

News For South Carolina Beekeepers



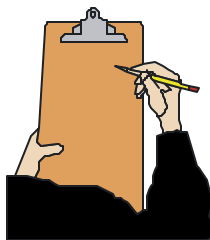
June 2004

Vol. 15, No. 2

SOUTH CAROLINA NEWS

South Carolina Beekeepers to Meet at Clemson University

The summer meeting of the South Carolina Beekeepers will be held at Clemson University, Clemson, SC on 15-17 July 2004. The meeting will begin at 1PM on Thursday, 15 July in the Poole Agricultural Center Auditorium with session 1 of an introductory level beekeeping short course. The course will cover many of the basics of beekeeping and is designed for anyone who would like to become a beekeeper, but everyone is welcome. The short course will break for dinner at 5:00 and session 2 of the short course will begin at 7:00 and end at 9:00 PM.



On Friday morning, we will begin with a general session at 8 AM and workshops will be held in the afternoon. We have several out-of-state speakers on the program including Patrick Parkman from the University of Tennessee, Jennifer Berry and Jamie Ellis from the University of Georgia, David Tarcy from N C State University, Stanley Schneider from the University of North Carolina - Charlotte, Ann Harmon from Flint Hill, Virginia, Reg Wilbanks from Claxton, Georgia, Bob Cole from Todd, North Carolina, and Steve Forrest from Brushy Mountain Bee Farm, Moravian Falls, North Carolina. A special event is scheduled for spouses on Friday morning. They will re-visit nearby old town of Pendleton.

A barbecue pork/baked chicken dinner is planned for Friday evening at Jimmy Howard's home in Pendleton. Scheduled activities are the annual horseshoe pitching tourney and a tall tales contest. Dinner will be served for \$6.00/plate. On Saturday morning, we will have another general session beginning at 8:00 that will include many interesting topics and the meeting will end at noon. For more details, you will find a meeting program in this newsletter.

We will have a honey show and competition at our summer meeting this year. Bring along a container of your best honey. Please do not place a label on your honey containers. Honey classes will be pint extracted and quart extracted. There will be light and dark classes, so do not be concerned if your honey is dark. A "black jar class" will be included again. This class will be judged on taste only. Small black jars will be provided at the show so bring a sample of your best tasting honey and take this ribbon home. June Ponder from the Oconee Beekeepers will oversee this event. Ribbons will be awarded for each category.

The Lightsey Bridge Apartments on campus will be available to us for lodging at \$39.50 per night (4 people maximum) and linen cost is an additional \$6.50/person. Linen packets include sheets, two towels, washcloth, blanket, and pillow. The Lightsey Bridge Apartments are across the street from the SC Botanical Gardens. There will be a person in the apartment registration office to handle your room assignment and payment. No reservations are necessary. Meals are available on campus at the Harcombe Food Court for Thursday lunch & dinner, Friday bkfst & lunch, and Saturday bkfst. There is also a food court in the new Hendrix Student Center which is about a 5 minute walk from our meeting building. And yes, this is the same place where you can buy the delicious ice cream and blue cheese.

Other accommodations are available off campus in the Clemson area as follows: Clemson Sleep Inn, \$49, (864) 653-6000, includes contl bkfst, no swimming pool; Clemson Comfort Inn, \$55, (864)-653-3600, includes contl. bkfst and swimming pool; Clemson Hampton Inn, \$77, (864)-653-7744, includes contl. bkfst and swimming pool; Clemson Ramada Inn, \$59, (864) 654-7501, includes contl. bkfst and inside pool; Clemson Days Inn, \$49, (864) 653-4411, includes contl bkfst, no swimming pool. Mention that you are attending the South Carolina Beekeepers Convention to get the University rate. Most of our speakers will be lodging at the Clemson Sleep Inn where we are getting a special rate.

Our designated parking lot for this meeting is the large commuter parking lot (orange marked parking spaces) behind the Poole Agricultural Center. Please do not park in the employee parking spaces marked green or you will get a parking ticket. You will need to pick up a hang tag for your vehicle at our registration desk and place it on your vehicle.

Let's continue to make the South Carolina Beekeepers summer meeting a great success; invite some beekeeping friends to come along for an educational vacation. If you have questions about the meeting, please contact Mike Hood, ph. (864) 656-0346, email <mhood@clermson.edu>.

