



## Meetings & Programs

- **Tuesday, January 11, 6:30 p.m.** (covered dish meal) Buck Cochran, the Executive Director of Peace Haven Farm in Whitsett, NC will give a presentation about the history of the farm and for the plans to have it as a home for individuals with developmental and intellectual disabilities. One of the founders was a beekeeper and in addition to other activities, Peace Haven plans to have honey bees again.

- **Thursday, January 20, 7 p.m. our 2011 Beginner Beekeeping Course begins...pre-register.**

- **Tuesday, February 8, 7:00 p.m.** (no meal) State of the Club Meeting/Wooden Ware Choices. No featured speaker this month. We will be extending an invitation to members of the 2011 Beginner Beekeeping class to come and meet with club members and discuss equipment options and choices. We will have a variety of wooden ware and equipment at the meeting so that we "mentors" can pass on information about our likes and dislikes and the reasons we chose the equipment we use.

- **Tuesday, March 8, 6:30 p.m.** (covered dish meal) Either Will Hicks, one of our apiary inspectors, will give a presentation on a topic of his choice or Rob Jacobs will give a presentation on Building Alliances--Ideas For Giving Bee Presentations.

## Articles of Interest



### NCState Beekeepers Adopt Honey Standards

Written Dec 20, 2010

Contact: [Charles Heatherly](#)

North Carolina beekeepers moved a step closer to the adoption of a honey standard that would limit the abuses of honey sold in the state. During its Summer Meeting in China Grove, the NC State Beekeepers Association voted to adopt a State Honey Standard. Negotiations are now underway with the NC Department of Agriculture and Consumer Services for incorporating the proposed honey standard into its rules and procedures that govern food safety.

"This is one of the most exciting things our state beekeepers have done," said Jeanne Price, newly elected NCSBA President. Among other things, the standard defines honey as a honey bee product from plant nectar and prohibits any additives or adulteration if it is to be sold as honey. The country of origin must be identified. And if the honey is marketed from a specific floral source, such as the much acclaimed mountain sourwood, the honey must contain at least 51 percent nectar from that source. "A great deal more sourwood honey has been sold in North Carolina than has actually been produced here," said Dr. John Ambrose, NC State University Professor and former State Apiculturist. "We hope the adoption of this standard will remedy that situation."

For a complete list of standards check the NC State Beekeepers web site:

<http://www.ncbeekeepers.org>

## MedicineNet.com

### Sting the Pain Away

Bee venom therapy may give new hope to [arthritis](#) sufferers. By Charles Downey, WebMD Feature

Louise Chirasello of Brewster, New York, was suffering intractable pain from her two hip replacement operations. She tried to get relief from the strongest prescribed painkillers, and from physical therapy. But nothing worked. "I was so sore, you could not touch my hips without me crying out," says Chirasello. Then she heard about Lawrence Cohen, a doctor in Danbury, Conn., who treats terrible pain with the venom of ordinary honeybees. At first, Cohen gave the 84-year-old widow several injections of bee venom weekly, but eventually reduced the dose to one injection every two or three weeks. "Right after I got that first injection of bee venom, I left his office pain-free," Chirasello says. A year later, she is still free of pain and has needed no additional bee venom injections.

#### Unproven Results

Although bee venom therapy is largely an unproven technique, about 50 U.S. physicians report good results using the substance to treat not only pain but arthritic conditions, [multiple sclerosis](#), and other health woes. Other practitioners treat [high blood pressure](#), [asthma](#), hearing loss, and even [premenstrual syndrome](#) with bee venom. But evaluations of most U.S. medical treatments are based on double-blind studies -- where neither the subject nor researcher knows who is getting the real medicine or a placebo. Most reports about bee venom therapy are anecdotal. ... "It's very difficult to find a placebo substance that will mimic a bee venom injection or sting with its itching, redness, and swelling," says Kim.

