

BEEKEEPING NEWS

JULY, AUGUST, SEPTEMBER, 2009



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a local chapter of NORTH CAROLINA STATE BEEKEEPERS ASSOCIATION, INC.

Meetings & Programs

- **Tuesday, July 14, 7:00 p.m.** (covered dish meal)

Master Beekeeper Bob Cole, also an officer in the Eastern Apicultural Society and foreign aid work in beekeeping education will be our presenter. Bob has taught about bees overseas and will speak about beekeeping equipment from around the world.

- **Tuesday, August, 6:30 p.m.** (no meal)

OPEN DISCUSSION for all to participate in and ask questions. A panel of beekeeping experts will provide timely and applicable answers to all of your questions. We will also reserve some time for story telling. Stories are to include real life experiences of humor (or not) to share with others.

- **Tuesday, Sept. 8, 7:00 p.m.** (covered dish meal)

Dr. Thomas Johnson is a retired veterinarian who has taken up beekeeping as a hobby. He will be speaking about his interesting and enlightening views gained from talking to commercial beekeepers in Florida; plus some of the challenges that they are facing in beekeeping.

Articles of Interest



New Studies Reveal the Medicinal Benefits of Honey

Thursday, May 07, 2009 by: Sheryl Walters, citizen journalist

NaturalNews) For centuries honey had been known as nature's medicine. Both the Greeks and Egyptians used honey as one of their main healing tools, with the famous Greek thinker Aristotle saying that pale honey was "good as a salve for sore eyes and wounds". But despite its long history within the healing community honey is now seen as something of a fad, another money making scam from the natural health industry that actually has no medical benefits at all. But there are new studies being conducted that could see us all adding [honey](#) not to our toast, but back into our [medicine](#) cabinets.

Many of these studies have been aimed at one particular type of honey, Manuka Honey. Each beehive will produce a different type of honey depending on which flower the bees get their nectar from. Manuka honey comes from

the flower of the Manuka bush that is native to New Zealand and has been found to have amazing anti bacterial properties. Bandages are now being made that contain traces of Manuka honey; this helps stop the growth of harmful [bacteria](#) even when wounds are badly infected. The Manuka honey's amazing healing properties come from a chemical reaction that takes place while the honey is being made. This reaction produces hydrogen peroxide, which is a well known antiseptic. "Since Manuka Honey

is a natural ingredient, it has been found to have no negative side effects when used for medical purposes," says Frank Buonanotte, CEO of Honeymark International.



While Manuka honey aids healing another type of honey has been found to ease children's colds, sooth their chesty coughs and promote sleep. The Archives of Pediatrics and Adolescent Medicine recently published the results of a study that seemed to confirm this fact. The study included 105 children between the ages of 2 and 18. In a partially blind test some of the children were given buckwheat honey, some honey flavored syrup and some nothing. Short surveys filled in by the children's parents showed that when their children were given just a little bit of honey before bed they slept better and coughed less than when they took the syrup or nothing at all. "This is the first time honey has been actually proven as a treatment," says lead study author Dr. Ian Paul, a researcher at Penn State College of Medicine.

Research in to the healing properties of honey is ongoing, but with many bacteria now becoming immune to prescribed antibiotics honey is being seen by many as an amazing natural alternative. •

*Bees fly to the hive on the hotel rooftop.
Photo: The Fairmont Washington, D.C.*



Excerpts from: **The buzz about Colony Collapse Disorder** (May

07, 2009 -- Melynda Harrison, MSU News)

Montana State University graduate student Joanna Gress drove from Polson to Bozeman with 50,000 honeybees in her car at the end of April. "It's was a four hour drive with a lot of bees, but it's what I do for science," said the plant sciences doctoral student with a laugh.

