

BEEKEEPING NEWS

JANUARY, FEBRUARY, MARCH, 2009



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

Meetings & Programs

- **Tuesday, January 13, 6:30 p.m.** (covered dish meal)
Bill Powers will be speaking on "classic building techniques for new style woodenware." This is a great topic to get your beekeeping winter started off right.
- **Tuesday, February 10, 7:00 p.m.** (no meal)
Dr. Olav Rueppell continues to be a major player in the happenings of bee biology in North Carolina. Come hear one of our own update us on the latest studies involving honey bees.
- **Tuesday, March 10, 6:30 p.m.** (covered dish meal)
Steve Troxler is a native of Browns Summit and now spends his time helping the farmers of NC as our Agriculture Commissioner. Meet Steve in March for an informative discussion about beekeeping and agricultural issues relating to North Carolina.

Articles of Interest



September 2008

IT'S NOT ABOUT THE HONEY Colony Collapse Disorder Threatens Our Food Supply

Unless you are Pooh Bear, a life without honey is easily imaginable. There are, after all, other ways to satisfy a sweet tooth. But what about a life without fruit, nuts and vegetables -- without the apples and peaches, almonds and cashews, garlic and broccoli that keep our meals interesting and bodies healthy?

It is not a rhetorical question. A diet primarily of bread and gruel may be our future if we do not address the honey bee crisis and the broader problem of "pollinator decline."

Pollinators are animals that help plants reproduce by transferring pollen from flower to flower. Some 200,000 different species are engaged in the task around the planet, including birds, bats and a wide



variety of insects. But when it comes to pollinating crops in the United States, no species is more important than the honey bee.

Though not the only species up to the job, the honey bee is the mainstay of industrial agriculture, which pays migratory beekeepers millions each year to bring their hives around at blooming time. So it is no small matter that a third of the nation's managed honey bee colonies died off in 2006 due to a syndrome that has come to be known as Colony Collapse Disorder (CCD), or that the disaster repeated itself the following year and is expected to do so again in the year ahead.

What exactly is CCD? A huge mystery, that's what. One day a hive is humming with activity. The next, it is virtually empty of adult bees. They simply fly off and never return. Is it possible that these master navigators, famed for their ability to dance out directions, cannot find their way back home? If so, what dread disease or poison could be responsible? Or perhaps the sick bees are purposely going off to die on their own, as these highly social insects are wont to do to keep the mother ship safe.

No one has yet been able to explain the vanishing act, but research done to date suggests that more than one "stressor" is involved. Suspects include an AIDS-like virus that weakens the bee's immune system, the invasive varroa mite, malnutrition and pesticide exposure. Some scientists say that if CCD continues, honey bees could disappear by 2035.

Clearly, we need to rev up the research engine -- and quickly. Recognizing the urgency, Congress allocated emergency funds for studying CCD to the Department of Agriculture in 2007. What became of the money is anyone's guess. The department has so far refused to account for it. Neither has it announced any significant research results.

NRDC has been pushing the Department of Agriculture to stop sitting on its hands -- and I encourage you to [add your voice](#). We cannot afford to take a wait-and-see approach to a problem as dire as CCD.

(*The website has several suggestions about how you can help pollinators.ndf*)

—Sheryl Eisenberg



Bees Essential for Biodiesel

Pollinators are vital to agriculture yet are often taken for granted. The number of pollinators has been steadily declining, a dismal prospect that could have unexpected consequences for oilseed crop production and bioenergy as a whole.

By Anduin Kirkbride McElroy Biodiesel Magazine freelance writer. Reach her at anduin.mcelroy@und.nodak.edu

High vegetable oil prices over the past year have reportedly driven most biodiesel producers to using yellow grease, animal tallow or palm oil as feedstocks, but vegetable oil remains an important and often preferred feedstock. The viability of oilseed crops is as important to the biodiesel industry as is the viability of an end-user market, which is why it's in the industry's interest to start paying closer attention to the health of pollinators.



As bees, moths, butterflies, beetles, bats and birds move about feeding on nectar and pollen, they are ensuring the reproduction of almost 90 percent of all flowering plants, according to the Pollinator Partnership, a nonprofit advocacy group based in California. Pollinators help start the food chain; they are part of the food supply and they pollinate food for the wildlife higher up in the food chain. Without their actions, 75 percent of the plants humans consume as food, fiber, spice or medicine could not reproduce.

Pollinators' monetary value to agriculture is estimated at \$20 billion annually in the United States, according to the Pollinator Partnership. For many specialty crops such as almonds growers must rent one or two hives of honeybees per acre during the blooming season. In fact, half of the U.S. honeybee population is imported to California's Central Valley just to pollinate almonds.

Some commodity crops are wind-pollinated, like corn and soybeans, but most other oilseeds are dependent on pollinators. More than half of the world's diet of fats and oils comes from oilseed crops, many of which are pollinated by animals, including cotton, palm oil, canola (rapeseed) and sunflowers. **Though pollinators are not required for soybeans to produce, they are required for hybrid seed production.**

Oilseed crop fields make good summer cafeterias for honeybees. Beekeepers will often set up hives in a nearby shelterbelt or unplowed plot to feed their bees. It's no coincidence that North Dakota leads the nation in honey production and, according to North Dakota State University entomologist Janet Knodel, produces 92 percent of the canola in the United States.



