News For South Carolina Beekeepers

November 2011 **Vol. 22, No. 3**

LOCAL NEWS

SPRING MEETING. The South Carolina Beekeepers will host their 1-day spring meeting at the Blue Cross Blue Shield Building (address: 17 Technology Circle, Columbia) just off I-77 on Farrow Road, Columbia on Saturday, March 3, 2012. This is a new meeting site for our spring meeting which will provide plenty of parking and meeting space. The February 2012 "News for South Carolina Beekeepers" newsletter will give further details of this meeting. Make plans now to attend this meeting and bring along some of your beekeeper friends.

Our summer meeting is scheduled to be held at Clemson University on July 19-21, 2012. Plans now include a beginner level beekeeping short course and a queen rearing workshop for the small scale beekeeper to be offered concurrently on Thursday, the first day of the summer meeting. Mark your calendars now for this important summer meeting.

For our 2011 summer meeting at Clemson University, the Piedmont Beekeepers and the Oconee County Beekeepers tied for the "high attendance plaque" with each having 40 members present. They will share the plaque until the next summer meeting. Honorable mention was given to the Pickens County Beekeepers (29 present), the Midstate Beekeepers (28 present) and the York County Beekeepers (27 present).

Three honorary awards were presented at our South Carolina Beekeepers 2011 summer meeting in July. John Gardner of York County was selected to receive the "2011 South Carolina Beekeeper of the Year Award." John retired from Winn Dixie in 2001 and immediately became interested in beekeeping as a hobby. He contacted Clemson University extension agent Henry Nunnery, now retired, and became a member of the York County Beekeepers Association (YCBA). John completed the initial certification course in 2002 and was elected as the (YCBA) Vice President in 2004. When Charlie Johnson became President of the South Carolina Beekeepers (SCBA) in 2005, John assumed the duties of President. John was elected as President of the YCBA in 2006 and under his leadership a Journeyman beekeeper short course was offered and 12 beekeepers completed the course and became York County's first Journeyman beekeepers since the early 1990's.

According to John's letter of recommendation, it is not unusual for John to be in local schools, at the request of teachers, instructing students on the many aspects of beekeeping. Or, at a rotary club meeting with his observation hive showing members the intricate details of how the bees interact to produce their product. John is a community player at the state level as well. It is not unusual for him to promote and bring beekeepers to the SC State Beekeepers meeting every year. He keeps himself apprised of the state recommendations, events and overall atmosphere for South Carolina beekeepers. Last year in one of his presentations to the local master gardener meeting, a one-hour meeting turned into a 2-½ hour question and answer marathon.

Upon Charlie Johnson's departure from the YCBA, John assumed the responsibility for instructing the beginner level beekeepers short course. That first year he had 32 students complete the course. It is also worth mentioning that the field training at the end of the course was conducted at John's farm/bee yard. John and Sandra greeted students with hot biscuits & honey and coffee. That set the tone for a very productive day.

New and experienced beekeepers regularly consult with John and each one is rewarded with an honest answer and assistance in whatever action is necessary to remedy the situation. He is always ready and willing to act as a "bee buddy" for new beekeepers and also serves as a mentor to others.

John currently serves the YCBA as its Chaplain. In this new role he provides faith based counseling to our members, and has been a special blessing to our members who are battling serious illnesses.

He also serves as an ambassador of beekeeping to the wider part of our region via local parades! Unusual no doubt, but none the less by entering a float in parades in the greater Piedmont region John invites new beekeepers to join in plus, he spotlights honey bees and beekeeping to the citizens in our area.

This year brought on a new front for our local beekeepers in the form of "county government." Thankfully, John stepped up to serve on a 'political action' committee when local beekeeping in York County came under fire regarding a zoning ordinance that prohibits beekeeping in residential and conservation districts. He steadfastly represented beekeepers at large in the York area at each County Council Meeting

and was a calming influence to all parties involved. In that same vein, John helped a new beekeeper find a location then helped her move her hives to it, thereby preventing her from keeping bees illegally in York County.

In 2010, John accepted the invitation to be the **primary instructor** for the YCBA beginning beekeepers course and to serve as the **primary instructor** for the Cherokee County beginning beekeepers course, to be taught in Gaffney, SC. Without hesitation John accepted these challenges and as a result of his efforts, an updated curriculum, complete with training aids was developed. Knowledgeable instructors were recruited and subjects were taught in both counties and through his coordinating efforts a total of 62 students passed the final examination in March 2010.

