

North Carolina

Bee Buzz



Official Newsletter of the North Carolina State Beekeepers Association Vol. 28, No. 1 Spring 2006

Great Program Set For Spring Conference Clemmons, NC March 17, 18



Do you want the inside story on the development of the SMR (Suppressed Mite Reproduction) Bee? Well, come on down to the Spring Conference of the North Carolina Beekeepers Association and you can hear the story from the man who did it.

Dr. John Harbo, a research entomologist at the USDA Honey Bee Breeding, Genetics & Physiology Laboratory in Baton Rouge, Louisiana for the past three decades is the key note speaker for the Spring Conference at the Village Inn in Clemmons, March 17 and 18.

A native of Minnesota, Dr. Harbo earned his PhD in entomology at Cornell under the direction of Roger Morse.

“We are fortunate to have Dr. Harbo as the keynote speaker for the Spring Meeting,” said J. D Foust, NCSBA President. “His work in developing the SMR bee, which is a favorite of many beekeepers not only in North Carolina but throughout the nation, is very significant. I’m sure there will be a great deal of interest in what he has to say.”



Dr. John Harbo

Programs and workshops are scheduled pertaining to pesticide training, building and installing equipment, making mead, creamed honey and testing in various phases of the Master Beekeeping Program.

In addition to presentations by our own North Carolina apiary experts, Dr. Zachary Huang, Associate Professor and Extension

Apiculturist at Michigan State University will talk about his area of expertise.

A complete agenda of the conference program is on pages 7 and 8 with registration information on the following pages.

Zoo Raffle Update

Even though you didn’t win the John Deere lawn mower, we all won by the effort it inspired on behalf of the Zoo project. Proceeds totaled \$15,185, less expenses yielding a net deposit to the exhibit fund of \$11,380.

A complete history of the effort by the North Carolina State Beekeepers to fund a permanent honey bee exhibit at the North Carolina State Zoo begins on page 11.

Inside this Issue

President’s Page	3
Year In Review	5
Spring Conference	6-9
Zoo Exhibit History	11
Commercial Beekeepers	13

Beware, Your Bees May Remember Your Face!

Can bees recognize faces?

According to a recent study, they can. Lead researcher, Adrian G. Dyer, reported in the December 15 issue of the *Journal of Experimental Biology* of an experiment conducted at Johannes Gutenberg University in Mainz, Germany in which bees learned to remember photographic faces, which had been marked with either sweet or bitter drops.

The photos had similar lighting, background colors and sizes and included only the face and neck to avoid having the insects make judgments based on the clothing. In some cases, the people in the pictures looked similar.

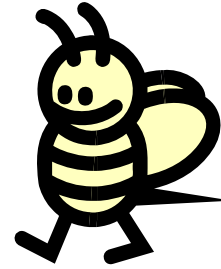
A few bees apparently failed to realize that they should pay attention to the photos at all. But five bees learned to fly toward the photo horizontally in such a way that they could get a good look at it, Dyer reported.

The bees learned to distinguish the correct face from the wrong one with better than 80 percent accuracy, even when the faces were similar,



searchers found. Also, just like

humans, the bees performed worse when the faces were flipped upside-down.



Two bees tested two days after the initial training retained the information in long-term memory. One scored about 94 percent on the first day and 79 percent two days later.

The bees probably don't understand what a human face is, Dyer said in an email. "To the bees the faces were spatial patterns (or strange looking flowers)," he added.

Busy Bee Ad

From The President

NC State Beekeepers Association

Reflections – It is the first week of the New Year (2006) and it is proper to reflect on the year that has just ended.

The cost-sharing beekeeping program was the highlight of the year. It received good publicity and created a public awareness of the importance of honeybees in our lives – not just for the good honey they produce but more importantly, their value as pollinators. Our citizens were reminded that more than one-third of our food is dependent upon honeybees for pollination and further reminded or informed that these pollinators are in peril because the mites and beetles that have been so destructive to honeybees. That ignited concern that was good for beekeeping.

The concern and the possibility of receiving two hives of bees with some basic equipment motivated hundreds of potential beekeepers to apply for the free bees and enroll in beekeeping classes across the state. The 500 hives of bees were distributed through a lottery to just 250 lucky people. Most of those individuals in the beekeeping classes did not receive bees from the program but have acquired bees on their own and are now enthusiastic beekeepers. A high percentage of the new beekeepers joined a local chapter and NCSBA causing our membership to rise to record levels. Mentor programs were created in chapters to assist these new members as they progressed in their new hobby.