Bees can dramatically increase yield. In an experiment Knodel conducted last year, she found that the presence of honeybees and other pollinators increased yield by 1.8 to 3.6 bushels per acre over the control crop's yield. Of course, honeybees are not the only pollinators.

The Pollinator Partnership estimates that 30 percent of pollination needs are met by native pollinators. ... "This natural habitat supports populations of native bees close to fields and increases bee visits and seed set in adjacent crops,". "Wild native bees improve the pollination efficiency of honeybees in hybrid sunflower seed crops by causing the honeybees to move between male and female rows more often. The only fields that had 100 percent seed set were those with both abundant native bees and honeybees."

... "Canola is a great pollen and nectar plant for bees," says University of Minnesota entomologist Marla Spivak. "It is quite attractive to bees; the more canola the better. But bees also need a variety of pollen sources to obtain all of their amino acid requirements. In addition to canola, bees need clover, alfalfa and other legumes. Bees do not need [Conservation Reserve Program] land replaced by corn or switchgrass for biofuel. Corn pollen is only fiber for bees; it has very low protein content and is not good for them..."



Pollinators in Danger Unfortunately, the number of pollinators—including both native and honeybees—is steadily declining in the United States and around the world. According to the Pollinator Partnership, the United States has lost more than 50 percent of its managed honeybee colonies during the past 10 years. The phenomenon of honeybee die off, called Colony Collapse Disorder, came into mainstream consciousness last year. In a survey this year, the American Apiary Association found that the die off was greater this year than last year, according to Tom Van Arsdall, director of public affairs for the Pollinator Partnership. "It's steadily increased over the past four years," he says. "The overall loss rate is about 35 percent. In most of society, we don't have everything in one basket. In pollination, the real workhorse is the honeybee. If pollination services go down, then we don't have good backup."

The news gets worse. The backup that does exist—native bees—is also facing decline, and there's even less known about those causes, says Knodel, who is part of the newly formed Native Pollinators in Agriculture Project. "There's a lot of research with honeybees, but we're also seeing a decline with native bees," she says. "That's what we're focusing on with this project."

Van Arsdall agrees that native bees get taken for granted. "Native bees are providing a lot of free pollinator services," he says. "I know a cucumber producer who said he has to rent twice as many hives now as he used to because native bees aren't there any more."

The issue is quickly getting the attention of specialty crop producers. “The cost for pollination services has risen faster than the price of energy in the past three years,” Van Arsdall says. “A couple of years ago, it cost \$35 to rent one hive; next year they are predicting it to cost over \$200 per hive. It used to be that a crop producer who needed honeybees would say it’s a beekeeper problem. They’re not saying that anymore. They have a lot at stake in it. They want to know how much it will cost, and if they can get them. If they don’t get bees, they get no crop. If you shut off pollination services, it’s like shutting off the rain.”

The cause of CCD is still a mystery. A number of factors have been hypothesized, including pesticides, stress, monoculture, parasites and others, but no solid answer has been found yet. The Pollinator Partnership says there are multiple threats to honeybees, including mites, misuse of pesticides and degradation and depletion of habitat. “Our farm and ranch lands that support pollinators are disappearing at the alarming rate of 3,000 acres a day,” states a publication by the Pollinator Partnership.” ...

Spivak, the University of Minnesota entomologist, agrees. “The major threats to pollinators are land use—there are not enough flowers out there for them to feed on, and we have destroyed many of the native bees’ nesting sites with our agricultural practices and urban sprawl—and often the pollinators, visit is contaminated with insecticides,” she says.

Habitat is an issue where the interests of bioenergy and pollinators may not align. High crop prices and increased demand—both credited in part to biofuels—are inspiring many farmers to let their CRP contracts expire. Many biofuel advocates have lobbied for CRP acres to be released for crop production, while wildlife groups have been active in opposing such legislation. In the end, the Farm Bill did lower the cap on the total number of acres allowed in the CRP program from 39.2 million acres to 32 million acres, but it did not remove the penalty for early withdrawal.

Van Arsdall argues that decreased CRP acreage doesn’t have to be a bad outcome for pollinators, as wildlife habitat and crops don’t have to be mutually exclusive. “Farmers are farming a lot smarter,” he says. “It doesn’t have to be crop production or conservation. It’s in the interest of the producer and other stakeholders to be both. If we’re interested in developing and increasing feedstocks, can we work together to see what we can do so we’re not zeroing out habitat at the same time?”

Bioenergy crops don’t have to be a threat to pollinators. Biodiesel industry groups can either fight conservation efforts or be a stakeholder group to work towards common ground. In fact, the biodiesel industry and its feedstock suppliers can be part of a movement to support, improve and expand pollinator habitat. “I believe it’s in the renewable energy industry’s interest to take a hard look at dialoguing with the pollinators and wildlife habitat community in general,” Van Arsdall says.