#### Bee Venom Studied

Nonetheless, enough interest exists in apitherapy and its health claims that Georgetown University in Washington, D.C., has begun a one-year preliminary study of bee venom to treat multiple sclerosis -- a chronic, progressive, and often crippling neurological disorder. "Most of the 40 ingredients in bee venom have been identified," says Cohen. "Mellitin, an anti-inflammatory agent found in the venom, is one hundred times stronger than cortisone."

Bee venom also contains a substance known as adolapin, which is both anti-inflammatory and pain-blocking. Practitioners believe all the ingredients in bee venom work together to cause the body to release more natural healing compounds in its own defense. Bee venom is also said to increase blood circulation and reduce swelling.

#### Caution Needed

But some caution is necessary. Because one to five percent of the population is allergic to bee venom, apitherapy patients must first be tested. Moreover, the practitioner should have close at hand a bee sting kit which can remedy allergic reactions. ...



## BEE STING OF THE CORNEA

Wednesday, 01 December 2010 17:41 Written by Analia Manriquez

Work prepared by Maurício Vélez, Glória I Salazar and Patrícia Monsalve  
Mauricio Vélez, MD<sup>1</sup>, Gloria I. Salazar, MD<sup>2</sup>, Patricia Monsalve, MD<sup>2</sup>

### SUMMARY

Bee stings of the eye are uncommon entities and ocular reactions to the bee venom are wide, ranging from mild conjunctivitis to sudden vision loss. We present the case of a patient who suffered a bee sting of the cornea and the response to the poison components. We go through the bee venom properties, its actual treatment, and propose a new management alternative.

The corneal bee sting is a rare event and injuries associated with it can appear as penetrating, immunologic, or toxic presentations; or as a combination of all three mechanisms....

### CASE REPORT

A 60 year-old man, presented to cornea consultation, looking for improvement in his vision. As an important antecedent, the patient related having had a bee sting to the left eye 6 months before presentation. In the first centre where he was handled, he received an ocular surface wash and was prescribed with prophylactic antibiotics and corticosteroids (without detailed information about the medicines and their doses). Since then, he relates having lost visual acuity in that eye. Eye movements were clinically normal and intraocular pressure was 15 mm Hg in both eyes.

It was decided to perform a triple procedure including penetrating keratoplasty, cataract extraction and intraocular lens implantation, with successful evolution, achieving a non-corrected visual acuity of 20/100.

### DISCUSSION

.....Long-term management includes: refractive correction of the astigmatism generated by a corneal scar, penetrating keratoplasty when the scar compromises the visual axis directly or when there is corneal decompensation due to endothelial cell damage, and cataract surgery if required<sup>4</sup>.

In the reported case, we found a patient 6 months after a bee sting, who even without presenting stinger retention, suffered from complications associated with the toxic effect of the venom (corneal decompensation and cataract development) which required aggressive measures for correction (penetrating keratoplasty and cataract surgery). Our team work proposal is to perform early washing of the anterior chamber with balanced salt solution, associated with subconjunctival corticosteroid injection (ideally within the first 24 hours) and systemic treatment with methylprednisolone (500 mg intravenously every 6 hours during 3 days) to avoid the deleterious effects that poison can cause in the eye, and all the possible complications derived from there.

**More detailed data is on the web site. However, this is one experience you do not want to happen. Take preventive measures to protect your eyes. ndf**



Figure 1. Corneal aspect 6 months after the bee sting

## Honey Bees on Cocaine Change Ideas about the Insect Brain

by GAVIN HUDSON on JANUARY 1, 2009

in SCIENCE

By doping honey bees with cocaine, researchers at the University of Illinois have discovered evidence that the insect brain has a reward system.

The famous “waggle” dance of honey bees is a [complex language](#) that allows foraging bees to communicate the distance, direction and quality of a food source to the rest of the hive. The study showed that honey bees on cocaine tend to dance more, without relation to the quality of food or state of the hive. Given the effects of cocaine on people, hyperactivity may seem like a fairly obvious reaction. However, the implications of the study suggest something that has not been found before: a reward system in the insect brain. In previous studies, entomology and neuroscience professor Gene Robinson, who led the study on cocaine in bees, gave octopamine, a behaviour-altering chemical, to both social honey bees and solitary insects. The solitary insects responded by eating more. The honey bees ate less and danced more. That supported the conclusion that the waggle dance was an illustration of altruism in the insect world.