John Gardner deserves to be recognized as South Carolina's beekeeper of the year. He is committed to improving his community by contributing his varied knowledge and skills to the education of school children, various community based groups and new or experienced beekeepers. He regularly contributes honey related products to our annual fundraising project, Earth Day Birthday celebration and 4-H Summer 'Bee School' Camp for children. He sells honey to family and friends from the management of about 20 hives of Italian honey bees. Between his various duties of running a successful beekeeping operation, his family life, his faith and the development of a training program for two (2) beekeeping associations is no easy task. But his steadfast communication, expertise and willingness to share are all proving points to John's accomplishments for our association and the beekeeping industry as a whole. In conclusion, John knows beekeeping; is a positive influence for beekeepers and serves as a role model for the entire community.

Congratulations John! Thanks for all you do to support beekeeping in South Carolina. Our hats are off to you and we gladly celebrate with you the honor of being selected the "Top Beekeeper in South Carolina for 2011." Keep up the good work!

George Dickert, Clemson University County Extension Agent in Spartanburg County, was selected to receive the "**2010 Extension Agent of the Year Award**." According to his letter of nomination, "George is deserving of this award for his assistance and encouragement during the first year of operation of the Spartanburg County Beekeepers Association. Although George had no beekeeping experience 14 months ago, he was instrumental in getting our association off the ground as he assisted the one person who was trying to resurrect the local beekeepers association. She reports that she could not and would not have succeeded without his help getting together the contact list, making contacts, and supporting us with his website, taking phone inquiries, etc.

George helps host our monthly meetings in Spartanburg, helping with set–up and clean-up. He also played a role in co-teaching our first Spartanburg County beekeeping course. In this role he was very effective as one of the organizers. He managed the registrations and class fees, researched the printing costs for the course manual and ensured Clemson compliance with the standards. He played an integral role in the weekly class meetings, and he taught the class on "Things Bees Collect." We understand this was received very well. George willingly sacrificed five Saturdays for the association's benefit to host this short course.

We feel that George has been an outstanding agent this year and should be recognized via this award. Our Spartanburg County Beekeepers Association and the association's Executive Board agree and also support this nomination of George Dickert for the Extension Agent of the Year for 2011."

Thanks George for all your efforts over the past year in support of honey bees and beekeeping in Spartanburg County and we hope that you will keep up the good work. Congratulations on receiving this award !

Congratulations to Billy Carson, a 14-year old from Oconee County, who was selected to receive the South Carolina **"Junior Beekeeper of the Year Award" for 2011.** Billy was nominated by the Oconee County Beekeepers Association who reported that he lives on a small family farm and has been interested in bees since he was 4 years old. He completed all requirements for the South Carolina Master Beekeeper Program certified level in spring of 2011 and is now a certified beekeeper. Billy has been a member of both the Oconee County Beekeepers Association and the South Carolina Beekeepers Association for the past 2 years.

According to his letter of recommendation for this award, Billy currently manages four honey bee colonies. It has been Billy's passion to get other youth involved in beekeeping, and he was extremely instrumental in getting six other families to attend the 2011 Beginner Beekeeping Course in Oconee County. In fact, it was due to his influence that the class was even offered this year. When the association saw the interest that Billy's friends had in beekeeping, they could not pass up the opportunity to offer the class. Shortly after the course, a group of Oconee County beekeepers donated an assortment of beekeeping materials to the children, and Billy organized a sanding, painting, observation, and harvest day at his family farm. With suits donned, Billy took several kids out to his hives and shared what was happening in the hives, bringing to life what they had learned in the classroom.

When Billy was 4 years old, he was first introduced to honey bees at the State Fair where he spent an hour watching bees in an observation hive. The fair booth attendant was very informative and explained all the details that a 4 year old boy could understand. After the

visit to the fair, Billy was hooked and he announced to his parents that he needed to get some honey bees. For the next 8 years, Billy pleaded for honey bees, every birthday, every Christmas, he asked for honey bees. Finally, when Billy was 12 years of age, his mother enrolled him in the beginner beekeeper short course at the Clemson Extension office in Walhalla.

