LOCAL UPDATE

South Carolina Beekeepers Spring Meeting - The South Carolina Beekeepers will meet jointly with the North Carolina State Beekeepers in Rockingham, North Carolina on 14-15 March 2003. Rockingham is conveniently located about 10 miles north of the SC/NC state line near Marlboro County, SC. The North Carolina beekeepers will host the meeting that will be held at Richmond Community College. This will be our 7th joint meeting over the past 13 years with our beekeeper friends from the "Tarhill State." You will find a program schedule and other information included in this newsletter.

If you are a member of the South Carolina Beekeepers, you will receive a North Carolina State "Bee Buzz" newsletter which includes pre-registration materials for the spring meeting. If you do not receive a copy of the newsletter by 1 March and would like to attend the meeting, please contact me (Mike Hood) at Ph. 864-656-0346 or email <mhood@clemson.edu>. This meeting will offer beekeepers the opportunity to learn more about many of the important issues facing our industry today such as the small hive beetle which has now been confirmed in 40 of our 46 counties in the state. Dr Jeff Pettis (USDA Bee Scientist) and I will be presenting the latest information on small hive beetles and their control. Make plans now to attend this informative meeting and invite some beekeeper friends to join you for a good time of food and fellowship.

Other News - You will now find back issues (1997-current) of the "News for South Carolina Beekeepers" on the Clemson University Department of Entomology website which is located at: entweb.clemson.edu/cuentres/cuentnews/beenew/index.htm.

Several beekeeping short courses will be offered this spring in South Carolina. The Lakelands Beekeepers (Abbeville, Greenwood, Laurens and McCormick Counties), the Midstate Beekeepers (Lexington, Kershaw, Newberry, and Richland Counties), the Oconee County Beekeepers (Anderson, Oconee and Pickens Counties) and the York County Beekeepers (Chester, Cherokee, and York Counties) will be hosting short courses. Thanks to all these groups for promoting beekeeping in their areas.

NATIONAL HONEY BOARD PUBLISHED SCIENTIFIC COMPLEMENT

Research Verifies Honey's Natural Healing Properties

LONGMONT, CO (September 25, 2002) - Humans have used honey for more than 8,000 years according to documented sources. This natural sweetener has been used for everything from healing wounds to soothing coughs.

The National Honey Board has summarized the numerous research studies conducted on honey in a published compendium titled "Honey - Health and Therapeutic Qualities."

The new 28-page document sets the foundation with a narrative of honey's history including references dating as far back as 460 BC with Hippocrates applying honey as a wound healer. Other research includes honey's antimicrobial characteristics and the positive effects on disorders such as ulcers. The antimicrobial properties as they apply to food safety and food-borne pathogens are also outlined.

An emerging area of research for the National Honey Board concerns honey as a source of energy. Conclusions in the compendium note that honey "potentially offers many of the performance advantages of the sports beverages and gels that are commonly used by athletes."

Additional research topics that are presented in the compendium include antioxidant activity including its use for food preservation and human health, probiotic properties and other areas currently under investigation, including dental health.

The document is now available for health care professionals, food scientists and manufacturers and will also be posted on the Honey Board Web site at www.nhb.org/foodtech.
BLUE ORCHARD BEE –
A CHAMPION CHERRY POLLINATOR

Like cherries? Here’s good news from ARS scientists in Utah: The blue orchard bee, or Osmia lignaria, continues to rank as an ace pollinator of this delectable summer crop. That’s important. If pollen isn’t ferried to cherry blossoms by insect pollinators such as this nimble bee, the flowers won’t form the sweet, plump fruit that cherry aficionados love.

New information about the gentle bee’s superb pollination skills comes from investigations by entomologist William P. Kemp of the ARS Bee Biology and Systematics Laboratory in Logan, Utah, and colleague Jordi Bosch, formerly at the Logan laboratory and now with the Department of Biology at Utah State University.

In a 4-year experiment at a commercial cherry orchard in northern Utah, Kemp and Bosch compared cherry harvests before they brought in blue orchard bees – and then after. “Production was more than twice as high when blue orchard bees were used in place of honey bees,” Bosch reports.

Blue orchard bees typically stay on the job despite weather that sends other bees buzzing back to their snug hives. That may help explain why the cherry orchard that the blue orchard bees pollinated produced harvestable yields even in the years when bad weather robbed most cherry growers in the region of their crop.