## EPA Can't Tell Difference Between "Beekeeper" and "Bee-killer"

By Michael van Baker Editor

First, how does "Environmental Dereliction Agency" sound? I feel like "Protection" is really giving people the wrong idea about the actual results of EPA regulation.

Second, I should warn you that if you continue reading, you'll be begin to wonder how we're all not dead yet. Thanks to Grist's Tom Philpott, I was just alerted to the [leaked EPA documents](#) that show the agency's fumbling approval of a broadly used, very toxic pesticide.

It's been on the market since 2003--bringing in \$262 million in sales in 2009 alone says Philpott--but a key study on the pesticide's safety was not produced until 2007. And now, EPA scientists have in essence repudiated that study's findings, though EPA officials didn't think the public needed to know that.

A little while ago, I went to see a documentary about Colony Collapse Disorder (CCD), [Colony](#), at the Northwest Film Forum. While it was really about beekeeping as a vanishing way of life, the film did track the efforts of David Mendes, the president of the American Beekeeping Federation, to lobby a German pesticide maker, [Bayer](#), into researching more carefully the impact of their product [Poncho \(clothianidin\)](#). Mendes' fixation on pesticides was surprising to me because the word was that [CCD was probably related to a fungus and viruses](#). (Mendes argues that if you poison people, we'll be more likely to pick up odd funguses and viruses, too.)

Bees come into contact with a lot: a [study on pesticide burden conducted across 23 states in 2007-08](#) found that:

Almost 60% of the 259 wax and 350 pollen samples contained at least one systemic pesticide, and over 47% had both in-hive acaricides fluralaner and coumaphos, and chlorothalonil, a widely-used fungicide. In bee pollen were found chlorothalonil at levels up to 99 ppm and the insecticides aldicarb, carbaryl, chlorpyrifos and imidacloprid, fungicides boscalid, captan and myclobutanil, and herbicide pendimethalin at 1 ppm levels.

For context, another [study analyzed bee deaths](#) over the same period, finding "A total loss of 35.8% of colonies was recorded; an increase of 11.4% compared to last year."

Beekeepers, naturally, would prefer to have had Bayer rule out the possibility of pesticide transmission from the beginning. But the EPA, feeling more grandly generous, gave Poncho a "conditional" permit in 2003 for use on canola, cereals, corn, sunflowers, and sugar beets, and gave them until December 2004 to produce a study showing that the systemic pesticide, known to be toxic to bees, would not be transmitted to bees in harmful amounts via pollen. Bayer got right on...applying for an extension.

This compound is toxic to honey bees. The persistence of residues and potential residual toxicity of Clothianidin in nectar and pollen suggests the possibility of chronic toxic risk to honey bee larvae and the eventual instability of the hive.

And again: Acute toxicity studies to honey bees show that clothianidin is highly toxic on both a contact and an oral basis. Although EFED does not conduct RQ based risk assessments on non-target insects, information from standard tests and field studies, as well as incident reports involving other neonicotinoids insecticides (e.g., imidacloprid) suggest the potential for long term toxic risk to honey bees and other beneficial insects. An incident in Germany already illustrated the toxicity of clothianidin to honey bees when allowed to drift off-site from treated seed during planting.

(And just in case you're feeling unsympathetic to bees: "The major risk concerns are with aquatic free-swimming and benthic invertebrates, terrestrial invertebrates, birds, and mammals." You know who's a mammal? You.)

The Pesticide Action Network and Beyond Pesticides--along with beekeepers--feel like this should be enough to [pressure the EPA to ban clothianidin](#). Europe has been moving more swiftly in this area, despite Bayer being a German company, but enjoy this [wonderfully qualified statement on the EPA site](#): "To EPA's knowledge, none of the incidents that led to suspensions have been associated with [Colony Collapse Disorder](#)."