In the spring of 2009, Billy received his first package of honey bees. He took great care in studying the books prior to their delivery so that he could be certain to place the hive in just the right place. He walked the property at different times of the day while he awaited his bees arrival to find just the right spot, not too much sun, not too much shade. He set the cinder blocks, used a level, and cleared the weeds. Sadly, his first colony was overtaken with small hive beetles and died. He realized he had placed them in too much shade and the beetles thrived. However, Billy was not deterred. He continued to educate himself on beekeeping, and after conferring with several experienced local beekeepers, he selected new sites and bought two more packages of bees in the spring of 2010. He was astonished to find that after 48 hours, one colony of his bees left their queen and moved in with the other colony! A month later, he captured his first bee swarm from that combined colony of bees. In July 2010, he harvested his first batch of honey. He took a jar of his honey to the Oconee County Beekeepers Association meeting where the honey was judged by Clyde McCall, and he received a 3rd place ribbon; and his picture with the other ribbon winners appeared in the local newspaper. He took several jars of his own honey to the local farmers market and sold them to help pay for new hive feeders he had his eyes on. Managing his bee colonies has been Billy's sole responsibility, without any help or prompting by his parents. After combing the catalogs, magazines, and books, Billy made a list of supplies he anticipated he would need to keep his bees healthy and parasite free, and then administered the treatments. His two colonies overwintered successfully, and with his passion growing ever stronger, he added two more colonies in the spring of 2011.

Billy has been a 4H member in Oconee County since 2007; his projects have included market meat goats, poultry, cooking, woodworking, photography, citizenship and farm animals. In the coming months, Billy has plans to organize a 4H Youth Beekeeping Club in Oconee County, take the home study course "Successful Queen Rearing" short course offered by the University of Minnesota, enter his honey in the SC State Fair, and sell his honey at the Clemson Farmers Market this summer.

We salute Billy Carson for all his beekeeping accomplishments and impressive plans for the future. We look forward to hearing more about this young man in the future and we congratulate him in receiving the award as "2011 Junior Beekeeper of the Year.

EDITORS NOTE: As a result of drastic cuts in the Clemson University Public Service Activities budget, there are no funds available to print and mail paper copies of this "News for South Carolina Beekeepers" newsletter. This newsletter will continue to be published in the same format, but it will be accessible in electronic form only. There are three avenues for you to access the newsletter which will continue to be published three times annually (February, June, and November). You may find the newsletters available on two websites, the SCBA website scstatebeekeepers.org or my website at Clemson University www.clemson.edu/extension/beekeepers/newsletters. The newsletter will be emailed to each local beekeepers association in the state through a designated person who will further distribute the newsletter to their membership. It is important that an accurate email listing of membership be maintained at the local level. This newsletter has now been published and mailed for 22 years to South Carolina beekeepers and I hope that you will continue to access and review it electronically.

BEE INFORMED

North Carolina State University will play a central role in a 5-year, $5 million U.S. Department of Agriculture effort to compile a nationwide honey bee database designed to make beekeepers more productive. Dr. David Tarpy, associate professor of entomology and North Carolina Cooperative Extension apiculturist in N.C. State's College of Agriculture and Life Sciences, will direct the North Carolina part of an effort that has been dubbed the Bee Informed Partnership.

The partnership is an effort "to fill a void at the national level in our ability to collect data and information about the managed honey bee population, " Tarpy said. The nationwide effort, which is being led by Penn State University, will involve entomologists around the country.

Tarpy explained that surprisingly little is known about the nation's honey bees, which play an indispensible role in pollinating many crops.

"Honey bees tend to fall between the cracks," Tarpy explained. "If you have a cow, you know it's there, and it's going to be there. With honey bees, you have a hive. All of a sudden next week, it can swarm, and then you have two hives, or you have half a hive. Or they (the bees) die out. And they get moved all across the country. It's much more of a fluid thing."

"That lack of information or the fuzziness of that information has hindered our ability to make strong concrete recommendations." The Bee Informed Partnership is designed to rectify this situation by creating a database that will contain information about all things related to honey bees. N.C. State's role in creating the database will be to try to get a handle on

important pathogens and parasites that afflict honey bees.

"There's no systematic mechanism to track patterns of disease and disease outbreaks (in honey bees)," Tarpy said. "That's what our component is going to do."

Project field teams will collect honey bees around the country, then ship them to N.C. State, where the bees will be analyzed for the presence of disease or parasites. What is learned about bee health at N.C. State along with a range of other information collected as part of the project will be compiled in a database that will be available to beekeepers and others through a website.