The researchers also found that blue orchard bee populations continued to increase throughout the study.

Kemp and Bosch encourage beekeepers and orchardists to use this hard-working bee to augment the efforts of the domesticated honey bee, Apis mellifera. Many colonies of this familiar honey bee have been devastated in recent years by mites, beetles, and aggressive Africanized honey bees.

The scientists have authored a new, 96-page handbook that’s packed with helpful tips on how to use the blue orchard bee to proficiently pollinate not only cherries, but also almond, apple, apricot, and pear trees. Based on nearly three decades of lab, greenhouse, and orchard studies by ARS experts based at Logan, the book makes an excellent reference for growers, professional beekeepers, hobbyists, and home gardeners. How to Manage the Blue Orchard Bee as an Orchard Pollinator is available from the University of Vermont, Burlington, (802) 656-0484. – by Marcia Wood, ARS.
Roubik followed the development of flower to fruit on 50 different coffee plants. He covered some branches with fine-meshed bags to keep out would-be pollinators but left others accessible and then observed the maturing berries for eight months. Insect pollination—mostly performed by African honeybees—resulted in heavier, more abundant fruit than self-pollination and improved the yield overall by more than 50 percent. To Roubik, the connection between coffee and killer bees makes sense: "The geographic origin of the African honeybee and coffee is the same place—southern and central Africa."

This study also casts doubt on growing coffee in full sun, which has long been assumed to increase yield. The practice requires clear-cutting tropical forest and adding lots of chemicals, but that also destroys the habitat of the coffee-pollinating African bee. Roubik's results imply that the traditional approach of growing the coffee under shade trees and near patches of tropical forest makes sense both economically and environmentally. "I'm sure there will be bigger profit in a system where you have the crop and the pollinators and the shade all together, and just let them go merrily along," he says. - Lauren Gravitz

Additional information can be obtained from "Coffee With a Killer." Roubik, David W. "The Value of Bees to the Coffee Harvest." Nature 417 (June 13, 2002):708.

The Seattle Audubon Society offers information on shade-grown coffee and where to buy it: www.seattleaudubon.org/coffee/home.html.

Source: Discover, December 2002

MORE SPECIES CHOSEN FOR GENOME PROJECT

The nominees were a varied lot. A monkey. A cow. A hairy, single-celled organism called Oxytricha trifallax. Each was backed by a group of scientists with a singular goal: convince a panel of experts that their creature was worthy of having its entire genetic code spelled out.

The judging wasn't televised and Whoopi Goldberg wasn't there. But yesterday (May 22, 2002), in a contest tracked closely by scientists around the world, a committee of the National Institutes of Health awarded what amounts to the Oscar of comparative genomics to six winning "model organisms."

And the winners are: the chimpanzee, the chicken, the honeybee, the sea urchin, the yeastlike protozoan Tetrahymena thermophila, and a family of fungi.

The decision, made by a council of experts at the NIH's National Human Genome Research Institute, launches the newest chapter in genetic research since scientists announced to great fanfare last year that they had identified and placed in order virtually all 3.1 billion "letters" of the human genetic code.

By unveiling the DNA sequences of far-flung members of the tree of life—and then lining each up, gene-to-gene, against the human genome—scientists expect to deepen their understanding of evolutionary processes and uncover the causes of many human diseases.

"The best way to tease out the secrets of the human genome is to compare it with other organisms' genomes," said Eric Lander, director of the Whitehead Institute/MIT Center for Genome Research, one of three NIH-funded gene-analysis centers that will conduct most of the DNA analyses.

The judges took into consideration each candidate's level of relatedness to humans (with the goal of including both near and distant relatives); the extent to which each organism had already proved itself valuable in research; and technical considerations relating to the ease with which each creature's genome would give up its secrets.

The six winners will not necessarily have their genetic codes deciphered immediately. Rather, each is now an official "high priority" organism, bumped to the front of the line of organisms waiting to have their DNA read out at the Whitehead Institute, Baylor College of Medicine and Washington University School of Medicine.

The start date for each project will depend on when each of those major gene-sequencing centers completes projects already underway, including the mop-up of human sequencing work due to be completed next April. Currently the three centers share $155 million annually in federal support.