Gress brought the bees to MSU to study a possible cause of, and develop a potential management strategy for, Colony Collapse Disorder (CCD). The bees were obtained with assistance from University of Montana professor Jerry Bromenshenk and his colleagues. Bromenshenk is one of the state's leading bee researchers and has been at the forefront of Montana research into possible causes of CCD.

..... *Nosema* spores have a tough resistant wall protecting them from conditions in the host and in the



environment. Conditions in the bees' intestines trigger the explosive release of spores and their contents into the cells of the host bee. The *Nosema* nuclei divide repeatedly inside the infected bee, producing organisms. Some of those organisms mature into spores, completing the lifecycle.

There is an antibiotic that kills the fungus in its active, reproducing state, but there is no known method of killing its spores. This is a problem for beekeepers. As they share combs among hives and use the same equipment to clean multiple hives they can inadvertently spread the spores, infecting other colonies.

..... Gress tested different compounds beekeepers could use to kill the *Nosema ceranae* spores and found that a 10 percent bleach solution worked the best. Beekeepers may be able to use it to clean their hives and equipment. "The great thing is that it is cheap and readily available," said Gress. "I don't know if you

can totally get rid of (the fungus). But, I think we can reduce it so that it's not interfering with honey production."

Nosema ceranae has replaced a related species of fungus-- *Nosema apis* -- that causes bee dysentery, but less death. Gress aims to determine whether *Nosema ceranae* is involved in CCD in the United States. "We are not sure what causes CCD in the U.S., but it is probably multifaceted," said Gress. "It's like a perfect storm of high levels of infection by the varroa mite (a parasite that feeds on bee blood and transmits bee viruses), poor nutrition due to pollinating crops with low nutritional value, and pesticide use."

Using microarray analysis, Lehmann and Gress will look at the gene expression of infected bees to see what genes are different between the bees infected with the two different *Nosema* species versus uninfected bees. Gress hopes the analysis will lead to clues that explain why *Nosema ceranae* is more virulent than *Nosema apis*. It may be that the fungus puts an increased stress on the bees, or it may be that it is more lethal because the bees cannot muster a strong immune response to it. "If the latter is the case then maybe we want to try and breed for greater resistance to *Nosema ceranae*," said Gress. "It's an important question to figure out in order to help beekeepers come up with a management strategy."...•

Washington Hotel Keeps Honeybees on Roof

Posted Jun 19th 2009 1:30PM by Sarah LeTrent

Some permanent hotel guests in the nation's capital are definitely causing a buzz. The Fairmont Washington, D.C. recently brought 105,000 Italian honeybees to their roof to make the sweetener for the hotel's restaurant, Juniper.

As "chief beekeepers," executive sous chef Ian Bens and executive pastry chef Aron Weber share the responsibilities of maintaining the three colonies -- Casa Bianca, Casa Bella and Casa Blanca.

So why bees? Weber tells Slashfood he got the idea when he visited the Fairmont Royal York in Toronto and saw their rooftop hives flourishing in an urban setting. The D.C. Fairmont already had an interior courtyard garden that produced fresh herbs and edible flowers like lavender, peppermint and rosemary, so the bees seemed like a logical step to further extend the chefs' ideology in keeping products as fresh and local as possible.

"I think it's just another idea of

doing something really good for the environment, something beyond the herb garden," Weber says.

So are beehives the newest trend in the locavore movement? Perhaps. Even the White House is getting in on the action, as they brought a beehive to the South Lawn earlier this year.

Bens and Weber hope to begin using the honey in their dishes this fall. Right now, their focus is to keep the colonies healthy so that they will be able to showcase their artisanal product at its full potential without rushing the process.

Once the honey does make its long-awaited debut at Juniper, don't expect to find it hidden in a dish somewhere.

"We really want a unique product -- keep it on its own," Weber says. "Let the real flavor shine through so you can taste what a local product tastes like."

Weber plans to serve the honey drizzled over the restaurant's cheese course and lemon sorbets. The hotel's lobby lounge also plans to feature the honey in a "beetini" cocktail.