"A very large component of this initiative is to develop an infrastructure to take those data and turn them into useful information, and through a web conduit broadcast that information so that beekeepers can see where disease outbreaks are in real time so that they can make informed decisions (about their bees)," Tarpy said.

Tarpy added that the interactive website that is developed as part of the project should allow beekeepers to enter information about their bees – information, for example, about a parasite that is affecting their bees – then get back strategies for dealing with that parasite or other problem.

The website will provide beekeepers with the information they need to assess the risks and rewards of using various strategies to deal with a problem.

It is hoped that the project's educational efforts will introduce beekeepers to best management practices that will reduce national losses in honeybee populations by 50 percent over the next five years.

Project collaborators, in addition to N.C. State and Penn State, are the University of California-California Cooperative Extension, University of Illinois, University of Georgia, University of Tennessee, University of Minnesota, Appalachian State University, Lincoln University, the U.S. Department of Agriculture Agricultural Research Service, U.S. Department of Agriculture Animal and Plant Health Inspection Service, and the Florida Department of Agriculture. Written by: Dave Caldwell.

SOURCE: N.C. Cooperative Extension Service, Henderson County Center Bee Newsletter/Marvin Owings.

THE FLIGHT OF THE BUMBLE BEE: WHY ARE THEY DISAPPEARING?

By Dennis O'Brien
August 11, 2011

A U.S. Department of Agriculture (USDA) scientist is trying to learn what is causing the decline in bumble bee populations and also is searching for a species that can serve as the next generation of greenhouse pollinators.

Bumble bees, like honey bees, are important pollinators of native plants and are used to pollinate greenhouse crops like peppers and tomatoes. But colonies of *Bombus occidentalis* used for greenhouse pollination began to suffer from disease problems in the late 1990s and companies stopped rearing them. Populations of other bumble bee species are also believed to be in decline.

Entomologist James Strange is searching for solutions at the Agricultural Research Service (ARS) Pollinating Insects Biology, Management and Systematics Research Unit in Logan, Utah. ARS is USDA's chief intramural scientific research agency, and this research supports the USDA priority of improving agricultural sustainability.

Many greenhouse growers now use commercially produced *Bombus impatiens*, a generalist pollinator native to the Midwest and Eastern United States and Canada. But scientists are concerned about using a bee outside its native range, and some western states restrict the import and use of non-native bees. If *B. impatiens* were to escape and form wild colonies in the western United States, they could compete with native bees for food and resources and expose native bumble bees to pathogens they are ill equipped to combat.

Strange has been studying a pretty, orange-striped generalist named *Bombus huntii*, native to the western half of the country, that could be used in greenhouses in the western United States. He is determining how to best rear *B. huntii* in a laboratory setting, a vital step in commercializing it.

To understand the decline of *B. occidentalis*, Strange and his colleagues also have been tracking its habitat range and population trends. Evidence gathered so far shows that the range and populations of *B. occidentalis* have declined, that it is not as genetically diverse as it used to be, and that it has higher pathogen prevalence than other bee species with stable populations. The results were recently published in the Proceedings of the National Academy of Sciences.

The researchers also have assembled a large database with information on more than 80,000 *Bombus* specimens representing 10 species throughout the country, including *B. occidentalis*. With Geographic Information System (GIS) modeling technology, they were able to construct historic and current range maps of several bumble bee species. The mapping process is described in the Uludag Bee Journal.

Read more about this research in the August 2011 issue of Agricultural Research magazine.

SOURCE: ARS News Service.

STUDY SHOWS HOW HONEY BEE TOLERATES SOME PESTICIDES

Champaign, Ill. – A new study reveals how enzymes in the honey bee gut detoxify pesticides commonly used to kill mites in the honey bee hive. This is the first study to indicate the precise molecular mechanisms that allow a pollinating insect to tolerate exposure to these potentially deadly compounds.

The findings appear in the Proceedings of the National Academy of Sciences.

Previous studies have shown that honey bee hives are contaminated with an array of agricultural chemicals, many of which the bees themselves bring back to the hive in the form of contaminated pollen and nectar, said University of Illinois entomology professor and department head May Berenbaum, who led the new research.