Beekeeping Classes – Eleven chapters have planned new beekeeping courses for 2006 which are posted on the NCSBA website. Six more chapters that ran beekeeping schools last year have not, yet, posted courses for 2006 but we believe most of them will. Since there is no statewide program of free bees the enrollment may not match or exceed last year's record but it is looking good at this point... Lets hope for record success.



J. D. Foust

Master Beekeeper Program – The Master Beekeeper Program experienced record growth during 2005. More than 360 new people entered the program during the year and several others moved up to higher levels. That was more than twice the growth in any previous single year since the program began and four times the growth in 2004. The total number of individual participants in the MBP program now stands at 3,247. There is a study guide for the certified level of MBP which can be downloaded from the NCSBA Website www.ncbeekeepers.org. The tests for the certified level are now being created by the computer. Each group gets a new test and the test administrator is provided a key which allows the person taking the test to check how he did on the test as soon as his completed test has been submitted.

Spring Meeting – Every other year the North Carolina State Beekeepers Association and South Carolina Beekeepers Association have their spring meeting together. We alternate planning and hosting the meeting. It was South Carolina's time to be host in 2005. The meeting was in Rock Hill, South Carolina at the community College. It was a wonderful facility and an excellent meeting. The attendance was about 425 registered delegates. They didn't give us a breakdown but said well over one-half of those registered for the meet-

ing was from NCSBA. That was great because traditionally a very small group has attended when it meant going outside their state. North Carolina will host the joint spring meeting in 2007. The sight has not been picked and suggestions for location are welcome.

2006 NCSBA Spring Meeting

– The 2006 Spring Meeting is scheduled for March 17 and 18, 2006 at the Village Inn Golf and Conference Center in Clemmons, North Carolina. It is a great facility with everything under one roof and plenty of parking. Detailed information about the meeting and conference registration are included elsewhere in this issue of the Bee Buzz. A special hotel rate of \$60 plus tax has been negotiated. Attendees are responsible for making their own hotel reservations. We are urged to make our reservations early.

Summer Meeting – The summer meeting 2005, in McDowell County, was a very fine meeting though a little more extravagant than our budget can sustain. The attendance was 402 registered. The facilities were very good and the program excellent so lets move on to another good summer meeting for 2006. The meeting this year will be July 13-16 at the Radisson Hotel in mid-town High Point. It is a first class facility in the area where the big furniture markets are held. Everything will be under one roof and the city is providing free parking for those registered for our meeting. The negotiated special beekeeper hotel rate for this meeting is also \$60 plus tax. Complete details and registration forms for this meeting will be in the next issue of the Buzz.

New NCSBA Chapters – We have just received applications for NCSBA Chapter Charters from two local new beekeeper associations. (1) Cashie Beekeepers Association, Windsor, N. C. This chapter will promote and serve beekeeping and beekeepers in the Roanoke and Chowan River Basins. (2) Neuse Regional Beekeepers Association, Kinston, N. C. This chapter will serve beekeeping and beekeepers in Lenoir and surrounding counties...

We expect to receive requests for chapter charters from two more local beekeeper groups before the summer meeting.

Chancellors' Bees – The bees placed in the yards of UNC and NCSU Chancellors, last May, have created quite a bit of interest. The surplus honey has been harvested from both locations and appropriately labeled. Each chancellor is giving his choice honey to those who visit in his home like it was vintage wine. Some weeks ago NCSU Chancellor James Oblinger invited the UNC Chancellor and Duke University President and their wives to his home for dinner. At the end of the evening he gave each guest a small bottle of his "Chancellor's Choice" honey. The Duke President was so impressed he is now asking for his own honeybees. If you are a Duke supporter and would like to donate a couple of hives of honeybees to the President of Duke University, we can arrange to help you place them. Fountain Odom who originated this idea would like for us to provide bees for all Chancellors of the UNC System who want them.

Let us all work together and pray that 2006 will be a happy and prosperous year for beekeeping in North Carolina.

Propolis Samples Needed

In response to a major research project here in North Carolina using propolis to treat cancer, we are collecting propolis to test the potency of its "CAPE" compound.

We hope to find in North Carolina, with its great diverse variety of climate, vegetation and terrain, propolis for this research that is equal or better than that which now comes from China.

If you are interested in participating in this project by providing propolis samples, please contact either Charles Heatherly, 919-859-6995 or Fountain Odom 704-905-5155.

