honeybees are disappearing. Across the country, beekeepers are cracking open their hives to discover the remnants of a sudden and mysterious desertion: the stores of honey are good; the brood are tucked as usual into their cells; but all the adults are gone. Last winter, over a third of the honeybee hives kept in the United States suffered the strange fate now called [Colony Collapse Disorder](#). What's at stake here is not just our honey, or our favorite symbol of cooperative society, but our food. Most of our crops require pollination — deposition of a bit of male pollen on the female flower — to set fruit and ultimately produce the parts we eat. Out of 115 of the world's leading crops, 87 depend on animals — predominantly bees — to perform that vital act of placing pollen. And it is important to add that, here in the United States, the majority of our crops are pollinated not by wild bees, or even by honeybees like mine, which live in one location throughout the year, but by a vast mobile fleet of honeybees-for-rent.

From the almond trees of California to the blueberry bushes of Maine, hundreds of thousands of domestic honeybee hives travel the interstate highways on tractor-trailers. The trucks pull into a field or orchard just in time for the bloom; the hives are unloaded; and the bees are released. Then, when the work of pollination is done, the bees are loaded up, and the trucks pull out, heading for the next crop due to bloom. The mobile fleets have been hit exceptionally hard by Colony Collapse Disorder, and if the epidemic continues, crop yields will soon decline. The consequences of CCD are therefore very clear. The causes, however, are not. A recent survey of all the foreign DNA that could be found in honeybee hives discovered that a certain virus was present in 85 percent of hives that had fallen to CCD, but only 5 percent of hives that had not. That's a strong association. But it's not perfect, and there is surely more to the story.

Many of us have had the experience of contracting a cold shortly after an intense stretch of work. The lesson in this common ordeal — that the transition from health to disease is rarely so simple as exposure to the wrong bug — is probably as true for honeybees as it is for people. And CCD hit a honeybee population that was already feeling worn down: a large mite that attaches to bees and sucks their fluids, a tiny mite that inhabits the bee trachea, and a pair of fungal infections were all taking a toll when CCD first appeared. Not surprisingly, evidence of this grim company also showed up in the survey of foreign DNA. But those plagues, too, could be part of a broader erosion of honeybee health. If you hang around beekeepers, from the hobbyists on up to the managers of mobile fleets, you'll hear a variety of hypotheses about CCD. The mobile hives, some say, are overworked: for a species that evolved with an off-season and a steady home, year-round migratory labor must be taxing.

What's more, each time they fly out into a new workplace, the itinerant honeybees encounter a variety of insecticides, herbicides and crops engineered to produce insecticidal proteins. And between jobs, they get a road-trip diet of pure corn syrup, which lacks many nutrients. Some keepers say the problem isn't just with the honeybees' lifestyle, but with their genetics, as well, since they've been bred for traits that make them easier to handle, but may also render them more vulnerable to disease. The list of plausible risk factors goes on. But if the cause of CCD truly is complex and multi-factorial, or if it simply remains obscure, what is there to do? I'd like to back up a bit, because here we may need a brief history of bees. Honeybees first came to the New World on European ships. Once they'd hitched a ride across the Atlantic, however, they required no further assistance. They went feral, expanding swiftly — on their own — across the American landscape. As the feral honeybees extended their range, they took up residence alongside thousands of native species of bees that were already here. There were the carpenter bees, which bored holes to nest in; the bumblebees, which formed small seasonal colonies; the orchard bees, which moved into the holes abandoned by others; the alkali bees, which burrowed in hardpan soil; and many, many others — all here before the honeybee.