“There are agricultural pesticides everywhere,” she said. “They accumulate in the wax of bee hives, so bees in particular are exposed. And their habit of foraging very broadly across a staggering diversity of plant species also tends to expose them to many different types of habitats, which may also have different types of chemical residues.”

Other chemicals are applied directly to the hives, she said. For the past 20 years, beekeepers have used acaricides – chemicals designed to kill mites but not bees – in the hive.

While evidence so far does not support the idea that exposure to synthetic pesticides is a cause or significant contributor to colony collapse disorder, the massive die-off of honey bees first reported in late 2006, “it’s abundantly clear that pesticides aren’t really very good for any insect,” Berenbaum said. “So we figures it was about time somebody knew something about how pollinators process toxins.”

The researchers focused on cytochrome P450s, enzymes that are well-known agents of detoxification “in most air-breathing organisms,” Berenbaum said. Other studies had shown that cytochrome P450s in honey bees play a key role in their tolerance of pyrethroid pesticides, such as tau-fluvalinate, which is used to kill mites in the hive. But no previous study had identified specific cytochrome P450s in bees or in other pollinating insects that contribute to pyrethroid tolerance, Berenbaum said.

In a series of experiments, the team identified three cytochrome P450s in the honey bee midgut that metabolize tau-fluvalinate. They discovered that these enzymes also detoxify coumaphos, a structurally different organophosphate pesticide that also is used to kill mites in bee hives.

“This suggests that these honey bee cytochrome P450s are not particularly specialized,” Berenbaum said. “That raises the possibility that a nontoxic dose of tau-fluvalinate may become toxic if any enzyme that is principally involved in its detoxification is otherwise occupied with a different chemical.”

The evidence also suggests that honey bees were “pre-adapted” to detoxify pyrethroid pesticides, Berenbaum said. Pyrethroids are similar in structure to naturally occurring defensive compounds, called pyrethrins, produced by some flowering plants. Honey bees have likely had a long history of contact with pyrethrins, which are found even in some flowers in the daisy family. It appears that they same enzymes that helped the honey bees detoxify the pyrethrins in nature may also help them tolerate this relatively new pesticide exposure.

The new findings should enhance efforts to develop mite control methods that are even less toxic to bees, Berenbaum said.

SOURCE: University of Illinois at Urbana-Champaign, July 20, 2011.

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

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. The agency declined to say how many loads are inspected and by whom.

However, during that same period, the U.S. Department of Agriculture reported that almost 43 million pounds of honey entered the U.S. Of that, the Department of Commerce said 37.7 million pounds came from India, the same honey that is banned in the EU because it contained animal medicine and lead and lacked the proper paperwork to prove it didn't come from China.

"There are still millions of pounds of transshipped Chinese honey coming in the U.S. and it's all coming now from India and Vietnam and everybody in the industry knows that," said Elise Gagnon, president of Odem International, a worldwide trading house that specializes in bulk raw honey.

The FDA says it has regulations prohibiting foods banned in other countries from entering the U.S. However, the agency said last month that it "would not know about honey that has been banned from other countries ..."

Adee called the FDA's response "absurd." He said the European ban against Indian honey is far from a secret.

"Why are we the dumping ground of the world for something that's banned in all these other countries?" asked Adee, who, with 80,000 bee colonies in five states, is the country's largest honey producer.

"We're supposed to have the world's safest food supply but we're letting in boatloads of this adulterated honey that all these other countries know is contaminated and FDA does nothing."

The food safety agency said it's doing the best it can with existing resources and will do more when the newly passed Food Safety Modernization Act is up and running.

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.

All the bans, health concerns and criticism of Indian honey hasn't slowed the country's shipping of honey to the U.S. and elsewhere. In February, India's beekeepers and its government agricultural experts said that because of weather and disease in some colonies, India's honey crop would be late and reduced by up to 40 percent.

Yet two months later, on April 15 in Ludhiana, officials of Kashmir Apiaries Exports and Little Bee Group, India's largest honey exporters, posed for newspaper photographers in front of "two full honey trains" carrying 180 20-foot cargo carriers with a record 8.8 million pounds of honey headed for the export ports.

"They're clearly transshipping honey from China and I can't believe that they are so brazen about it to put it right on the front page of a newspaper," honey producer Adee said.