And finally, beekeeper Tom Theobald urges you to remember the big picture: "In an apparent rush to get products to the market, chemicals have been routinely granted 'conditional' registrations. Of 94 pesticide active ingredients released since 1997, 70% have been given conditional registrations, with unanswered questions of unknown magnitude."

### THE GOVERNMENT ALLOWED PESTICIDES THAT KILL THE BEES, SHOWS LEAKED DOCUMENTS

Wednesday, 15 December 2010

An internal EPA memo released Wednesday confirms that the very agency charged with protecting the environment is ignoring the warnings of its own scientists about clothianidin, a pesticide from which Bayer racked up (about \$262 million) in sales in 2009. Clothianidin has been widely used on corn, the largest U.S. crop, since 2003. Suppliers sell seeds pre-treated with it. Like other members of the neonicotinoid family of pesticides, clothianidin gets "taken up by a plant's vascular system and expressed through pollen and nectar," according to Pesticide Action Network of North America (PANNA), which leaked the document along with Beyond Pesticides.

# How Do Honey Bees Survive Winter?

the beekeeper

How cold-blooded insects manage to stay warm through the cold season.

November 5, 2010 at 8:16am by Kim Flottum

<http://www.thedailygreen.com/environmental-news/blogs/bees/honey-bees-winter-1101#ixzz19cF9072b>

Right now beekeepers are getting their bees ready to handle winter. Insects are cold blooded, so their body temperature reflects the ambient temperature. If they become too cold they lose the ability to move their muscles, quit breathing and die. Too cold is below 50 F. So how do cold blooded insects stay warm? Good question.

First, bees are furry. And that fur keeps air from just rushing by. It provides a dead air space that insulates them. And when two bees get close together they have more dead air space and if 15 or 50 or 5000 bees give a group hug they can all stay a bit warmer for even longer, using all that fuzz as an insulator to keep warm air in. But that only works until there's no more warm air to hold. What then? Well, just for a moment, slide out of your chair and give me 20 pushups. Quick. No loafing. Go ahead, I'll wait.

Your doctor would approve certainly, but don't you feel warmer? Work up a sweat? Warm to the touch? Well that's what bees do. They exercise to stay warm. But if everybody was running around, doing pushups and sit ups and jogging in place it would be a mad house inside a beehive, and they would use up an awful lot of energy. But what they do is quite clever. First, they huddle together in a ball. Remember that to bees, the vertical surfaces of the frames inside a hive act as the floor. That's where they stand and sit and live. The first photo shows how the frames are arranged in a hive, and what a "surface" looks like when a frame is removed. The vertical "surface" is really the floor the bees live on.



But that floor is full of holes, and in those holes, what beekeepers call cells, are where the bees store their honey and pollen, and raise their young. The second photo shows a frame's surface with several things going on. In the center of the frame there are many of the cells covered with a chocolate brown beeswax. Under these coverings, beekeepers call them caps or cappings, are baby bees. In the upper corner you can see cells covered with a more golden colored beeswax. Under these cappings is honey. You can also see empty cells. These are left empty by the bees so if there is pollen to store it can go here, or more honey can go here also.

So when it gets cold, bees huddle together in the center of the hive, standing shoulder to shoulder, side to side as close together as they can get between the frames. Bees will be on the surface of one frame, and their backs will be just touching the backs of the bees standing on the surface of the frame next door. Then, more bees will come along and squeeze between these two bees so they are all tucked in safe and snug.



As cozy as this is, it's still not enough to keep a bunch of bees warm. Some bees will go into empty cells, and they will be very close to bees in the next cell over and the empty cells on the other side of the frame. So the bees keep any brood in the hive warm...it has to say at about 93 degrees...and each other warm...how?

