GUILFORD COUNTY BEE KEEPERS ASSOCIATION

BEEKEEPING NEWS

Janurary, Februray, March 2012

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

Meetings & Programs

TUESDAY, January 10, 6:30 p.m. (covered dish meal)

Karen C. Neill, Agricultural Extension Agent with the Guilford County Center of the North Carolina Cooperative Extension will be giving a presentation on planting for honey bees and pollinators.

TUESDAY, February 14th, 7:00 p.m. (no meal)

We are planning to replay Dr. David Tarpy's January 19th webinar, "Coming Out of Winter." It is designed to provide information about how to have strong and healthy hives for the spring build-up and nectar flow.

Tuesday, March 13, 6:30 p.m. (covered dish meal)

Dr. Olav Rueppell, Associate Professor, Department of Biology, UNCG, and GCBA member, will be giving an "Update on UNCG's Honeybee Research Program".

Articles of interest

HONEY CROPS AND MARKETS

Wednesday, 20 July 2011 12:20 Written by Horacio Mezziga Corresponds to the month of july, 2011

United States of America: The USDA and Apiary Inspectors of America colony loss survey indicates a 30% colony loss during the winter of 2010/2011. According to their news release, this is roughly similar to total losses reported in similar surveys done in the four previous years: 34 percent for the 2009/2010 winter, 29 percent for 2008/2009, 36 percent for 2007/2008, and 32 percent for 2006/2007. "The lack of increase in losses is marginally encouraging in the sense that the problem does not appear to be getting worse for honey bees and beekeepers," said Jeff Pettis, head of the USDA's Beltsville, Maryland Bee Disease Laboratory. "But continued losses of this size put tremendous pressure on the economic sustainability of commercial beekeeping," Pettis says.

www.foodsafetynews.com

a more detailed version of this story at same web site: google the following headline

Tests Show Most Store Honey Isn't Honey

Ultra-filtering Removes Pollen, Hides Honey Origins

BY **ANDREW SCHNEIDER** | NOV 07, 2011

Food Safety News - Breaking News for Everyone's Consumption

FOOD POLICY & LAW

Top Pollen Detective Finds Honey a Sticky Business

Vaughn Bryant, professor of anthropology and director of Texas A&M's Palynoloy Laboratory, one of the nation's top pollen experts, tested dozens of samples of honey purchased in scores of outlets in 10 states and the District of Columbia. © Food Safety News

COLLEGE STATION, Texas - Vaughn Bryant peered through the eye piece of his microscope, making infinitesimally small adjustments on the position of the slide beneath the lens. "Nothing," he said, and switched the slide for another."Again, nothing," he said after about 40 seconds, and substituted another glass slide with a smudge in its center.

"OK. We've got clover. Some nice cherry, plum and rose."

Moving the slide a bit, the professor of anthropology and director of Texas A&M's palynology research laboratory added:"I see some blackberry, a couple of birch. Looks like a good Northwest collection."

Bryant was not looking at the makings of a dessert or a salad. He was analyzing some of the more than 60 samples of honey that Food Safety News bought in grocery stores, at farmers markets and in big box, natural food and drug stores across the country.

The results of Bryant's analysis, which Food Safety News paid for, found that more than 75 percent of honey sold in the U.S. has had its pollen filtered out.

The food safety divisions of the World Health Organization, the European Commission and dozens of others have ruled that without pollen there is no way to determine whether the honey came from legitimate and safe sources.

Food Safety News asked Bryant to look for pollen because that's what palynologists do. But Bryant is also a melissopalynologist, which means he also specializes in the study of pollen in honey.

The professor entered the sticky world of honey in 1976, when he was asked by the Office of Inspector General of the U.S.Department of Agriculture to examine domestic honey purchased by the federal government as part of its farm subsidy program, so U.S. beekeepers would have a stable outlet for their honey.

He refined the analytical protocol he would use as he went along, diluting small amounts of honey, then washing them in various acids, some very volatile. Then he heated, washed, centrifuged, rewashed, treated with more acid, heated and centrifuged them one last time. The acids destroys everything in the honey but pollen.

He inspected a wide range of government-supplied samples and, in 94 percent of the cases, found pollen that was linked to nectar sources from the U.S. But 6 percent of the samples showed that foreign honey, mostly from Mexico's Yucatan Peninsula, was being sold back to the government fraudulently.

Today, half of Bryant's work involves forensic pollen studies; another 25 percent involves archaeological sites and the rest is pure pollen and honey research.