Data received by FSN from an international broker in India on Friday showed that within the last month 16 shipments - more than 688,000 pounds - of honey went from the Chinese port of Nansha in Guangzhou China to Little Bee Honey in India. The U.S. gurus of international shipping documents - Import Genius - scanned its database and found that just last week six shipments of the honey went from Little Bee to the port of Los Angeles. The honey had the same identification numbers of the honey shipped from China.

Government investigators in the U.S. and Europe and customs brokers in India told FSN that previous successful criminal investigations had proven that the Chinese honey suppliers and their brokers are masterful at falsifying shipping documents.

Each of the shipments - whether from China or India - bore an identical FDA inspection number. However, FDA's Division of Import Operations did not respond to requests for information on how and where it issued that FDA number.

Food Safety News left several messages for the Little Bee Group to discuss the source of their honey and how they were breaking records when the rest of India's honey producers were months behind schedule. None of the phone messages or emails were returned.

Other major Indian honey exporters insist that India gets no honey from China. However, Liu Peng-fei and Li Hai-yan of the prestigious Chinese Academy of Agricultural Sciences disagree. In a scientific study of the impact the global financial crisis is having on China's honey industry, the apiculture scientists wrote that to avoid the "punitive import tariffs" Chinese enterprises "had to export to the United States via India or Malaysia in order to avoid high tariffs..."

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.

It was an impressive series of complex busts spanning three continents, and instant fodder for a great whodunit novel. But, according to some of North America's largest producers and importers of honey, the arrests bombed as a deterrent.

"There are still millions of pounds of transshipped Chinese honey coming into the U.S.A. and it's all coming now from India and Vietnam. Everybody in the industry knows that," said Odem International's Gagnon.

HOW DO THEY GET AWAY WITH IT?

When it comes to honey laundering, the crooks are always trying to stay one step ahead of the criminal investigators.

For example, when customs agents discovered that China usually shipped its honey in blue steel drums, the exporters quickly painted the drums green.

It took investigators a while to learn that often -- while the drums were in port or en route at sea -- the Chinese shuffled drum labels and phony paperwork showing country of origin as places that didn't have an onerous anti-dumping tariff. The Russian Honey Federation blew the whistle on the Chinese relabeling millions of pounds as coming from Russia.

After that scam became known, the felons then shipped Chinese honey to countries like Vietnam, Indonesia, Malaysia and even Australia. There the honey was repacked, authentic local documents were issued and the honey was shipped on to the U.S. or elsewhere.

Another favorite con among Chinese brokers was to mix sugar water, malt sweeteners, corn or rice syrup, jaggery, barley malt sweetener or other additives with a bit of actual honey. In recent years, many shippers have eliminated the honey completely and just use thickened, colored, natural or chemical sweeteners labeled as honey.

However, sophisticated analysis that will match the pollen in honey to flowers from a specific geographic region is available at just two or three laboratories around the world. There are also simpler, less expensive tests to detect the telltale presence of commercial sweeteners and other adulterants that are more readily available.

A laboratory in Bremen, Germany, founded a half century ago by German beekeepers, can accurately scan honey samples for flower pollen. There is only one expert in the U.S. known to analyze pollen in honey to determine where it was actually grown and that would be at the Palygnology Laboratory at Texas A&M. The lab was created and is run by Vaughn Bryant, a forensic palynologist and Professor of Anthropology.

Melissopalynology, or pollen analysis, has been used for years by geologists seeking evidence of ancient coastal areas - often sites of major oil deposits. Scientists tracing the origins of the Shroud of Turin have identified 61 different pollens on the cloth that could only have come from around Jerusalem.

Forensic scientists have used pollen identification to help solve murder, rapes, kidnapping and at least one espionage case. Now, at least in the labs in Texas and Germany, melissopalynologists use pollen to determine - with great accuracy - the geographic area where the bees foraged for the nectar.

"If they find, for example, pollen from flowers that grow in northern latitudes - like China - but it's found in honey ostensibly produced in tropical countries - like India, Vietnam, Malaysia and the like - you know something's rotten or illegal," said CPNA International's Phipps, who also produces a quarterly, international intelligence report that monitors the country-by-country supply of honey and everyone's exports.

To avoid detection by concerned purchasers or criminal investigators, some Chinese producers in state-of-the-art processing plants pump the alleged honey, heated and under high pressure, through elaborate ceramic filters. This ultra-filtration removes or conceals all floral fingerprints and indicators of added sweeteners or contaminants.