STATE FAIR 2004 - The 2004 South Carolina State Fair is scheduled to be held October 7-17, in Columbia. Our beekeeping exhibit at the fair provides us a great opportunity to promote our products and the beekeeping industry. Fair visitors have been fascinated by our attractive displays of honey and other apiary products, including the observation hive and other educational items.

Our hats are off to those who participated in the 2003 fair exhibit, especially Cliff Ward who served as coordinator of our booth. Cliff Ward has agreed to serve again this year as coordinator and will be giving a "State Fair Report" at our summer meeting in Clemson. Beekeepers who worked the booth last year were given the opportunity to sell their honey. I've heard some beekeepers did quite well so come to our summer meeting prepared to sign up to spend a day at the State Fair.

Plan now to enter some of your most attractive products and possibly an exhibit in the competition. Honey will be judged on absence of granulation, cleanliness (absence of lint, wax and foam), flavor, color and brightness, and overall appearance of the container. There will be two classes of honey competition, light and dark. Each class will have the following entry categories: 1 lb. extracted, pint extracted, pint with comb, quart extracted, quart with comb, 2 lb extracted and 1 lb with comb. There will be a 1st, 2nd and 3rd place winner for each category with a monetary prize of \$10, \$8 and \$6 awarded respectively. Other categories include 1 lb beeswax.

A "Best Beekeeping Display" offers the largest monetary prizes (\$75, \$60, and \$40). Displays are judged on educational value, advertizing value, attractive arrangement, originality and variety, appearance, and quality of products.

For more details of our South Carolina State Fair, call Cliff Ward in Columbia at (803) 794-5633.

UNITED STATES HONEY PRODUCTION UP FIVE PERCENT

Honey production in 2003 from producers with five or more colonies totaled 181 million pounds, up 5 percent from 2002. There were 2.59 million colonies producing honey in 2003, up 1 percent from 2002. Yield per colony averaged 69.9 pounds, up 5 percent from the 66.7 pounds in 2002. Colonies which produced honey in more than one state were not included if honey was not harvested. Producer honey stocks were 40.7 million pounds on December 15, 2003, up 3 percent from a year earlier. Stocks held by producers exclude stocks held under the commodity loan program.

Honey prices increased to a record high during 2003 to 140.4 cents, up 6 percent from 132.7 cents in 2002. Prices are based on retail sales by producers and sales to private processors and cooperatives. State level honey prices reflect the portions of honey sold through retail, co-op and private channels. U.S. honey prices for each color class are derived by weighing quantities sold for each marketing channel at the U.S. level. Honey prices for 2003 were higher than the previous year for all color classes. Some 2002 crop honey was sold at the higher prices in 2003, which caused some revisions to the 2002 crop prices.

SOURCE: Agricultural Statistics Board, NASS, USDA, February 2004.

HONEY BOOSTS ANTIOXIDANTS – YOUR BODY'S NATURAL DEFENSE AGAINST DISEASE

Reaching for a spoonful of honey rather than sugar to sweeten your favorite food and drinks may help boost your body's natural defenses.

A new study shows that a daily dose of honey does more than just satisfy your sweet tooth, it also raises levels of disease-fighting antioxidants in the blood.

Researchers say honey contains varying concentrations of polyphenols, which are powerful antioxidants that are thought to reduce the risk of heart disease and cancer. Polyphenols are also found in fruits, vegetables, tea, and olive oil.

Although a previous study shows that a dose of honey can deliver a surge of antioxidants, researchers say this is the first study to look at the effects of long-term honey consumption.

The findings were presented this week (March 28, 2004) at the annual meeting of the American Chemical Society in Anaheim, Calif.

Honey for Health - In the study, researchers fed 25 participants about 4 tablespoons of buckwheat honey per day for 29 days in addition to their regular diets. Two types of honey containing different amounts of polyphenols were tested.

Blood samples taken at the beginning and end of the study showed a direct link between honey consumption and levels of disease-fighting polyphenols. The more polyphenol-containing honey they ate, the higher the levels of antioxidants were in their blood.

Researchers Heidrun Gross of the University of California-Davis and colleagues say that antioxidants are thought to protect humans from disease by slowing potentially dangerous disease processes in the body. The compounds work by scavenging free radicals -- unstable compounds that can damage healthy cells and compromise their function.

Researchers say that given the fact that the average person consumes more than 150 pounds of sweetener per year, substituting honey in some foods for traditional sweeteners may be a healthier option.

SOURCES: Gross, H. "Effect of honey consumption on plasma antioxidant status in human subjects," presented at the 227th American Chemical Society National Meeting, Anaheim, Calif., March 28-April 1, 2004. News release, University of California, Davis.