2005 In Review: It Was A Good Year For North Carolina Beekeepers

By
Dr. David Tarpy
State Apiculturist

The dawn of a new year always makes me reflect on the last. In 2005, the NCSU Apiculture program accomplished many things. We created or updated four new Beekeeping Notes, published 15 online extension articles, and was featured in 20 different stories by various media. We also provided 26 presentations to county chapters, 10 presentations to regional or state associations, 10 workshops, and one short course for a total of 6,518 individual contacts. On the research side, we published two peer-reviewed articles and wrapped up several experiments that we are just now starting to analyze.

But perhaps the most notable project of the past year was the New Beekeeper Cost-sharing Program, funded by the Golden LEAF Foundation. Although it was not an NCSBA program *per se*, the state association was very much involved in its development, implementation, and success. We provided pairs of starter hives to 250 new beekeepers in an effort to stimulate the beekeeping community at the local level and to educate the public about the benefits of honey bees and beekeeping. Close to 2,800 people applied to the program, and we distributed the bees and equipment this past April and May. Each participant was asked to join a local beekeeping association so that they would benefit by learning from experienced beekeepers, as well as to support the local chapter. At the end of this past beekeeping season, each new beekeeper was sent a questionnaire about the program. We asked them to rate several different aspects of the program on a scale of 1 to 5, 1 being “strongly disagree”, 3 being “neutral”, and 5 being “strongly agree”. Here are some of the preliminary answers we received from the participants.

Question	Average
Was NCSU helpful?	4.59
Was the mentor helpful?	4.19
Was the local chapter helpful?	4.24
Do you enjoy being in a local chapter?	4.16
Did you feel welcomed?	4.32
Do you enjoy beekeeping?	4.60
Will you remain a beekeeper?	4.67
Did you enjoy being in the program?	4.73

As you can see, the response to the program has been very positive across the board. In fact, only 1.7% of the responders thought that the program was unsuccessful and do not plan to continue beekeeping.

Looking a bit deeper into the numbers, we see that almost all of the responses were correlated. This means that those who answered 1 on one question usually answered 1 on another question (as opposed to a 5), and those who answered 5 on one question usually answered 5 on another question (as opposed to a 1). Some of the strongest indicators of program success were mentor helpfulness, welcoming of the local chapter, and learning about beekeeping. I interpret these results to mean that the more we help new beekeepers, the more we mutually gain.

The consequences of the program have been far reaching. While it is difficult to disentangle the impacts of the cost-sharing program from the many other efforts this past year, it seems to have had a positive effect. I have been told that several local chapters have doubled or even tripled their membership, and there are currently plans to create several new chapters in counties that did not previously have active clubs. Participation in the Master Beekeeper Program was up by 300% over previous years, largely a result of increased enrollment in all of the excellent bee schools provided across the state. Finally, the state association increased its annual membership by 58.3% so that we now have 1,587 paid members.

Despite these notable gains, the program was certainly not perfect in design or implementation, and I believe that we learned a great deal from the experience. Given the overall positive impact of the program, we attempted to secure funding for an improved program that corrected some of the weaknesses of the current one. Unfortunately, that grant was declined, and thus we will not be repeating the program, at least not this year. Nevertheless, there is one clear, indisputable conclusion from our experience: “free” bees and beekeeping equipment, even if it is not a complete setup, is a very effective draw for non-beekeepers to become new beekeepers. Thus I believe that there are opportunities for individual chapters or bee schools to continue this type of program at the local level even if there is no comprehensive state-wide program; advertising one or two “raffle” hives at the end of a short course will likely encourage enrollment, participation, and excitement.

Again, thanks to everyone—that means each ONE of YOU—who supported the program and its participants, as the results show that without your efforts the program would not have been a success.

SPRING MEETING MARCH, 17 & 18

Village Inn (Tentative Agenda)
6205 Ramada Drive
Clemmons, NC 27012 (I40 Exit 184)
(800) 554-6416

Friday, March 17, 2006

11:30 – 7:00 pm Registration Desk Open

12:30 pm Welcome & Announcements- J.D. Foust, President NC State Beekeeper Assoc.