There are 250,000 different plants just in the United States that can be used by a honey bee, Bryant said. He can easily identify hundreds of the more common pollens on sight. In his lab, two walls are covered with huge charts of enlarged grains of pollen. In the next room, another wall holds cabinets that contain a $2 million collection of slide-out trays cataloguing 20,000 modern pollen samples from around the world, mostly donated by oil companies.

Since much of his work may involve honey products transshipped from China he has worked hard to get samples and reference material on Asia honey and pollen.

"So I've got every Chinese pollen book that I can get my hands on that shows me the pollen types that exist in China and neighboring countries, such as Vietnam, Cambodia, Indonesia and Taiwan," he said.

This type of pollen analysis at the few labs in Europe that offer it can run $1,200 per sample or more according to honey packers who use the service. Bryant often charges far less than $100 for his basic pollen identification. That's "barely enough to cover chemicals and supplies," especially when he's doing it as a service for mom-and-pop-sized beekeepers and honey packers, he said.

His customers are honey importers who want to know whether they're really getting what they're paying for from foreign suppliers and beekeepers who send him samples, so they can track what their bees are harvesting and what they can accurately say on their honey's labels.

The 71-year-old professor also does forensic work for several federal investigatory agencies mostly involved with anti-terrorism and anti-smuggling efforts. He refuses to discuss any of this work for those clients.

"I am concerned about the import of unsafe products and about the government's apparent apathy towards trying to put a stop to the illegal importation of honey," Bryant said.

"I feel my efforts are helping to fight this battle."

Sometimes his pollen analyses are just fun.

Bryant was asked to analyze the honey produced and served by the White House to determine where the bees are sourcing their pollen. Bryant concluded that the White House honey is classified as a unifloral clover honey, but also contains minor amounts of nectar from other nearby sources, including dogwoods, honeysuckles and magnolia.

Pollen and history About 70 years ago, before radio-carbon dating, Bryant explained, archaeologists were originally using pollen collected from their artifacts to attempt to confirm the age of their discoveries. Geologists started collecting fossil pollen from deep underground looking for sediment in various strata, dried up lake beds and other geological sites that have repeatedly been shown to be likely sites of oil and gas reserves.

Pollen specialists have been recruited by leading museums and art galleries to authenticate the source of furniture, painting and sculptures.

One of the earliest well-publicized studies was of the microscopic grains of pollen collected from the Shroud of Turin in the mid-70s by botanist and Swiss criminologist Max Frei. Frei's analysis had identified pollen spores of 58 different plants, many that originated only in and around the site of the crucifixion.

Forensic palynology - the identification of ancient and modern pollen to solve crimes - developed slowly.

One of the earliest cases of using technology to catch a criminal was in 1959, when Austrian police tried to tie a suspect to a man reported missing while on a trip along the Danube River, Bryant said.

The missing man's body had not been recovered but police believed the suspect had a motive for the crime. Mud found on the suspect's boots was analyzed by a palynologist from the University of Vienna. He identified several common tree pollens but also a unique fossil grain of hickory -- a precise mixture of pollen that was only found in one small area along the Danube. The revelation of

this information by police so spooked the suspect that he confessed and showed police where he had buried the body.

Scientific and criminology journals show that detection and identification of pollen has been used in cases ranging from kidnapping, rape, homicide, smuggling, counterfeiting, wildlife violations, terrorism and a litany of other themes in waiting-to-be-written crime novels.

Bryant continues to run his mostly one-person CSI operation but he says the government needs to do more.

"We must get our government to test samples -- not just the paperwork on imported honey - but actually look at the honey itself," he said.

This chart is from the National Honey Board web site <honey.com>

Honey Industry Resources

Information, Reporting, Materials

Descriptions of Economic Adulteration Testing Procedures

In the search for analytical testing labs, one option is to search by Economic Adulteration Testing Procedures provided. Here is a brief description of procedures, by the acronyms listed in the search form.

Go back to the Analytical Labs search page.