Remember that exercise you did? Well, the bees on the inside of that cluster vibrate their wing muscles...the biggest muscles in their bodies. And just like you, they warm up. And that warmth is moved up, down and sideways throughout the bunch of bees...we call it a cluster...and keeps all the bees warm.

Photo: These cells contain pollen that the bees have packed into the cell. They will finish filling the cell with honey, which preserves the pollen, and then cap the cell with beeswax. Some of the bees in the cluster are standing right on top of honey. But most aren't. When a bee far from honey is hungry she begs the bee next to her for food, who then passes that message along. The bee on the honey eventually gets the message, sucks some up and passes it to the next bee to the next bee...until everybody has had lunch.

Meanwhile, the bees on the outside of the cluster squeeze close together to keep that heat in. The colder it gets, the closer they get. Bees are covered with hairs, and those hairs hold some of the warm air, too. But eventually they get tired, hungry and cold. So they get to sit out an inning or so, and head toward the middle of the cluster for some lunch and a warm place to take a nap. They stay there until they are needed again. This is a continuous cycle, all winter long.

As winter progresses, there is usually very few baby bees so the adults can move from one spot with honey to another without letting the young get cold. If the beekeeper has done the job right there's more than enough food, and more than enough room, and the bees keep this up all winter, until it's spring and they can fly again.



<http://www.thedailygreen.com/environmental-news/blogs/bees/honey-bees-winter-1101#ixzz19cEQT7h9>

## Honey as an Antibiotic: Scientists Identify a Secret Ingredient in Honey That Kills Bacteria

From: info@americanbeejournal.com  
Sent: 7/1/2010 9:31:05 A.M. Eastern Daylight Time  
Subj: ABJ Extra - Newsletter July 1, 2010

**New research in the FASEB Journal shows that defensin-1, a protein added to honey by bees, possesses potent antibacterial properties and could be used against drug-resistant bacteria.**

Sweet news for those looking for new antibiotics: A new research published in the July 2010 print edition of the FASEB Journal (<http://www.fasebj.org>) explains for the first time how honey kills bacteria. Specifically, the research shows that bees make a protein that they add to the honey, called defensin-1, which could one day be used to treat burns and skin infections and to develop new drugs that could combat antibiotic-resistant infections.

“We have completely elucidated the molecular basis of the antibacterial activity of a single medical-grade honey, which contributes to the applicability of honey in medicine,” said Sebastian A.J. Zaat, Ph.D., a researcher involved in the work from the Department of Medical Microbiology at the Academic Medical Center in Amsterdam. “Honey or isolated honey-derived components might be of great value for prevention and treatment of infections caused by antibiotic-resistant bacteria.”

To make the discovery, Zaat and colleagues investigated the antibacterial activity of medical-grade honey in test tubes against a panel of antibiotic-resistant, disease-causing bacteria. They developed a method to selectively neutralize the known antibacterial factors in honey and determine their individual antibacterial contributions. Ultimately, researchers isolated the defensin-1 protein, which is part of the honey bee immune system and is added by bees to honey. After analysis, the scientists concluded that the vast majority of honey’s antibacterial properties come from that protein. This information also sheds light on the inner workings of honey bee immune systems, which may one day help breeders create healthier and heartier honey bees.

“We’ve known for millennia that honey can be good for what ails us, but we haven’t known how it works,” said Gerald Weissmann, M.D., Editor-in-Chief of the FASEB Journal, “Now that we’ve extracted a potent antibacterial ingredient from honey, we can make it still more effective and take the sting out of bacterial infections.”



## Insecticide suspected in bee Colony Collapse Disorder

Cindy Williams, Anchor/Reporter, Spring 2010

FALMOUTH, Maine (NEWS CENTER) -- We need bees to pollinate our plants. But bees are disappearing.

Colony Collapse Disorder is a name that has been given to the sudden disappearance of bee colonies.

The bees are getting disoriented for some reason. They can’t find their way back to the hive and they eventually die. Some scientists now believe the bee disorientation could be due to a pesticide called Imidacloprid, a synthetic nicotine used in pesticides. Paul Tukey’s group, Safelawns.org is asking people to avoid pesticides that include Imidicloprid.