Invocation- Darrell Hampton- Forsyth County
Introductions of Speakers-Dr. David Tarpy, Extension Apiculturist, NC State University

1:00 pm Upcoming EAS Meeting & Research at UGA-Jennifer Berry, Honey Bee Technician-University of Georgia

1:45 pm Third World Bee Development Missions – Dr. Buddy Marterre, MD , Forsythe County Beekeepers

Workshops

2:45 – 4:45 pm Pesticide Safety-V- Tom Bowman (1- 2 hr. workshop)

2:45 - 3:45 pm Zoo Presentation Training – Irvin Rackley

2:45 pm 45 Minute Concurrent Workshops (All sessions will begin 2:45 & 3:45))

NCDA Apiarist Staff	Pesticide Training –X-
Bob Blackwelder	Frames & Foundation 101
NCDA Apiarist Staff	Treatment of Bee Pests
Jimmy Williams	Making of Mead
George Settle	Creamed Honey
Edd Buccannan	Foundation Press
Dr. David Tarpy	MBP Testing

**5:00 – 7:00 pm Dinner Break (Dinner own your own)
(Hotel does have dining facilities)**

7:00 pm John Harbo, USDA, Baton Rouge, LA

Spring Meeting Program (Cont.)

Saturday, March 18, 2006

7:45 -10:45 am Registration Desk Open

**8:00 am Announcements- J.D. Foust, President, NCSBA
Welcome- Buddy Marterre, President Forsythe County Beekeepers
Door Prizes**

8:30 am Zoo Update – Irvin Rackley

8:45 am John Harbo, USDA, Baton Rouge, LA

9:30 am Break (Visit with Exhibitors)

9:45 am Door Prizes

**10:00 am Dr. Larry Williams, MD, Duke Medical Center- Insect Sting Reaction
& Allergy**

**11:00 am Dr. Zachary Huang, Associate Professor & Extension Apiculturist,
Michigan State University**

12:00 pm Lunch (Lunch on your own)

Workshops

1:00-3:00 Pesticide Safety-V- Tom Bowman (1 – 2 Hr. Workshop)

1:00 pm 45 Minutes Concurrent Workshops (All sessions will be at 1:00 & 2:00 pm)

NCDA Apiarist Staff	Pesticide Training X
NCDA Apiarist Staff	Treatment of Bee Pests
Jimmy Williams	Making of Mead
George Settle	Creamed Honey
Bob Blackwelder	Frames & Foundation 101
Edd Buccannan	Foundation Press
Dr. David Tarpy	MBP Testing

**Adjourn Until Summer Conference
July 13, 14, 15, 2006, High Point, NC**

Make Your Reservations Now For Summer Conference in Clemmons, NC

Conference Headquarters

March 17, 18

Village Inn Golf &
Conference Center
6205 Ramada Drive
Clemmons, NC 27012
336-766-9121
1- 800-554-6416

Rate \$67.80 (inclusive)
If Reserved by February 23

Overflow
Super 8 Motel (across street)
336-778-0931
Rate \$60 + tax



ADVANCE REGISTRATION FORM

NCSBA SPRING MEETING---2006

CLEMMONS, N.C. MARCH 17, & 18, 2006

Host, NCSBA Local Chapter, **FORSYTH COUNTY BEEKEEPERS**

Please complete and send with your check, to:
(Make Check payable to NCSBA)

PAUL MADREN, **REGISTRATION**
LAUREL STREET
MOUNT AIRY, NC 27030-2911
Phone (336) 786-4848
EMAIL: plmadren@mindspring.com

[please print clearly]

NAME _____
(last) (first) (spouse) (Children)
Address: _____
(street) (city) (state) (zip)
Local Chapter: _____ Phone (_ _)- _____ email _____ @ _____
County of Residence: _____

REGISTRATION FEE:

(Note: These are **ADVANCED** mail-in fees, **WALK-IN** fees at the Conference will be \$5.00 higher on Individual and Family registrations)

		<u>AMT. PAID</u>
Individual Registration (NCSBA member)	-\$20.00 =	_____
Family Registration (NCSBA member)	- \$25.00 =	_____
NON-NCSBA member Registration	- \$35.00* =	_____
NON-NCSBA family Registration	- \$40.00* =	_____

(*Note this includes 2006 NCSBA membership dues)

DUES *(If have not paid your Annual dues for YEAR 2005, you are an inactive NCSBA member and you must pay your 2006 Annual dues to Register.)
* (If you are a non-NCSBA member, Annual dues are included with registration)
* (If you have paid your 2006 dues at the Local Chapter, register as an active Member, you should have a membership card with the date paid)

Annual NCSBA Membership - \$15.00	=	_____
Annual Commercial Membership - \$30.00		
TOTAL amount of Check	= \$	_____

Hotel Reservations are your responsibility Hotel is: Village Inn & Golf & Conference Center
Tel # (336) 766-9121

This area for Registration use only: plm,1/05/06
Amount Paid: _____ How Paid: Cash ____ or Check _____
(check # and date)

Received by: _____, Date _____

=====

Telling the ...Bees

Williard Bumgarner, 84,
Catawba County died
November 14, 2005.