SOURCE: Jennifer Warner, WebMD Medical News, WebMD website.

SUPERNAVIGATOR'S SECRET by Henry Fountain

Honeybees can go home again, and again, and again. Their ability to return directly to the hive after a rambling flight in pursuit of food is remarkable, although exactly how they accomplish this has been unclear.

The most reasonable explanation is that, like some other insects, they use vector navigation, constantly calculating the required direction of homeward travel from their movements during foraging.

Using radar, scientists from Britain and Germany have now provided strong evidence that honeybees navigate this way. The researchers outfitted honeybees with tiny transponders so they could be tracked.

In a large mown field outside a German village, they allowed the bees to reach a feeding station. But before the bees left to return to the hive, the researchers moved them to another location in the field. A paper describing the work was published online in The Proceedings of the Royal Society of Britain.

The researchers found that the displaced bees still flew in the direction that would have taken them home from the feeding station. In other words, they used the navigational calculations they had made while foraging. Some even completed the entire length of what would have been the return flight before starting to search for their hives.

The bees appeared to be on automatic pilot; they ignored large artificial landscape features placed in the return path and compensated for wind drift. Previous studies have shown that bees measure distance traveled using the flow of images of the ground across their retinas. The researchers suggest that bees are using this tool, plus their ability to orient themselves according to the sun's angle in the sky, to make their return journeys.

SOURCE: Tara Beekeepers Association Newsletter, November 3, 2003.

AFRICAN HONEY BEE UPDATE

In 1990, a honey bee swarm unlike any before found in the United States was identified just outside the small south Texas town of Hidalgo. With that identification, Africanized honey bees were no longer a problem we would have some day. Africanized honey bees had arrived.

Beekeepers, farmers who depend on honey bee pollination for their crops, land managers, emergency responders like fire and police, and the public all wanted to know what they would be facing as Africanized honey bees began to spread.

Now, 14 years later, scientists with the Agricultural Research Service and elsewhere have uncovered many answers, but they have also come upon some new and unexpected questions.

Africanized honey bees—melodramatically labeled "killer bees" by Hollywood hype—are the result of honey bees brought from Africa to Brazil in the 1950s in hopes of breeding a bee better adapted to the South American tropical climate. These honey bees reached the Brazilian wild in 1957 and then spread south and north until they officially reached the United States on October 19, 1990.

Actually, all honey bees are imports to the New World. Those that flourished here before the arrival of Africanized honey bees (AHBs) are considered European honey bees (EHBs), because they were introduced by European colonists in the 1600s and 1700s. EHBs that escaped from domestication are considered feral rather than wild.

Africanized honey bees are so called because it was assumed that the African honey bees spreading out from Brazil would interbreed with existing feral EHBs and create a hybridized, or Africanized, honey bee.

This has always been a major question for researchers—what, if any, type of interbreeding would happen between AHBs and EHBs and how would this affect honey bee traits that are important to people, such as swarming and absconding, manageability for beekeepers, honey production, and temper.

Many experts expected that the farther from a tropical climate AHBs spread, the more they would interbreed with EHBs. But it appears that interbreeding is a transient condition in the United States, according to ARS entomologist Gloria DeGrandi-Hoffman. She is research leader at the Carl Hayden Bee Research Center in Tucson, Arizona, and ARS national coordinator for AHB research.

Early on, we thought the mixing would reach a steady state of hybridization, because we knew the two groups of bees can easily interbreed and produce young," DeGrandi-Hoffman says. "But while substantial hybridization does occur when AHBs first move into areas with strong resident EHB populations, over time European traits tend to be lost."

DeGrandi-Hoffman and Stan Schneider, a professor of biology at the University of North Carolina at Charlotte, have been collaborating the past 3 years to figure out why AHBs replace EHBs rather than commingling.

"We've found six biological and behavioral factors we think are responsible for making AHBs such successful invaders," Schneider explains. First, AHB colonies have faster growth rates, which means more swarms splitting off from a nest and eventually dominating the environment. Second is that hybrid worker bees have higher amounts of "fluctuating asymmetry"—small, random differences between the left and right wings—than African honey bees have, even when raised in the same hive.

"Imperfections like fluctuating asymmetry that increase with hybridization may end up reducing worker viability and colony survival," says DeGrandi-Hoffman. "But this is a controversial factor right now, and it will take long-term studies of African, hybrid, and European colonies in the same habitat to truly understand its influence."