As might be expected in any popularity contest, the applications submitted by scientists offer windows into the emotions and professional rivalries of an otherwise arcane competition. The group that made a losing bid for the macaque monkey, for example, noted in its application that macaques appear in published research 2.5 times as often as do chimps—a transparent effort to belittle the group's main competitor.

Advocates for the sea urchin gathered supporting signatures from 75 U.S. scientists and noted that the number of researchers already working on urchins is about 30 times greater than the number of scientists working on tunicates, related marine invertebrates that had threatened to bump sea urchins from the winner's circle.

Backers of Tetrahymena thermophila wrote eloquently of the little yeastlike organism as "a genetic unicellular animal model for all seasons." Lobbyists for the chicken dubbed their nominee "the premier non-mammalian vertebrate model organism," in part because it develops in an egg instead of a uterus, facilitating studies of its development.

Those favoring fungi complained about a "serious imbalance" in which more than 50 bacterial genomes have been sequenced while only one fungus (brewers yeast) has had its DNA dissected. They noted that fungi are the natural sources of many antibiotics, including penicillin,
Cephalosporin and cyclosporine; 12 million people take "statins," a class of cholesterol-lowering drugs, several of which are made by fungi; and fungi cause crop losses valued at $200 billion annually worldwide.

The honeybee consortium sold its organism as one with the potential to shed light on the genetics of complex social behaviors. Bees are "experts at social integration," living and working peacefully in hive densities equivalent to 15 people sharing a 12-by-18-foot apartment, the team noted. The bee team also was one of several that took advantage of the current emphasis on bioterrorism. Studies done by the Department of Defense, the team wrote, suggest that bees can be trained to detect biological and chemical weapons.

Scientists planning to decipher the chimpanzee genome emphasized that no chimpanzee would be sacrificed, the work requires nothing more than a blood sample. Chimpanzees are humankind's closest relatives, with only 1.2 percent sequence divergence believed to exist between the two species' genomes. A detailed analysis of the chimpanzee genome could generate new strategies for fighting human diseases, especially those, such as AIDS, that do not affect chimps.

Perhaps most tantalizing, researchers said, a careful look at that crucial 1.2 percent difference could someday shed light on what, exactly, makes people human.


RECIPES

Honey Cashew Caramel Corn
Serves 20

5 Quarts popped popcorn 2 Cups Cashews
1/4 tsp cream of tartar 1/2 Cup Honey
1 cup Butter 1 tsp. Soda
2 Cups Brown Sugar 1 tsp. Salt


Honey Cinnamon Popcorn

5 Quarts Popcorn 1/2 cup white sugar
1/4 cup white corn syrup 1/2 tsp salt
1 cup red hots (candy) 3/4 tsp. soda
1/2 cup Honey 1 stick Oleo

Mix all but corn and soda. Place in microwave and cook 1 1/2 minutes on high. Remove and stir well with wooden spoon. Cook 1 1/2 minutes again until red hots are completely melted. Add soda and stir well. Put popcorn in large brown paper sack and add mixture. Put sack in microwave and cook 1 1/2 minutes on high. Remove sack and shake well. Repeat 2 more times being careful not to burn popcorn. Dump corn onto cookie sheets to cool.

Harvest Honey Spice Cake
Makes 12 servings.

1 cup honey
1/3 cup vegetable oil
1/3 cup strong brewed coffee
3 eggs
2 1/2 cups all-purpose flour
1 1/2 teaspoons baking soda
1 1/2 teaspoons ground cinnamon
3/4 teaspoon ground nutmeg
1/2 teaspoon salt
2 cups peeled chopped tart apples
1/2 cup toasted slivered almonds
1/2 cup dried cranberries
powdered sugar
breaded sliced almonds, for garnish

Using electric mixer, beat together honey, oil and coffee. Beat in eggs.

Combine dry ingredients; gradually add to honey-egg mixture, mixing until well blended. Stir in apples, almonds and cranberries.

Pour into lightly greased and floured bundt or tube pan. Bake at 350°F for 35 to 40 minutes or until toothpick inserted in center comes out clean. Remove from oven; cool on wire rack. Dust with powdered sugar; garnish with sliced almonds, if desired.