<http://www.sciencedaily.com>

Cure For Honey Bee Colony Collapse?

*ScienceDaily (Apr. 14, 2009) — For the first time, scientists have isolated the parasite *Nosema ceranae* (Microsporidia) from professional apiaries suffering from honey bee colony depopulation syndrome. They then went on to treat the infection with complete success.*

In a study published in the new journal from the Society for Applied Microbiology: Environmental Microbiology Reports, scientists from Spain analysed two apiaries and found evidence of honey bee colony depopulation syndrome (also known as colony collapse disorder in the USA). **They found no evidence of any other cause of the disease (such as the Varroa destructor, IAPV or pesticides), other than infection with *Nosema ceranae*. The researchers then treated the infected surviving underpopulated colonies with the antibiotic drug, flumagillin and demonstrated complete recovery of all infected colonies.**

The loss of honey bees could have an enormous horticultural and economic impact worldwide. Honeybees are important pollinators of crops, fruit and wild flowers and are indispensable for a sustainable and profitable agriculture as well as for the maintenance of the non-agricultural ecosystem. Honeybees are attacked by numerous pathogens including viruses, bacteria, fungi and parasites.

For most of these diseases, the molecular pathogenesis is poorly understood,

hampering the development of new ways to prevent and combat honeybee diseases. So, any progress made in identifying causes and subsequent treatments of honey bee colony collapse is invaluable. There have been other hypothesis for colony collapse in Europe and the USA, but never has this bug been identified as the primary cause in professional apiaries.

"Now that we know one strain of parasite that could be responsible, we can look for signs of infection and treat any infected colonies before the infection spreads" said Dr Higes, principle researcher.

This finding could help prevent the continual decline in honey bee population which has recently been seen in Europe and the USA. •

Honey Bee Colony Losses In The US

Almost 30% From All Causes From September 2008 To April 2009

Science Daily Science News (May 22, 2009)

---Honey Bee Colony Losses nationwide were approximately 29 percent from all causes from September 2008 to April 2009, according to a survey conducted by the Apiary Inspectors of America (AIA) and the U.S. Department of Agriculture.

This is less than the overall losses of about 36 percent from 2007 to 2008, and about 32 percent from 2006 to 2007, that have been reported in similar surveys.

"While the drop in losses is encouraging, losses of this magnitude are economically unsustainable for commercial beekeeping," said Jeff Pettis, research leader of the Agricultural Research Service (ARS) Bee Research Laboratory in Beltsville, Md. ARS is USDA's principal intramural scientific research agency. The survey was conducted by Pettis; Dennis vanEngelsdorp, president of AIA; and Jerry Hayes, AIA past president.

About 26 percent of apiaries surveyed reported that some of their colonies died of colony collapse disorder (CCD), down from 36 percent of apiaries in 2007-2008. CCD is characterized by the sudden, complete absence of honey bees in a colony. The cause of CCD is still unknown.

As this was an interview-based survey, it is not possible to differentiate between verifiable cases of CCD and colonies lost as the result of other causes that share the "absence of dead bees" as a symptom.

However, among beekeepers that reported any colonies collapsing without the presence of dead bees, each lost an average of 32 percent of their colonies in 2008-2009, while apiaries that did not lose any bees with symptoms of CCD each lost an average of 26 percent of their colonies.

To strengthen the beekeeping industry, ARS recently began a five-year areawide research program to improve honey bee health, survivorship and pollination. Honey bee pollination is critical to agriculture, adding more than \$15 billion to the value of American crops each year.

The survey checked on about 20 percent of the country's 2.3 million colonies.

A complete analysis of the survey data will be published later this year. An abstract of the data is available on line at: <http://maarec.cas.psu.edu/pdfs/PrelimLosses2009.pdf> .