William Clarence Phelps, Sr., 81,
Davie County, died October 6, 2005.
He was a past president of the Davie
Chapter.

*Carbarrus County Beekeepers have lost a
long time member and great friend in the
passing of Charles Griffin (August '05). He
spent many hours promoting beekeeping in
schools, parades and AG Days. He was
president of our chapter for several years and
a fine beekeeper.* Bob Blackwelder

Beekeeping Tour of Ukraine *June 25-30, 2006*

Enjoy 5 days of Ukrainian beekeeping
& honey industry, plus the culture,
food, hospitality and scenery of
Ukraine. Group bus tour starting from
Kiev will travel around Ukraine visit-
ing a variety of beekeeping sites and
touring through regions of incredible
agricultural soils and the Carpathian
Mountains.

See details, photos and
registration on the
Lynx International web site:
www.lynx-intl.com

Major Apiary Exhibit Planned for NC Zoo

By Janno Daniel

Honey bees are amazing creatures. More is in print about the honey bee than any other living creature other than the human. Its social structure is complex; its physiology is unique; and how the honey bee perceives and responds to its environment is just plain good reading.

Beekeepers know how significant this profound insect is to our food chain and the agricultural economy of our country. But is it everyday information to the everyday person we come in contact with? Despite all that is in print about the honey bee, a beekeeper can have a honey bee conversation with a friend on the street or give a program to a civic group and find them full of questions and interest!

Beekeepers and friends of the honey bee, now have a grand opportunity to share the connection of honey bees and pollination. And a further connection to food on our table. You have been hearing about it in *The Buzz* and elsewhere. It is the planned permanent honey bee exhibit at the North Carolina Zoo.

The concept of such an exhibit has been many years in the making. The North Carolina Beekeepers Association (NCBA) July 1994 conference gave then President Irvin Rackley the directive to contact Dr. David Jones, North Carolina Zoological Park Director, about setting up an observation hive at the park. Such a meeting took place August 1995. Keeping the vision in the forefront, President Rackley wrote as a goal in his *Goals, Objectives and Dreams* column for the 1996-97 NCSBA **Yellow Book**: {We must} promote public awareness of honey bee importance {and} pursue efforts to realize a permanent honey bee exhibit at the North Carolina Zoological Park in Asheboro.

The first temporary honey bee exhibit, manned by NCSBA volunteers, took place in May 1996 in the Touch and Learn Center. A bee cage gazebo was used to instruct visitors



with live bees. Volunteers have been invaluable in educating both young and old and those in between. The very successful and well-attended exhibit continues today during weekends in May through October.

In 1995 and again in 2003, the North Carolina Farm Bureau, with vested interest in agriculture and state economics, joined in the {permanent exhibit} vision, stating, "We recommend that the North Carolina Zoological Park be encouraged to construct and maintain a honey bee exhibit to educate children and adults about honey bees and the value of pollination of fruits and vegetables for our survival."

In August 1997 the NCSBA authorized Don Hopkins and Bill Sheppard to draft plans for a permanent honey bee exhibit and appointed a committee to study this concept together with the NC Zoo and interested parties.

In July 2003, the NCSBA Convention approved a fund raising campaign by the Zoo Committee. This NCSBA Zoo Committee with Irvin Rackley its' chairman and promoter, and nine program leaders, are now reaching into each county with a presentation of the planned exhibit and opportunities for public support. The goal is that each association chapter will schedule this presentation as one of its annual programs.

During this same time, collaborative work with the NC Zoo, the NCSBA Zoo Committee and a professional design team, solidzebra,inc, hired by the zoo, began with beekeepers giving a clear intent of what is important to include in an exhibit about the honey bee. Exhibit designer Betsy Towns described her initial plans for the exhibit:

“The exhibit at the North Carolina zoological Park will provide an immersive and instructive introduction to the honey bee that explains: pollination, the bee’s importance to our economy and our dinner table, and ways to help the honey bee to thrive. The exhibit immerses the zoo visitor in the experience of the worker bee. Throughout the exhibit, interpretive elements, artwork. And activities work as one to pull the visitor into the world of the bee, helping them to understand the honey bee’s importance to humans.”