PROCEDURE NAME	EXPANDED NAME	DETECTS
SCIRA	13C/12C, 13C, C-13, Carbon SIRA, Carbon Ratio, Isotope Test, Isotope Ratio Test, SCIRA, SIRA or Stable Isotope Ratio Analysis	Used to detect conventional corn syrup, HFCS, cane invert syrup, medium cane invert syrup and cane sucrose. Results are reported in parts per thousand.
ISCIRA	Internal Standard for SCIRA, Internal Standard Isotope Ratio Test, ISIRA, Protein Test or SCIRA on the Protein	Used with SCIRA to confirm the detection of conventional corn syrup, HFCS, cane invert syrup, medium cane invert syrup and cane sucrose.
SUGAR PROFILE	Compositional Analysis, Carbohydrate Analysis, or Simple Sugars	Used as a general indicator for conventional corn syrup, starch syrups, medium cane invert syrup, medium beet invert syrup, cane sucrose and beet sucrose. Additional tests are needed to judge authenticity.
HMF	Hydroxymethylfurfural	Used in conjunction with other tests to screen for cane invert syrup, beet invert syrup, medium cane invert syrup, and medium beet invert syrup that have been manufactured by acid inversion.
CGC	Capillary Gas Chromatography with Flame Ionization Detection: Cap GC, Capillary GC or CGC-FID	Used to detect cane invert syrup, beet invert syrup, medium came invert syrup and medium beet invert syrup.
HPLC-PAD	High Performance Liquid Chromatography with Pulsed Amperometric Detection	Used to detect HFCS, cane invert syrup, beet invert syrup, medium cane invert syrup and medium beet invert syrup.
TLC	Thin Layer Chromatography	Used to screen for conventional corn syrup, HFCS and starch syrups.
BOUND GALACTOSE	Glucose Oxidase Test	Used to screen for beet invert syrup, medium beet invert syrup and beet sucrose.

Go back to the Analytical Labs search page.

How to Test for Pure Honey

How can we differentiate 100% pure honey and adulterated honey?

This web site is titled <benefits of honey.com> has no individuals signature or other credentials but does address issues without apparent bias! They don't seem to take a side but you may want to check it out....editor

There is a rising number of visitors to Benefits of Honey writing to me and asking this question. Unfortunately, I don't really have a clear answer to this, but would like to share my experience and thoughts about this issue from a honey consumer perspective.

The term "adulterated honey" implies that the honey has been added glucose, dextrose, molasses, corn syrup, sugar syrup, invert sugar, flour, starch, or any other similar product, other than the floral nectar gathered, processed, and stored in the comb by honey bees. Legal standards and requirements for foods, including honey quality and tests for honey adulteration vary widely amongst countries and some may not meet the wish of every consumer around the world.

Personally, when selecting honey in the shop, I think it's almost impossible to tell the bad from the good by just looking at the honey content through the bottle or studying its food and nutrition labels. My take is always -- go for the trusted or more known brands. We all know that a pure honey label doesn't guarantee at all that it is not diluted with water and further sweetened with corn syrup; it just promises that there is real

pure honey inside, with no suggestion of its amount. The law does not require a pure honey label to say how much pure honey is in the bottle. .....

A common misconception is that granulated or crystillized honey is proof of adulteration with sugar water. The truth is honey is a supersaturated sugar solution and can granulate whether or not it has been adulterated, so crystallization is normal, especially in temperate climates. Furthermore, some honey from certain floral sources is especially prone to crystallization. Buying honey in the comb is one way to assure ourselves of a quality product. Comb honey is sealed in the hive by the bees; therefore consumers can be confident that the honey has not been adulterated with sugar water. However, to boost honey production, some beekeepers feed their bees with sugar syrup so that the bees can convert the syrup to honey. Do such practices have any implications on why some honey appears to be very clear and runny, just like syrup?

Another test that is commonly discussed over the internet is the flame test which involves lighting up a cotton bud dipped into the honey with a match-stick flame. /// not conclusive.

There,s another simple way which I have tried to verify the purity of honey: Observe how liquid honey comes down into a glass of water. Pure honey does not immediately dissolve in water; you will notice that it takes a bit of effort to stir it in the water to dissolve the lumpy bits, whereas sugar tends to dissolve easily in a jiggery as you drop them into the water. However, test result is sometimes not that clear .....

Hence, it's hard to be really absolutely sure about honey authenticity, unless from home you can perform scientific laboratory test like spectroscopy, a method that uses the principle of interaction of light with mater to differentiate substances or conduct carbon isotope ratios analysis to determine if sugars were added to the honey (don't bother if these jargons sound totally bizarre; as a consumer, I am not familiar with them either). Nevertheless, from all the verification ways that are discussed above (labels, pouring, dissolving honey, etc) if you have reasons to suspect that the honey is diluted and corn syrup has been added, my stance is - stay away...

Research offers clues to bee disorder

StarNews ON LINE

By Barry Harris

Contributed article

Published: Wednesday, November 30, 2011 at 12:30 a.m.

WILMINGTON NC A recent local honeybee experiment has yielded potentially valuable results that may help beekeepers worldwide. The experiment was conducted by Silver Spoon Apiaries, a local commercial honeybee enterprise owned and operated by Barry and Jill Harris.