"The Chinese have refined methods of masking their contaminated product by ultra-filtration so their honey seems perfect. But it's not honey anymore. There's no color. There's no flavor. There's nothing. So you take this perfect product, which could be confused with honey, and you blend it with real Indian honey," Gagnon said.

"Everyone avoids tariffs because government agents cannot test to prove it's from China."

The FDA says it has sent a letter to industry stating that the agency does not consider ultra-filtered honey to be honey.

"We have not halted any importation of honey because we have yet to detect ultra-filtered honey. If we do detect ultra-filtered honey we will refuse entry," said FDA press officer Tamara Ward.

"FDA is just not looking" was the answer that most honey brokers offered. They added that the FDA doesn't want to find it because then the agency would have to test for it, something it is incapable of doing in its existing laboratories.

Honey experts worry that new technologies will make detection of adulterants even more difficult.

At June's conference of the Institute of Food Technologists in New Orleans, there were hundreds of Chinese vendors working in small clusters beneath bright red banners. They offered for sale almost any spice, food-processing substance or additives a food processor might want and promises of concocting anything else they could dream of. "All FDA approved," they emphasized to potential clients.

One salesman quickly jerked back his business card when a reporter pulled out a tape recorder to capture the man's promises offering a "nanoparticle sweetener for honey that cannot be detected."

DOES THE FDA CARE?

The U.S. Departments of Customs and Border Patrol and Immigration and Customs Enforcement have dollar and cents issues to worry about because hundreds of millions of dollars in unpaid taxes and anti-dumping tariffs on Chinese imports are circumvented by the honey laundering.

"These honey crimes are not a Republican or Democratic, Liberal or Conservative issue. The country is being ripped off of millions and millions," Phipps said.

Recent news releases by the border patrol and the FDA say they have developed an anti-smuggling strategy to identify and prevent smuggled foods from entering the United States and posing a threat to national security and consumer safety.

But at the field level, investigators with the two agencies and an agent with ICE's Commercial Fraud Unit said the cooperation is more on paper then in practice and that the FDA continues to be the weak link. They say the FDA either doesn't have the resources to properly do the job or is unwilling to commit them.

ICE and the border patrol can and do go after the honey launderers by enforcing the anti-dumping and tariff violation laws. But protecting consumers from dangerous honey, identifying it as adulterated and therefore illegal for importation, falls to the FDA. And many of its enforcement colleagues say the food safety agency doesn't see this as a priority.

A Justice Department lawyer told **Food Safety News** that the FDA has all the legal authority and obligation it needs to halt the importation of tainted honey. He cited two sections of the agency's regulations defining when food products are considered "adulterated."

The regulations say: "Food is adulterated if it bears or contains a poisonous or deleterious substance which may render it injurious to health" and "damage or inferiority has been concealed."

Those two factors pretty much sum up the health concerns that many have with the smuggled honey. But the honey industry and Congress can't get the FDA to even come up with a legal definition of what honey is.

Eight years ago, America's beekeepers and some honey packers petitioned FDA to issue an official definition of honey. Their concern was how to determine whether honey is bogus if there is no official standard to measure it against. The FDA did nothing.

Last Nov. 15, senators asked the food safety agency for the same thing. Again, nothing.

On Aug. 10, two members of the Senate Committee on Appropriations tried once more.

Sens. Kirsten Gillibrand (D-NY) and John Hoeven (R-ND) urged the FDA Commissioner Margaret Hamburg to issue the official definition.

Calling the lack of regulations "a food safety concern," Gillibrand said a national standard of identity for honey is needed "to prevent unscrupulous importers from flooding the market with misbranded honey products..."

An investigator in FDA's import section explained the agency's refusal to develop an official definition to FSN. "If we had an official description of honey then FDA would have to inspect everything we're importing to ensure it's legal. That's the last thing we want to do," he said, but would not allow his name to be used because he wasn't authorized to make public statements.

HOW DO YOU STOP THE ILLEGAL FLOW?

Gagnon and four other major players in the honey industry have formed a voluntary group called True Source Honey. They hope it will eventually expand into an international, industry-wide program to certify the origin and quality of honey.

"We need an origin traceability program, a professional audit of both the exporters and the packers so those buying and selling honey can ensure its authenticity and quality," said Gagnon, who is the group's vice chairman.

Meanwhile, it's rumored that the feds are increasing their surveillance of the large U.S. importers and not too soon, Adee and others say.