Cost for the exhibit is \$160,000.

In December 2003 the first local chapter made its pledge of \$5000 toward the per-

manent exhibit. Following zoo exhibit presentations at local meeting, other chapters began sending contributions. A current fundraiser is membership in “the \$50,000 club”. The intent is to encourage 500 people to sign in early with a \$100 contribution, thus raising \$50,000. NC Farm Bureau kicked off its drive with the State President Larry Wooten announcing a pledge of \$5000 to be followed by individual federation contributions.

Now, fast-forwarding to the present, where do we stand with the \$160,000 cost? “We’re getting there,” says Zoo Committee Chairman Rackley. “Approximately \$64,000 - over one-third - of the amount has been raised!” All donations are held by the NC Zoological Society in a Honey Bee Exhibit special fund. Contributions may be sent through your local organization or directly to NC Zoo Society, Honey Bee Exhibit 4403 Zoo Parkway, Asheboro, NC 27205. If affiliated with a local bee association, please include the name.

.... **Bee Facts**

* The honey bee (*apis mellifera*) is known for three things:

1. Her sweet honey.
2. Her hurtful sting.
3. Her productive pollination.

* In the US, there are more than 200,000 beekeepers with 2.6 million colonies of honeybees that produce more than 220 million pounds of honey each year. In North Carolina, some 10,000 beekeepers produce 5 million pounds of honey valued at \$10 million. However, the value of pollination to agriculture in North Carolina is estimated at \$100 million.

* Bees maintain a temperature of 92-93 degrees Fahrenheit in their central brood nest regardless of whether the outside temperature is 110 or -40 degrees.

* Honey bees produce beeswax from eight paired glands on the underside of their abdomen.

* Honey bees must consume about 8 pounds of honey to be able to biochemically produce each pound of beeswax.

* Honey bees can fly up to 14 kilometers from their nest in search of food. Usually, however, they fly one or two miles away from their hive to forage on flowers.

* Honey bees are entirely herbivorous when they forage for nectar and pollen but can cannibalize their own brood when stressed.

* Worker honey bees live for about 6 weeks.

* Honey bees are almost the only bees with hairy compound eyes.

* A populous colony may contain 40,000 to 60,000 bees during the late spring or early summer.

* The brain of a worker honey bee is about a cubic millimeter but has the densest neuropile tissue of any animal.

* Honey is 80% sugars and 20% water.

* Honey has been used for millenia as a topical dressing for wounds since microbes cannot live in it. It also produces hydrogen peroxide. Honey has even been used to embalm bodies such as that of Alexander the Great.

* Fermented honey, known as Mead, is the most ancient fermented beverage. The term "honey moon" originated with the Norse practice of consuming large quantities of Mead during the first month of a marriage.

* Honey bees fly at 15 miles per hour.

* The queen may mate with up to 17 drones over a 1-2 day period of mating flights. The queen stores the sperm from these matings in her spermatheca, thus she has a lifetime supply and never mates again.

* A queen bee can control the flow of sperm to fertilize an egg when she is about to lay an egg. Honey bees have an unusual genetic sex determination system known as haplodiploidy. Worker bees are produced from fertilized eggs and have a full (double) set of chromosomes. The males, or drones, develop from unfertilized eggs and are thus haploid with only a single set of chromosomes.

Why Are There So Few Commercial Beekeepers?

By Charles Heatherly

I have been curious for some time with the question of why there are so few commercial beekeepers in North Carolina. Despite the fact that we have the largest number of hobbyist beekeepers in the nation, 10,000 or more who harvest honey worth \$10 million to \$12 million in a good year, there are only 30 beekeepers in the state with a sufficient number of colonies to be considered commercial operators. There are fewer than a dozen with 1,000 or more colonies, the level considered necessary for a truly independent and sustaining commercial beekeeping operation.

Since the arrival of two parasitic mites 20 years ago that wipe out most feral, or wild, bees and reduced domestic stocks by half, farmers are forced to rent bees to pollinate certain crops.

The value of honeybee pollination to North Carolina agriculture is estimated at \$100 million annually.

“Commercial beekeepers face the same risks as hobbyists, weather, pests, and volatile markets, but on a larger scale,” said Don Hopkins, Chief Bee Inspector for the NC Department of Agriculture and Consumer Services.