But the third factor is undeniably true: EHB queen bees mate disproportionately with African drones, resulting in rapid displacement of EHB genes in a colony. This happens because AHBs produce more drones per colony than EHBs, especially when queens are most likely to be mating, DeGrandi-Hoffman explains.

"We also found that even when you inseminate a queen with a 50-50 mix of African drone semen and EHB semen, the queens preferentially use the African semen first to produce the next generation of workers and drones, sometimes at a ratio as high as 90 to 10," she says. "We don't know why this happens, but it's probably one of the strongest factors in AHBs replacing EHBs."

When an Africanized colony replaces its queen, she can have either African or European paternity. Virgin queens fathered by African drones emerge as much as a day earlier than European-patriline queens. This enables them to destroy rival queens that are still developing. African virgin queens are more successful fighters, too, which gives them a significant advantage if they encounter other virgin queens in the colony. DeGrandi-Hoffman and Schneider also found that workers perform more bouts of vibration-generating body movements on African queens before they emerge and during fighting, which may give the queens some sort of survival advantage.

AHB swarms also practice "nest usurpation," meaning they invade EHB colonies and replace resident queens with the swarm's African queen. Nest usurpation causes loss of European matriline as well as patrilines. "In Arizona, we've seen usurpation rates as high as 20 to 30 percent," says DeGrandi-Hoffman.

Finally, some African traits are genetically dominant, such as queen behavior, defensiveness, and some aspects of foraging behavior. This doesn't mean that EHB genes disappear, but rather that hybrid bees express more pure African traits. The persistence of some EHB genes is why the invading bees are still considered Africanized rather than African, regardless of trait expression, she points out.

A coincidence may have contributed greatly to an overwhelming takeover by AHBs in areas they've invaded. Just as AHBs began their spread throughout the Southwest, the U.S. feral honey bee population was heavily damaged by another alien invader—the deadly *Varroa* mite, an Asian honey bee parasite first found here in 1987. "Varroa mites emptied the ecological niche of feral honey bees just as AHBs arrived," says DeGrandi-Hoffman. "If they hadn't been moving into a decimated environment, AHBs might not have replaced EHBs so quickly."

SOURCE: USDA Agricultural Research/March 2004.

RECIPES



Black Bean Nachos

1/2 medium onion, chopped
1 clove garlic, minced
1 tablespoon olive oil
1 (15 ounce can) black beans, drained and rinsed
2 dashes Tabasco sauce
1 tablespoon GOLDEN BLOSSOM HONEY
3 medium tomatoes, chopped
1 jalapeno pepper, seeded and minced
2 scallions, chopped
1 (8 1/2 ounce) bag tortilla chips
4 ounces sharp cheddar cheese, grated
4 ounces Monterey Jack cheese, grated
1 avocado, peeled and sliced
3 tablespoons fresh cilantro, chopped
sour cream
salt and pepper to taste

Preheat oven to 475°.

Saute onion and garlic for 5 minutes in olive oil over medium heat. Reduce heat. Add black beans and Tabasco sauce. Stir in honey. Cook for 10 minutes stirring often. In a medium bowl, mix together tomatoes, jalapeno pepper and scallions. Place tortilla chips evenly on baking sheet. Place black bean mixture over chips, followed by tomato mixture and grated cheeses. Bake for about 5 minutes, until cheese melts. Top with avocado slices, cilantro and sour cream.

SOURCE: <http://www.goldenblossomhoney.com/>.

Grilled Chicken with Apple Honey Barbecue Sauce

1 cup apple cider
1/3 cup apple cider vinegar
1/4 cup shallots, sliced
1/4 cup vegetable oil
3 Tablespoons GOLDEN BLOSSOM HONEY
2 Tablespoons Worcestershire sauce
1 teaspoon dried tarragon
salt and pepper to taste
3 whole chicken breasts, skinned, boned and halved

In a pan, combine all ingredients except chicken. Bring to a boil. Reduce heat. Simmer for 15 minutes. Remove from heat and cool.

Marinate chicken in sauce 1 to 3 hours, in refrigerator.

Prepare barbecue. Grill chicken, covered, turning and basting often for 5 to 10 minutes or until cooked through.

SOURCE: <http://www.goldenblossomhoney.com/>.

German Bee-Sting Cake

Honey Nut Topping:

1/2 cup GOLDEN BLOSSOM HONEY
1/4 cup butter or margarine
1 cup ground almonds

In a small saucepan, combine ingredients and bring to a boil. Set aside to cool.