Adee likens the honey laundering to a huge auto chop shop, where the police occasionally arrest the low-level car thieves but others pop up to continue supplying the criminal operation, which authorities never go after.

"That's what's happening here," Adee explained. "ICE and the other investigators have arrested a handful of the middle men, the brokers who supply the honey packers, but haven't gone after the big operators buying the phony foreign honey."

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*

SOURCE: http://www.foodsafetynews.com/2011/08/honey-laundering

Calendar for 2011/2012

January 10-14, 2012 – American Beekeeping Federation annual conference, Las Vegas, Nevada

March 3, 2012 – SCBA Spring Meeting, Columbia, SC

July 19-21, 2012 – SCBA Summer Meeting, Clemson, SC

RECIPE CORNER

HONEY PUMPKIN PIE

- 2 eggs, slightly beaten
- 16-oz can of pumpkin
- 3/4 cup honey
- 1/2 tsp salt
- 1 tsp cinnamon
- 1/2 tsp ginger
- 1/8 tsp cloves
- 1 cup evaporated milk
- 9-inch unbaked pie shell

Prepare single pastry for a 9-inch pie pan. In a bowl, beat eggs slightly, then mix in the remaining ingredients. Pour into pastry-lined pie pan and bake at 425 degrees for 15 minutes. Reduce oven temperature to 350 degrees and bake 45 minutes longer or until pie is set or until knife inserted in center comes out clean. When cool, top with whipped cream.

SOURCE: http://www.honeyhillfarm.com/trivia.htm; Honey Hill Farm Favorite Recipes.

CRANBERRY ORANGE RELISH

- 2 large oranges
- 4 cups cranberries
- 1 ½ cups honey

Cut oranges into 8 pieces and remove seeds. Chop cranberries and oranges in food processor. Add honey; stir until thoroughly mixed. Make several hours before serving.

SOURCE: "From the Hive to the Table" Stanly County Beekeepers Honey Cookbook, 2002.

HONEY GLAZED WINTER SQUASH

- 2 lbs. winter squash
- 4 tablespoons honey
- 4 tablespoons butter
- 1 teaspoon fresh rosemary

Split your squash into half and remove the seeds. Cut the squash into ¼-inch slices; transfer the pieces into a bowl and add the 4 tablespoons of honey. Thoroughly coat the squash with the honey. Next place the slices in a shallow baking dish, overlapping them and drizzle the remainder of the honey from the bowl on top. Dot with butter and sprinkle with rosemary. Bake at 375° for about 40 minutes.

SOURCE: "From the Hive to the Table" Stanly County Beekeepers Honey Cookbook, 2002.

HONEY GLAZE FOR BAKED HAM

- 10- to 12-lb. fully cooked bone-in ham
- Whole cloves
- ½ cup honey
- ½ cup brown sugar
- 1 teaspoon dry mustard
- 1 tablespoon orange juice

Preheat oven to 325°. Place ham, fat side up, on rack in roasting pan. Insert meat thermometer in thickest part. Bake, uncovered, 2 hours. With sharp knife, remove skin, if any, then score fat into 1-inch diamonds; stude each with a clove. Combine honey, sugar, mustard and orange juice in 1-quart saucepan. Over medium heat, bring to a boil while stirring. Brush half of honey glaze over ham; bake 30 minutes. Brush with rest of glaze; bake 30 minutes until golden and thermometer reads 130°. Let stand 15-20 minutes before carving. Makes 18-20 servings.

SOURCE: "From the Hive to the Table" Stanly County Beekeepers Honey Cookbook, 2002.

HONEY MULLED CIDER

- 1 large lemon, cut in half
- 1 medium orange, cut in half
- 16 whole cloves
- 4 cups apple juice
- ½ cup honey
- 4 (2-inch) cinnamon sticks
- ¼ tsp. ground ginger

Cut 2 (1/4-inch thick) slices from each lemon and orange half. Insert whole cloves into slices; set aside. Squeeze juice from remainder of fruit halves into a medium non-reactive saucepan. Stir in apple juice and honey; mix well. Add cinnamon sticks, ginger and reserved fruit slices. Bring just to a boil over medium-high heat. Serve immediately in a heatproof serving bowl. Makes 6 servings.

SOURCE: "From the Hive to the Table" Stanly County Beekeepers Honey Cookbook, 2002.

Respectfully submitted,

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