“It also takes a lot of money to get established big time in beekeeping,” Hopkins added.

Jack Tapp estimates he spent \$200,000 establishing his thriving pollination/honey business, conveniently located off I-40 at Hillsboro on land that was granted to his family by the King of England before the American Revolution.

“Beekeeping is hard work,” Tapp said. “It’s risky as is all farming ventures because you have to deal with the weather, a variety of pests and a market that’s always changing. But I love it. You have to love it to stay in it.”



Jack Tapp

Tapp’s inventory of bees has doubled during the past couple of years to what he hopes to be 1,200 colonies this year and he continues to expand, hoping to double again.”

In addition, to providing bees for pollinating berries, melons, squash and cucumbers in Eastern North Carolina, and selling honey from the early

honey flow of berries, tupelo and poplar, Tapp is gearing up to raise Minnesota Hygenic Queens this year.

“I need queens for my own expanding operation and I hope to have a surplus to sell early in the spring,” Tapp said. He is assisted in that venture by Ben Crawley who spent much of last year in Hawaii in a large queen rearing operation.

Tapp’s queen yard is located in Southeastern North Carolina in Columbus County where the warm days of spring arrive three weeks earlier than in the Piedmont. “We’ll have queens as soon as the drones appear,” Tapp said. “Drones are the key.”

Tapp estimates it cost him \$500 a hive to fund the initial start up. That included bees, trucks, tractors and all of the support equipment necessary to sustain the business. He says he needs to earn at least \$110 per hive each year. That is possible only with multiple pollination contracts plus a modest amount of honey to sell.

Pollination \$\$\$\$ Opportunity

Farmers who once depended upon feral, or wild, bees to pollinate their crops now have to rent bees for certain crops that need extra help in reaching full productivity.

Pollination is the transfer of pollen from the anthers (male) of a flower to the stigma (female) of that or another flower. Pollen of some plants, such as grasses, is dry and light and can be carried by wind currents in sufficient quantities for adequate pollination. Sticky and heavy pollen of other plants must be transferred by a bee or other pollinating agent. The honey bee is nature’s most efficient pollinator.

External pollination is required by some 90 of our most critical food crops. Cucumbers, for example, are 90 percent dependent upon honeybee pollination. Blueberry are 50-80 percent more productive with the help of honey bees. Strawberries, apples and melons, 25 percent and above.

“Pollination income has attracted a number of hobbyist and sideline beekeepers to consider expanding to the commercial level,” Hopkins said. Aggressive management can result in up to three pollination contracts for each colony per year.

Rent For \$30 - \$50

Bees rent for \$30 to \$50 per crop in North Carolina. However, there is resistance among

some old school farmers, especially blueberry growers, to paying competitive rates for renting bees which, just a generation ago, were plentiful in the wild.

A few enterprising entrepreneurs are exploring the notion of trucking bees to California in January where the going rate for pollinating almonds is \$125 per hive for a three week stint and then return them for the first Carolina berry crop.

According to Jeff Lee, one of the state's youngest and most enterprising commercial beekeepers, it takes a thousand colonies to sustain a truly independent commercial beekeeping operation. Until three years ago, he was a "sideline" operator with under a 100 hives but plans to expand to a thousand hives this year.

At the time of this interview, he was gathering 400 hives for a tractor-trailer ride to the California almond groves and then planning to return them in time for pollinating North Carolina crops.

Lee, 37, with a PhD in organic chemistry, is not your typical beekeeper.

"With no pension to fall back upon, I've cashed out all the equity in my home into my expanding beekeeping operation and I've got to make it work. No bank would lend money to fund my beekeeping startup because they don't consider that real agriculture."

Lee began 2005 with 600 colonies and lost 25 percent of his inventory to either mites or the small hive beetle or both. At the time of this interview he was busy assembling equipment in anticipation of installing enough packaged bees to reach his goal of 1,000 hives by the time blueberries bloom. "I've got to make it work. I'm fully committed," he said.

Lee has figured out the gourmet market for honey and pollen in central North Carolina and has a good market for his products that he personally managed. Last year his income was equally divided between honey production and pollination. With his expansion this year, he anticipates a four-to-one split in favor of pollination.

That's the future for big time beekeeping.