Scientists zero in on bee killers BY ALAN BJERGA, BLOOMBERG NEWS MARCH 13, 2009

Ron Spears, a California beekeeper, says he's breathing easier about his hives this year because the threat of honeybee extinction may be subsiding.

Beekeepers, or apiarists, are **investing more in food and cutting chemical** levels in hives to withstand colony collapse disorder, the malady that helped wipe out about a third of the U.S. commercial hives in the past two years, Spears said. Scientists are studying the honeybee genome and relationships involving nutrition, pesticides and mites to resolve the phenomenon's mystery.

This year's first, and biggest, test of honeybee capability to pollinate US\$15-billion annually of U.S. plants -- California's almond crop -- showed hive-health improvement, insect scientists and beekeepers said. The disorder, found in at least 35 states and Europe and Asia as well as in the plots of the animated comedy "The Simpsons" and the crime drama "CSI," isn't over, Spears said. Still, it seems more under control, he said.

"It's been three, four years since we've been able to say this, but there's been enough bees," Spears, who trucked half of his 20,000-bee colonies to the state's Central Valley this year to fertilize the tree nut, said in an interview in Bakersfield, California. He feeds his bees sugar-derived pollen substitute rather than corn syrup. "People are understanding you better take care of them," he said.

After its identification in 2006, the disorder -- in which seemingly healthy bees suddenly flee their hives and die -- helped destroy about **a third of all U.S. beehives** in 2007 and 2008, according to the Apiary Inspectors of America, a nonprofit organization. That's more than twice the normal rate of hive loss, said Dennis vanEngelsdorp, the group's president, in Harrisburg, Pennsylvania.

Seeking Explanation: The cause of the malady isn't known, said May Berenbaum, the head entomologist at the University of Illinois in Urbana.

Scientists studying the disorder say they are still learning how **nutrition, pesticides, viruses and mites** may be prompting the deaths of billions of bees. Researchers exploring the honeybee genome may be within weeks of another goal: publicly identifying a genetic marker that definitively identifies that collapse has occurred, Berenbaum said.

Effects of Drought: California, the nation's largest crop producer, is facing water shortages, and the drought is forcing farmers to cut almond acreage. The water conditions and the effects of the recession are reducing the need for honeybees for almond pollination.

Almond Production: Almonds, the most valuable U.S. tree nut at US\$2.2-billion in worth last year, need more bees than any other U.S. plant, enough to require about 1.3 million commercial beehives, more than half of all colonies, according to the USDA. That creates an annual ritual in which beekeepers truck hives thousands of miles to California's Central Valley, where almost all domestic and 80 percent of the world crop is grown, according to the Almond Board of California, a crop-promotion agency based in Modesto.

"So go the bees, so go the almonds," said John Replogle, chief executive officer of Durham, North Carolina-based Burt's Bees, which Clorox acquired in December 2007.

Rented Hives: Wegis and Young spend US\$175 to rent each hive, putting one or two on each of the 2,000 acres that they use to grow almonds. The cost is more than twice what they paid four years ago, Young said. Beekeepers are charging more, partly to make up the costs of improved bee diets, and farmers will pay extra for hives that are better cared for, said Joe Traynor, a regional broker who matches farmers with hives.

Scientists have settled on primary and secondary factors that explain the disorder, said Jeff Pettis, a USDA entomologist in Beltsville, Maryland.

Initial stresses include poor nutrition, mites, and pesticide exposure, he said. These combine with maladies such as the Israeli acute paralysis virus, which disorients bee brains, or nosema ceranae, a gut parasite that saps insect energy. The one-two punch sickens foraging worker bees and rapidly spreads through hives, he said.

Toxic Substances: The honeybee genome, completed in 2006, shows that bees are more vulnerable to mass infection than first suspected, having about half of the genes used to fight toxic substances that insects such as fruit flies have, Berenbaum said. Pesticide accumulations inside hives may create a "sick-building syndrome for honeybees," Berenbaum said.