Butter Cream Filling:

1/4 cup butter, softened
1 cup powdered sugar, sifted
1 Tablespoon milk
1 Tablespoon GOLDEN BLOSSOM HONEY

Cream butter and sugar. Add milk and honey. Blend well. Set aside.

Cake Batter:

1/2 cup butter or margarine, softened
1/3 cup sugar
1/4 cup GOLDEN BLOSSOM HONEY
1 egg
1 1/2 teaspoons almond extract
2 cups flour
2 teaspoons baking powder
1/2 teaspoon salt
2 Tablespoons milk
1 small jar seedless raspberry jam

Preheat oven to 325°. Grease an 8-inch springform pan.

In a mixer bowl, cream butter and sugar. Beat in honey in a slow steady stream until mixture is smooth and thick. Add egg and almond extract.

Sift together flour, baking powder and salt. Add to the butter mixture alternately with the milk, mixing well after each addition.

Spoon into prepared pan and cover with Honey Nut Topping. Bake 30-40 minutes or until cake tests done. Cool in pan before removing.

Slice cake in half horizontally. Spread bottom half with Butter Cream Filling. Spread the top half generously with jam. Assemble halves together, keeping honey nut side up.

SOURCE: <http://www.goldenblossomhoney.com/>.

Honey Lemonade

4 Lemons
1 Orange
1 Lime
1 cup warm water
3 cups cold water
1/2 cup Honey

Squeeze citrus fruits into pitcher. Mix honey with 1 cup of warm water and add to pitcher along with 3 cups of cold water. Stir in a tray of ice cubes. Garnish with lemon slices, mint and strawberries.

SOURCE: <http://www.goldenblossomhoney.com/>.

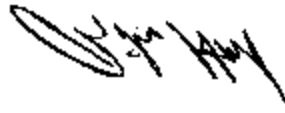
Strawberry Cooler

1/2 cup Honey
2 quarts of water
16 ounce package fresh strawberries, thinly sliced
1-inch piece fresh gingerroot, peeled and sliced

In a large saucepan bring honey and water to a boil. Continue boiling 10 minutes. Remove from heat and let cool completely. Pour syrup, sliced strawberries and gingerroot into a large glass bowl. Cover and refrigerate until well chilled (about 4 hours). To serve, remove ginger slices and ladle cooler into clear glass cups or glasses.

SOURCE: <http://www.goldenblossomhoney.com/>.

Respectfully submitted,



William Michael Hood
Extension Apiculturist

2004/2005 Calendar

July 8-10, 2004

NC State Beekeepers Summer Meeting
Charlotte, NC

July 15-17, 2004

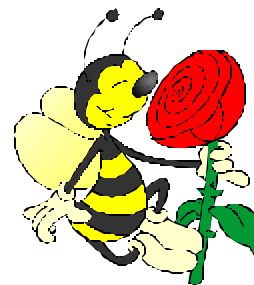
SC Beekeepers Summer Meeting
Clemson, SC

August 9-13, 2004

Eastern Apicultural Society Meeting
Seven Springs, PA

March 4-5, 2005

SC Beekeepers/NC Beekeeper
Joint Spring Meeting



2004 SCBA SUMMER MEETING SCHEDULE

Thursday, July 15, 2004

- 12:00 N Meeting Registration - Poole Agricultural Center Lobby - \$3 Members, \$5 Family, \$8 Nonmembers
Exhibitor Setup - Poole Agricultural Center Lobby
- 1:00 Introductory Level Beekeeping Short Course - Session I
- 5:00 Dinner on your own
- SCBA Executive Committee Meeting**
- 7:00 Introductory Level Beekeeping Short Course - Session II
- 9:00 Short Course Ends