In response to a critical shortage of pollinators for growers, the North Carolina Department of Agriculture has created a web page for beekeepers to announce their willingness to make bees available for pollination and for growers in need of bees. The address is: www.ncagr.com/plantind/



Jeff Lee

[beeboard/wanted.asp](#)

Is there an opportunity for more commercial operators? Hopkins says there is lots of opportunity for the small operators with 50-100 colonies to provide bees for small growers and produce honey at the same time. He hopes that pollination income may lure sideline operators into expanding.

Labor Shortage

Affordable labor is another problem facing commercial beekeepers. "I have great difficulty finding good labor," said Bill Lathan who moves his 800 hives throughout much of eastern North Carolina. In addition to the challenge of finding people willing to work for the limited wages that beekeepers can afford to pay them, potential workers are fearful of bee stings.

Mostly Hobbyist Beekeepers

The overwhelming majority of North Carolina beekeepers are hobbyists with an average of 10 hives. Hobbyists can have from one to 25 hives. Those with from 26 to 250 hives are considered sideline operators. Commercial operations begin at 250 hives and the largest such operator in North Carolina is believed to have about 2,500 hives.

Now I have a better understanding why hobbyists and sideline beekeepers are reluctant to expand. It's hard work. It's hard to get good help. It's risky business if you depend upon it for your livelihood. It takes lots of money to get established. Not to mention more stings.

And it's probably not as much fun. I admire those guys who are going all out to produce some of the world's finest honey and pollinate our crops. But they don't have to fear any competition from me any time soon.

An Interesting Way to Become A Beekeeper

By Hugh Madison

Yes I am a beekeeper. I am very proud to be a “keeper of the bees.” Honeybees, I think, are some of Gods’ most wonderful creatures. I have not always been a beekeeper. Only about 12 years or so. Its hard to imagine, me a beekeeper after having a career of 31 years in the United States Air Force.

How did this happen? Let’s go back to my years as a High School student. In those days if you were in high school and you had a drivers license you could apply for a permit to drive a school bus. If I remember correctly we were also paid. I believe it was twenty one dollars a month.

I applied for the bus driver position, went through the training, and was certified as a school bus driver. I was assigned to bus #73. My route was through Colonial Heights (a housing area just outside the city limits of Aberdeen) and I had a couple of stops on Linden road between Aberdeen and Pinehurst.

Colonial Heights was started back around 1948 when Robbins Mill (now Gulistan Carpets) came to Aberdeen. I guess a good name for the kids who lived there would be “mill hill brats.”

One of those “mill hill brats” was a kid by the name of Billy Sheppard. Billy was 4 or 5 years younger than me and he was one of the students that rode my bus to school every day. One day on the way to school Billy got a bit unruly so I stopped the bus and put him off. You could do things like that in those days. (Keep in mind Billy said this happened but I don’t remember doing such a terrible thing.) Anyhow, Billy had to finish his trip to school via his two feet. He said that he promised himself that some day he would get even with “ole Hugh” for throwing him off the bus.

Well, he did get even. In 1992 my wife and I came back to Aberdeen after completing a 31 year career in the Air Force. My wife’s parents owned a large farm about 5 miles west of Aberdeen and they gave us some land to build our home on. I am not a farmer (remember I was a “mill hill brat”) so I needed something to occupy my time. Someone (maybe my wife) mentioned Beekeeping. I asked several people “How do I



Hugh Madison

get into Beekeeping?” I was told “contact Bill Sheppard.” Remember Billy? He is the one I supposedly threw off the school bus. I looked up his phone number and I called him. I asked, “Billy, do you remember me?” And I know he is thinking to himself “I sure do remember you, you sorry so and so.”

I told Billy I might be interested in learning to keep bees. His reply was “great, come see me and I’ll help you get started.” I’m sure he was thinking “now I get even.” I believe his objective was to lure me in by saying “start with one hive”, and then “split the hive and make two.” And after I had two he would keep needling me “to split and make 4.” Then split and make 8, and so on and so on. All the while his primary objective was to have me keep spending money on bees and equipment until I was bankrupt, thereby getting even with me for tossing him off the school bus.

Well he didn’t bankrupt me but he did cause me to become so interested in honeybees that I am now running 70 hives in three bee yards. I sell honey, I raise bees to sell and I also run a small business of selling bee equipment and supplies. I am also trying to hone my skills in raising queens.

Billy and I are very close friends now and we go to a lot of places together to talk to folks about bees. I truly love to be involved with honeybees. They are such marvelous creatures and they are so very important to our society in the pollination of our fruits and vegetables. And I really love that honey they make. God created one wonderful creature when he said “let there be honeybees.”