North Carolina farmers hire commercial beekeepers to provide essential pollination for many crops such as apples, berries, and cucurbits plants such as melons, cucumbers, etc.

The vast majority of North Carolina honey is produced by commercial beekeepers. Despite its essential contribution to the state's economy, commercial beekeeping has declined dramatically since the 1960s as a variety of factors have affected its economic viability.

One of these factors is a steady stream of new, imported honeybee pests and diseases that have dramatically impacted the health of bees since the mid-1980s. The most recent of these problems is Nosema ceranae, which can be thought of as the honeybee version of severe dysentery.

Recent research suggests that N. ceranae may be a significant factor in colony collapse disorder, the mysterious "disappearing bees" syndrome that has garnered so much media attention over the last several years.

Although N. ceranae peaks in the hottest part of the summer, its effects are most noticed in dramatically reduced winter survival of honeybee colonies.

Southern commercial beekeepers must rapidly build up colonies used to replace winter losses in order to have them at full strength in time for pollination work and honey production.

The results of the recent experiment suggest that replacement colony buildup can be dramatically accelerated by adjusting the bees' feed, specifically the ratio of binomial and monomial sugars the bees receive.

A second experiment now under way seeks to determine whether the sugar makeup of the bees' winter stores can be adjusted to improve winter colony survival and lower the incidence of N. ceranae.

Dr. David Tarpy, the extension entomologist at N.C. State University, is the primary academic cooperator for both experiments. A robust outreach program is planned to disseminate the experiment results.

To date, funding has come from Silver Spoon, a Southern S.A.R.E. grant, private donations, and donations from Mann Lake Ltd. of Hackensack, Minn., Mount Olive Pickle Co., and Atlantic Sweeteners of Fort Mill, S.C., and Charlotte.

Silver Spoon is seeking funding for the current experiment.

Anyone with questions about the experiments or who desires to make a donation should contact Barry Harris at 352-7868.

As Harris noted, he and his wife own Silver Spoon Apiaries.

The StarNews welcomes and will consider publishing Community News articles contributed by readers. They should be 400 words or less and accompanied by a high-quality photograph.

Contact Neighbors Editor **Si Cantwell** at 343-2364 or si.cantwell@starnewsonline.com.

ApiNews

FOOD POLITICS

Asian Honey, Banned in Europe, Is Flooding U.S. Grocery Shelves

FDA has the laws needed to keep adulterated honey off store shelves but does little, honey industry says.

BY **ANDREW SCHNEIDER** | AUG 15, 2011

A third or more of all the honey consumed in the U.S. is likely to have been smuggled in from China and may be tainted with illegal antibiotics and heavy metals. A **Food Safety News** investigation has documented that millions of pounds of honey banned as unsafe in dozens of countries are being imported and sold here in record quantities.

And the flow of Chinese honey continues despite assurances from the Food and Drug Administration and other federal officials that the hundreds of millions of pounds reaching store shelves were authentic and safe following the widespread arrests and convictions of major smugglers over the last two years.

Experts interviewed by **Food Safety News** say some of the largest and most long-established U.S. honey packers are knowingly buying mislabeled, transshipped or possibly altered honey so they can sell it cheaper than those companies who demand safety, quality and rigorously inspected honey.

"It's no secret that the honey smuggling is being driven by money, the desire to save a couple of pennies a pound," said Richard Adee, who is the Washington Legislative Chairman of the American Honey Producers Association.

"These big packers are still using imported honey of uncertain safety that they know is illegal because they know their chances of getting caught are slim," Adee said.

Food safety investigators from the European Union barred all shipments of honey from India because of the presence of lead and illegal animal antibiotics. Further, they found an even larger amount of honey apparently had been concocted without the help of bees, made from artificial sweeteners and then extensively filtered to remove any proof of contaminants or adulteration or indications of precisely where the honey actually originated.

An examination of international and government shipping tallies, customs documents and interviews with some of North America's top honey importers and brokers documented the rampant honey laundering and that a record amount of the Chinese honey was being purchased by major U.S. packers.

Food Safety News contacted Suebee Co-Op, the nation's oldest and largest honey packer and seller, for a response to these allegations and to learn where it gets its honey. The co-op did not respond to repeated calls and emails for comment. Calls and emails to other major honey sellers also were unreturned.

EU Won't Accept Honey from India

Much of this questionable honey was officially banned beginning June 2010 by the 27 countries of the European Union and others. But on this side of the ocean, the FDA checks few of the thousands of shipments arriving through 22 American ports each year.

According to FDA data, between January and June, just 24 honey shipments were stopped from entering the country. .....