For bees, the next important historical development was the transformation of landscapes. The immigrant humans set about remaking the continent — clearing land, building, sowing crops — and we have done so, at an accelerating rate, ever since. Obviously, a parking lot is a hard place for bees to live. Less obviously, a huge field of a single crop is equally unsuitable, for it lacks nesting sites, and yields its nectar as a sudden flood that soon recedes. Consequently, if a bee isn't traveling the interstates by truck from one blooming field to the next, the American landscape is a tough place to make a living. And yet, the wild bees — both the feral honeybees and many of the native species — have persisted. To this day, they are stowed away in our attics, hidden in holes in our wood siding and our dirt roads, and mostly, subsisting in the thin, semi-natural interstices of our transformed landscapes. What does this mean for our current pollination crisis? Those remnant wild bees, feral and native alike, might just be the seeds of a solution. And to sow those seeds and foster their growth, we must not till the earth, but do just the opposite: we must take patches of agricultural land out of production, and restore them to natural habitat. At present, wild bee populations are too small, too few and too far between to take on the task of pollinating our crops. That, of course, is why fleets of domestic honeybee hives must be trucked in to do the job. But if the wild bees were provided with habitat of the right kind and in the right geographic arrangement, they could achieve pollination both reliably and effectively.

As the swift expansion of feral honeybees across the Americas shows, they are not especially picky about their habitat; most anything outside of parking lot or vast monoculture will do. And for native bees, habitat could be restored to suit the needs of whichever species are exceptionally good pollinators of local crops. Bumblebees, for instance, are the best pollinators of Maine blueberries, whereas blue orchard bees work well for California almonds.

The right geographic arrangement of habitat would also depend on which native species are desired for a certain crop. Many native species are willing to fly relatively far from their home habitat — a kilometer or so — to visit flowers; accordingly, patches of habitat for these bees could be placed relatively far apart. Other species are homebodies, reluctant to fly more than a few hundred meters; to provide their services to an entire agricultural field, habitat patches would need to be closer together. Feral honeybees, for their part, are relatively fleet-winged, so whatever arrangement works for the natives will work for them, too. Admittedly, there are costs of this rather low-tech solution to our pollination crisis: the opportunity cost of not cultivating those patches of land; the investment in restoration of habitat; the extra care required in applying insecticides close to established habitat. But restoring bee habitat provides many offsetting benefits.

First, it allows us to foster the most effective pollinators for each crop, potentially increasing yields over levels achieved with pollination by domestic honeybees alone. Second, habitat restoration is a singularly robust solution: It builds a diversified portfolio of potential pollinators, thus reducing our exposure to any one population's collapse. And third, a feral honeybee population distributed across a broad network of patches would harbor genetic diversity and inhabit a wide variety of environments — a wise insurance policy against problems with domestically bred hives. As I arrived beside my own silent hive, I knelt and put my ear to the wooden box: Nothing. In a vague gesture of apology or consolation, I placed my hand on the box. Strangely, I received an answer: a gentle hum. And just then, from the dark entry hole, a bee emerged into the early light. Not dead, I realized. Just sleeping in.

**2009 Annual Wake County Beekeepers and/or North Carolina State Beekeepers Associations Membership**

Please complete and return this form at the next Wake County Beekeepers meeting in order to register for membership in either or both the County or State Beekeepers Associations. We encourage all county members to register for State membership in order to support that organization. You may also register by mail to:

Vivian Joyner, Treasurer  
2829 Old U.S. 1  
New Hill, NC 27562

**Please print all information legibly.** One wrong letter will make the e-mail not work.  
Please use the name you would like printed on your name tag.

Date \_\_\_\_\_ Name \_\_\_\_\_

Family Member/Spouse \_\_\_\_\_

Phone \_\_\_\_\_ Address \_\_\_\_\_

\_\_\_\_\_

Number of beehives \_\_\_\_\_ E-Mail \_\_\_\_\_

\_\_\_\_\_

**Memberships:**

Wake County Beekeepers (\$10.00 each person listed above) \$ \_\_\_\_\_

- New Member
- Renewing member
- Free life-time WCBA member (over 70 years old and paying member for the last two years)

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You will receive the Yellow Book with this membership.

We submit accurate information, but cannot guarantee it will be free of typographical errors.

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Bee Culture

It's only \$19.00- 1YR or \$36.00-2YR

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Make Checks payable to **Wake County Beekeepers Association**