Friday, July 16, 2004

- 8:00 AM Invocation - Jack Corbett, Midstate Beekeeper, Camden
- Welcome to Clemson University - Calvin Schoulties, Dean, College of Agriculture, Forestry and Life Sciences, Clemson University
- 8:10 Announcements and Introductions - Mike Hood, Extension Apiculturist, CU, Executive Secretary, SCBA
- 8:20 President's Address and Business Meeting - Clyde McCall, President - SCBA
- 8:40 Legislative Update - TBA
- 9:00 Eastern Apicultural Society 2004 Meeting Announcement - Bob Cole, Todd, North Carolina
- 9:05 American Beekeeping Federation News - Reg Wilbanks, Claxton, Georgia
- 9:15 Queen Mating Behavior and Its Effects On Colony Health - David Tarpy, Extension/Research Apiculturist, Department of Entomology, North Carolina State Univ., Raleigh, NC
- 9:45 Break - Visit Exhibitors
- 10:10 Door Prizes
- 10:15 Don't Let the Beetles Get You Down - Jamie Ellis, Research Apiculturist, Department of Entomology, Univ. of Georgia, Athens, GA
- 10:45 Multi-State Varroa IPM Project Report - Patrick Parkman, Extension Apiculturist, Entomology and Plant Pathology Department, Univ. of Tennessee, Knoxville, TN
- 11:15 The African Honey Bee: Factors Contributing to a Successful Biological Invasion - Stanley Schneider, Research Apiculturist, Department of Biology, Univ. of North Carolina, Charlotte, NC
- 11:45 Lunch on your own
- 1:10 Door Prizes, Announcements, Cliff Ward - State Fair Report
- Workshop Introduction
- 1:30 Concurrent 45 Minute Workshops (Sessions begin on the half hour)
1. Preparing Honey and Beeswax for Competition - Ann Harmon, VA
 2. Equipment for the Beginner - Steve Forrest, Moravian Falls, NC
 3. African Honey Bees - Stanley Schneider, UNC-Charlotte
 4. Small Hive Beetles and Their Control - Jamie Ellis, UGA
 5. Honey Bee Non-Infectious Disorders - Jennifer Berry, UGA
 6. How to Successfully Rear and Mate Queens - David Tarpy, NCSU
 7. Varroa Mite Integrated Management - Patrick Parkman, UT
 8. South Carolina Master Beekeeper Program, Written and Practical Tests (offered first hour only)
- 4:30 Depart for Evening Activities at Jimmy Howard's Home
- Horseshoe Pitching Tourney
Barbecue Pork/Baked Chicken Supper (\$6.00/Plate)
Tall Tales Contest

Saturday, July 17, 2004

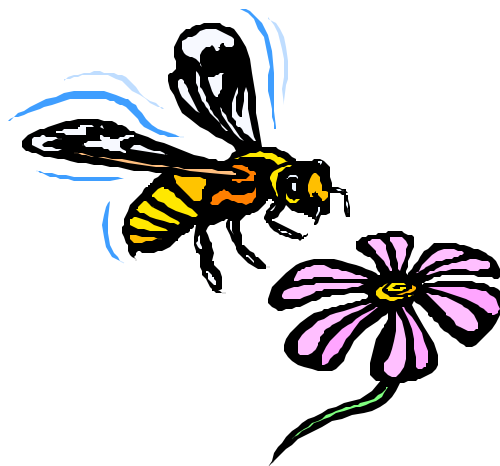
- 8:00 Announcements & Door Prizes
- 8:15 Results of the Honey Show - Clyde McCall and Gene Rogers, Honey Competition Judges
- 8:30 Overview of the Current Bee Stocks in the US - David Tarpy
- 9:00 University of Georgia Queen Breeding Program Update - Jennifer Berry, Apiculture Research Coordinator, Univ. of Georgia, Athens, GA
- 9:45 "Swarming" - Lane Phillips, Lancaster County Beekeeper, South Carolina 4-H Beekeeping Essay Winner
- 10:00 Break - Visit Exhibitors
- 10:25 Door Prizes
- 10:30 Bee Well Honey Farm - Kerry Owen, Pickens
- 11:00 Beekeeping in Central Asia - Ann Harmon, Flint Hill, Virginia
- 11:30 Managing Varroa Mites With Formic Acid - Patrick Parkman
- 12:00 Closing Comments, Clyde McCall, President, SCBA
- 12:05 End - Have a Safe Trip Home!

SCBA Executive Committee Meeting

SPOUSE'S PROGRAM

Friday, July 16, 2004

- 8:30AM Meet P&AS Bldg Lobby
- 8:40 Depart P&AS Bldg
- Tour Stop: Old Town of Pendleton
- 1:10 PM Return to the P&AS Bldg



COOPERATIVE EXTENSION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE
CLEMSON UNIVERSITY
CLEMSON, SC 29634-0310
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

Please mail your change of address to: News for SC Beekeepers, Tammy P. Morton, 116 Long Hall, Clemson University,
Clemson, SC 29634-0315.

Name: _____

Address: _____

County: _____ Phone () _____