Where Is Our Honey Coming From?

The U.S. consumes about 400 million pounds of honey a year - about 1.3 pounds a person. About 35 percent is consumed in homes, restaurants and institutions. The remaining 65 percent is bought by industry for use in cereals, baked goods, sauces, beverages and hundreds of different processed foods.

However, the USDA says U.S. beekeepers can only supply about a 48 percent of what's needed here. The remaining 52 percent comes from 41 other countries.

Import Genius, a private shipping intelligence service, searched its databases of all U.S. Customs import data for **Food Safety News** and provided a telling breakdown:

- The U.S. imported 208 million pounds of honey over the past 18 months.
- About 48 million pounds came from trusted and usually reliable suppliers in Argentina, Brazil, Canada, Uruguay and Mexico.
- Almost 60 percent of what was imported - 123 million pounds - came from Asian countries - traditional laundering points for Chinese honey. This included 45 million pounds from India alone.

"This should be a red flag to FDA and the federal investigators. India doesn't have anywhere near the capacity - enough bees - to produce 45 million pounds of honey. It has to come from China," said Adee, who also is a past president of the American Honey Producers Association.

Why Is Chinese Honey Considered Dangerous?

Chinese honeymakers began using various illegal methods to conceal the origin of their honey beginning in about 2001. That's when the U.S. Commerce Department imposed a stiff tariff - as much as $1.20 a pound -- on Chinese honey to dissuade that country from dumping its dirt-cheap product on the American market and forcing hundreds of U.S. beekeepers out of the business.

About the same time, Chinese beekeepers saw a bacterial epidemic of foulbrood disease race through their hives at wildfire speed, killing tens of millions of bees. They fought the disease with several Indian-made animal antibiotics, including chloramphenicol. Medical researchers found that children given chloramphenicol as an antibiotic are susceptible to DNA damage and carcinogenicity. Soon after, the FDA banned its presence in food.

"We need imported honey in this country. But, what we don't need is circumvented honey, honey that is mislabeled as to country of origin, honey that is contaminated with antibiotics or heavy metal," said Ronald Phipps, co-chairman of the International Committee for Promotion of Honey and Health and head of the major honey brokerage firm CPNA International.

Heavy Metal Contamination

The Chinese have many state-of-the-art processing plants but their beekeepers don't have the sophistication to match. There are tens of thousands of tiny operators spread from the Yangtze River and coastal Guangdong and Changbai to deep inland Qinghai province. The lead contamination in some honey has been attributed to these mom-and-pop vendors who use small, unlined, lead-soldered drums to collect and store the honey before it is collected by the brokers for processing.

The amount of chloramphenicol found in honey is miniscule. Nevertheless, public health experts say it can cause a severe, even fatal reaction -- aplastic anemia -- in about one out of 30,000 people.

European health authorities found lead in honey bought from India in early 2010. A year later, the Indian Export Inspection Council tested 362 samples of honey being exported and reported finding lead and at least two antibiotics in almost 23 percent of the test samples.

The discovery of lead in the honey presents a more serious health threat."The presence of heavy metals is a totally different story, because heavy metals are accumulative, they are absorbed by organs and are retained. This is especially hazardous for children," Phipps said.

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Why Hasn't Smuggling Stopped?

The massive honey laundering scams that plagued the U.S. for more than a decade - the transshipment of Chinese honey to a second country before being reshipped to the U.S. -- were presumably given a deathblow over the past two years.

During that period, Justice Department lawyers and Department of Homeland Security and FDA investigators launched a series of indictments and arrests of 23 German, Chinese, Taiwanese and American corporate officials and their nine international companies.

They were charged with conspiracy to smuggle more than $70 million worth of Chinese honey into the U.S. by falsely declaring that the honey originated from countries other than China. That allowed them to avoid paying stiff anti-dumping charges imposed on China.

Adee and others interviewed by **Food Safety News** say there are 12 major honey packers in the U.S. and four or five that are involved with the bulk of illegal trade.

"We know who they are," he said. "Everyone in the industry knows. If these packers are allowed to continue buying this possibly tainted but clearly illegal smuggled honey, the importers will always find a way to get it to them."

Editor's Note: Andrew Schneider, a two-time Pulitzer Prize-winning investigative reporter, writes for Food Safety News and The Food Watchdog.com

Our web site, www.guilfordbeekeepers.org is your source for local beekeeping information, questions, and answers. Sign up for our forum board and join the conversation!

- 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

A LOCAL CHAPTER OF THE NORTH CAROLINA STATE BEEKEEPERS ASSOCIATION

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