There are many organic alternatives in pest control now on the market. One of Paul’s favorites is Eco-Smart. The active ingredients are peppermint, cinnamon and sesame seed oils. All are considered food grade, and safe.

Paul says you still want to read the labels of the organic products and use the proper protection.

## Unconventional idea for antiviral contraceptive gel wins Gates Foundation grant/Washington University in St. Louis

November 9, 2010

By Lee Phillion

A computer simulation of a nanoparticle showing its core of perfluorocarbon (green) and its lipid coating (red, orange and blue).



A vaginal gel that affords both contraception and HIV protection using nanoparticles that carry bee venom is one of the bold, unconventional ideas that won a 2010 Grand Challenges Explorations grant from the Bill & Melinda Gates Foundation.

## ***The Plight of the Bees***

Paper prepared by Marla Spivak, *University of Minnesota*, Erick Mader & Mace Vaughan, *Xerces Society of Portland, Oregon*, and Ned Ellis Jr., *U.S. Geological Survey, Jamestown, North Dakota*, describes bee decline in the context of honey bees, native bees, and Colony collapse)

**This 4 page article is excellent as you would expect from Dr. Spivak. Take the time to view it on Environmental Science & Technology web site.**

*Concluding Remarks from the article..*

Pollinators are receiving more conservation attention today than at any other time in history. Scientists, conservationists, and farmers are working harder than ever in partnership to understand how pesticides, diseases, and habitat loss impact pollinator populations. They are also working to understand the most successful strategies for creating landscapes that support the greatest abundance of these important insects.

At the same time, the public and policy-makers are increasingly aware of the problems afflicting bees and the critical role they play in food production and natural systems. This awareness by such diverse audiences has led to significant positive policy changes (e.g., the 2008 Farm Bill) due in large part to the bipartisan appeal of policies and habitat conservation efforts that support crop production, honey bee colony health, and wild native bees and wildlife. Pollinator conservation provides a venue for diverse audiences to collaborate to solve common problems.

But there is no reason to wait for research and policy to mitigate the plight of the bees. Individuals can modify their immediate landscapes to make them healthier for bees, whether that landscape is a public rangeland in Wyoming or a flower box in Brooklyn. It is also possible to reduce agricultural and urban pesticide use to mitigate bee poisonings. We can engage in the sustainable management of honey bees and native bees. Promoting the health of bee pollinators can begin as an individual or local endeavor, but collectively has the far-reaching potential to beautify and benefit our environment and tangible ways.

## **USA- NEW VOLUNTARY STANDARD FOR HONEY TRACEABILITY**

Friday, 12 November 2010 06:13 Written by Analia Manriquez

The True Source Honey™ Initiative is pleased to announce that it is launching a Certified True Source Honey™ Traceability Program starting in 2011. The program, which will be formally launched at the 2011 North American Beekeeping Conference in January, is designed to certify the origin, food safety and purity of the honey being distributed and consumed within North America.

The initiative seeks to help maintain the reputation of honey as a high-quality, highly valued food and further sustain the U.S. honey sector. Those who want to help eliminate illegally sourced honey and maintain honey's natural reputation of quality and safety are encouraged to participate.



**Our web site, [www.guilfordbeekeepers.org](http://www.guilfordbeekeepers.org) is your source for local beekeeping information, questions, and answers. Sign up for our forum board and join the conversation!**

**Robert Jacobs, President**

**James Brown, Vice President**

**Levern Allen, Secretary**

**Ruth Edwards, Treasurer**

***Directors***

**Martha Boren, Jack Fleming,**

**Kurt Bower, Sam Coble**

**Norman Faircloth, *Newsletter Editor***

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



**Guilford County Beekeepers Association**

A LOCAL CHAPTER OF THE NORTH CAROLINA STATE BEEKEEPERS ASSOCIATION

Norman Faircloth, editor (nfaircloth@northstate.net)