A key to understanding and potentially solving colony collapse disorder will be a genetic test to ensure the phenomenon is consistently reported, said Berenbaum, the Illinois entomologist. Currently the malady is identified and reported by beekeepers themselves. That impedes data collection because apiarists may be inaccurately blaming dead hives on the disorder, Eischen said.

Once researchers find a marker to diagnose the disorder, they may be able to determine what interactions are creating the malady, she said.

"There has been more learned about bees in the past two years than in the previous 20," Berenbaum said.

Original article is quite long & has been abbreviated by editor.





Exerpts: Bees' sweet yearnings produce blue honey

By Chick Jacobs, Staff writer

Beekeepers know blue honey is something special

PINEHURST -- No one is quite sure when. No one is quite sure where. And after decades of studying, experts still disagree on why. But almost every year, somewhere in the Sandhills of North Carolina, a few lucky beekeepers strike blue gold.

When they pry open the boxy, buzzing hives in a few weeks, their sticky sweet harvest will have a distinct azure tint: blue honey, colored by nature's whim and the bees' hunger. "It's real surprising the first time you see it," said Sanford Toole, who owns hives that have produced blue honey in the past few years. He is a Pinehurst resident and president of the Moore County Beekeepers Association. "The first time, you wonder what you did wrong. But after a little research, you discover it's not something wrong: It's something special."

The honey's secret is unlocked in its flavor. After the overpowering sweetness of honey bum-rushes your taste buds, let it linger for just a few seconds. There, along the back of your tongue, you begin to sense something familiar. Something fruity. Something like blueberries.

Blue honey, it seems, is the product of a bee's sweet tooth and an abundance of wild berries. In this case, it's huckleberries, a distant wild cousin of the blueberry. "Before they built up so much of Moore County, this land was covered in huckleberries," Sanford Toole said. "They love the acidic soil under the pines and grow wild." They also give the honey its hue, from a vivacious blue to nearly East Carolina purple.

Some years, it seems to disappear. When it does show up, it's most likely in a triangle-shaped area stretching from Lee and Harnett County, skirting Cumberland and across Hoke and Moore to Scotland. "I've heard of it showing up as far south as Columbus County, but generally this is the area you find it," said Ellis Hardison.

Ultimately, it seems the honey rests in the bees' choice of nutrition. Generally, a bee would rather gather the intense, nutrient-rich nectar from a flower than slum among fallen fruit. That sort of behavior is better suited to wasps and yellow jackets.

"Bees have preferences, like people," said Kevin Toole. At age 17, the Pinehurst teen is the state's youngest master beekeeper. Two years ago, he found his first hive of blue

honey. The preferred flowers of area bees, poplar tulip, clover and sourwood, were in short supply because of drought. "It had been a bad year for the bees' normal forage," he said. "It was so dry, there weren't many flowers." So the bees began gathering any nutrients they could - including juice from wild huckleberries.

The honey commands a price roughly double that of regular honey, running from \$6 to \$10 for a 6-ounce jar. Novelty plays a role in its popularity. Some natural food stores tout added health benefits, and in-state pride doesn't hurt. But Sanford Toole said the best reason to have the honey on hand is to savor its complex flavor.

"This isn't a honey you want to cook with," Sanford said. "This is like sippin' whiskey. You take a little on the porch and linger with it."

Staff writer Chick Jacobs can be reached at 486-3515 or jacobsc@fayobserver.com



this photo did not accompany previous article but does seem to fit.

Note to Members: There are so many good articles available that I did have to force myself to finally stop. With only one newsletter per quarter you don't have to read it all at once. Feel free to contact me with experiences you have with your bees which you would agree to share with other members. Norman

- Don Hopkins, State Inspector: (336) 376-8250
- Guilford County Beekeepers Association web site www.guilfordbeekeepers.org
- North Carolina State Beekeepers Association www.ncbeekeepers.org



Guilford County Beekeepers Association

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