Nutrition information per serving (1/12 of recipe): calories 325; total fat 11 g (28% calories from fat); saturated fat 2 g; cholesterol 53 mg; sodium 265 mg; total carbohydrate 55 g; dietary fiber 2 g; protein 6 g.

Respectfully submitted,

William Michael Hood
Extension Apiculturist
FRIDAY, MARCH 14, 2003

12:00 Noon – 6:00 pm  Meeting Registration: Cole Auditorium located on the campus of Richmond Community College

1:30 – 5:00 pm  Introductory & Intermediate Short Courses Various Instructors and Topics

Evening Session

6:30 pm  Banquet: All-you-can-eat buffet
7:05  Welcome & Door Prizes – Don Moore, NCSBA President
7:20  Entertainment: Drowning Creek Bluegrass Band

SATURDAY, MARCH 15, 2003

Morning Session

8:00 am  Registration for late arrivals
8:05  Welcome and Door Prizes – Don Moore, NCSBA President
8:20  "The Giant Bees of India and Other Exotic Beekeeping Adventures." – Dr. Wyatt Mangum, Mary Washington College
9:00  "Reports from Around the State" – NCDA Bee Inspectors
9:40  BREAK
10:00  "What's New with the Small Hive Beetle" – Dr. Jeff Pettis, USDA Beltsville
10:40  "Varroa Mite Integrated Pest Management" – Dr. Mike Hood, Clemson University
11:30 Noon . . . LUNCH (on your own)
1:00-1:30 pm  "Coumaphos and Queen Cups" – Dr. Jeff Pettis, USDA Beltsville

SATURDAY, MARCH 15, 2003

Afternoon session 1:45 – 5:00 pm

Session A: 1:40 – 2:40 pm  (Workshops are not yet assigned to specific Sessions. Please consult your registration packet for the formalized schedule when you register at the meeting.)
Workshops and Activities Include:

*Assembling Bee Equipment* by the Rockingham County Beekeepers

*Rolled Candle Making* by the Rockingham County Beekeepers

*Making Candles using Molds* by Charles and Nancy Fleckenstein

*Getting a Better Understanding of Queen Introduction Techniques* by Dr. Wyatt Mangum, Mary Washington College

*Pollination Contracts, Pesticides, and Your Farmer: Protecting Your Hives* by Taylor Williams, Richmond County Extension Office

*Small Hive Beetle Control Alternatives* by Dr. Mike Hood, Clemson Univ.

*Tracheal Mites and Bee Diseases* by the NCDA&CS Bee Inspectors

*Varroa Mites, Bee Pests and Predators* by the NCDA&CS Bee Inspectors

*NC Master Beekeeper Program Written and Practical Exams* by NC Masters and Master Craftsman Beekeepers

5:00 pm  

**Adjourn until 2003 Summer Convention**

**Pesticide License Note:** one Friday afternoon short course topic ("Pesticides in the Hive: What you need to know"), and one of the workshops ("Pollination Contracts, Pesticides, and Your Farmer: Protecting Your Hives") will count as credits towards maintaining your NC Pesticide License. Each will count for 45 min of pesticide training hours.

**Friday night’s banquet** will be an all-you-can-eat buffet offering Barbecue Pork, Fried Chicken, Baked Beans, Green Beans, Potato Salad, Red Slaw, White Slaw, Dinner Rolls, Hush Puppies, Tea, Lemonade, and a Variety of Desserts.

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**2003 Calendar**

**February 22, 2003**
Georgia Beekeepers Spring Meeting  
Perry, Georgia

**March 14-15, 2003**
South Carolina/North Carolina Beekeepers Joint Spring Meeting  
Rockingham, North Carolina

**July 10-12, 2003**
South Carolina Beekeepers Summer Meeting  
Clemson, SC

**July 17-19, 2003**
North Carolina State Beekeepers Summer Meeting  
Elkin, NC

**August 4-8, 2003**
Eastern Apiculture Society Meeting  
Bowdoin College
Hotel Information and Special Beekeeper Rates:

Please make your hotel reservations by February 15, 2003.

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<th>Days Inn</th>
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Please mail your change of address to: News for SC Beekeepers, Tammy P. Morton, 113 Long Hall, Clemson University, Clemson, SC 29634-0365.

Name: ____________________________________________

Address: __________________________________________

County: ___________________________ Phone (_____ ) ____________