Because most biodiesel feedstocks depend on pollinators, biodiesel advocates may have more incentive than other renewable energy groups to work with conservation groups to find solutions. While researchers are trying to figure out why bees are dying, Van Arsdall says there are actions that can be taken now. “Habitat is one of the critical components, and we do have the science for that,” he says. Initial actions are funding and enforcing conservation measures included in the Farm Bill, which were passed with overwhelming support. “Once you get the Farm Bill enacted, then the work begins,” Van Arsdall says. “What’s next is not just funding and implementing Farm Bill conservation programs, but trying to insert conservation into whatever is happening on the landscape.” To encourage habitat improvements, the Pollinator Partnership has several resources on its Web site, including zip code accessible “Ecoregional Planting Guides for Pollinators” at www.pollinator.org.

The Healing Power of Honey

BRINGING THE SPA HOME

Stella Gray, Spa Elder Fern Tree, the Spa at Half Moon

Monday, December 08, 2008 (from the Jamaica Observer <jamaicaobserver.com>

Natural raw honey which has not been filtered or pasteurised is one of nature’s natural medicines.

Honey contains an abundance of vitamins, minerals and enzymes, which makes it a powerful healing gift from nature. It also contains both internal and external healing properties.

There are many different types of honey that are created as a result of the flower chosen by the bee to provide its nectar. In Jamaica we are famous for our fragrant Logwood honey.

Sadly, however, some bee-keepers lay out sugar for their bees to feed on, which alters the nutritional and healing benefits of the honey.

Raw honey has been referred to as a “miracle food” because in its normal state it is fully preserved and as a result, organisms cannot live in it and therefore it will not decompose. Nonetheless, if the moisture content is raised over 20%, yeasts will begin to grow and the honey will start to ferment.

Archaeologists have found fully preserved honey in tombs that are thousands of years old, so we can say that honey never spoils! In addition, probably one of the oldest alcoholic beverages on earth is called mead that is made from honey, water and yeast.

Most of us when we feel a cold coming on will run for the bottle of honey (our favourite remedy) as honey is known for both its antiseptic and antibiotic qualities, which shows that this is not just an old wives’ tale.

Honey has been used in the past to heal infected wounds and surgical incisions. Additionally, for gangrene it helps to draw out the poison from bites and stings; it’s especially good for stings as it is a natural antidote.

When used internally, honey increases the absorption of calcium and helps to treat and prevent anaemia; combined with apple cider vinegar it helps to relieve arthritic joints and aids digestion. Honey is good for colds and other respiratory infections and gastrointestinal ulcers.

Whereas sugar shuts down our immune system, honey stimulates it. It works also as a gentle, natural laxative and is very good for constipation.

A spoonful of honey will give us instant energy without the insulin surge we get from consuming white sugar. Many people have found raw honey helpful against allergies and hay fever. It is recommended that you buy honey from beekeepers

near to where you live, as this will be an excellent antigen for allergies.

Honey is a humectant, which means it attracts and retains moisture, hence it helps to prevent dry skin and dull, lifeless hair, making it an excellent choice to use topically in beauty treatments. Its antiseptic healing benefits make honey great for all types of skin, as bacteria cannot live in honey.

Here are a few other uses of honey:

1. Burns - apply to soothe and heal without scarring
2. Bedwetting - try a teaspoon of honey before bed as honey helps aid fluid retention and calms fears in children.
3. Hyperactivity - replace all sugar with honey as honey gives us energy without the "spike" of sugar.
4. Conjunctivitis - dissolve honey equally with water and use as eyewash. It can also be used directly to heal sties on the eyelids.
5. Stress - mix 25% in water. Honey is a natural stabiliser for both emotional highs and lows.
6. Hair conditioning - mix honey equally with either cold pressed coconut or virgin olive oil. Leave on your hair for - an hour, then shampoo. This will nourish both your hair and scalp.
7. Facial cleanser - Mix honey with oats and use as a face mask. Leave on ginger can strengthen our immune system and can help to relieve chills and fevers. (the web site has more info. but space is limited here.)



NATURAL RESOURCES DEFENSE COUNCIL
THE EARTH'S BEST DEFENSE

Frances Beinecke's Blog

Honeybees, NRDC's Lawsuit, and EPA's Discontent

September 4, 2008

Last week, the Environmental Protection Agency **registered** its discontent with NRDC. Why? Because it claims we are overstepping by asking a public agency to share more public information.

Maybe you don't view the behavior of honeybees as a matter of public interest. But how about the **successful pollination** of some of our most common food crops, such as apples, onions, cherries, even the **vanilla** that goes into your favorite ice cream? Personally, I view \$15 billion worth of American food that bees pollinate each year as a public matter. Unfortunately, the government agency tasked with keeping our crops and environment safe failed to make its relevant information public.

A couple of weeks ago, NRDC had to **sue** the Environmental Protection Agency for failing to hand over records about clothianidin, a pesticide suspected of playing a role in **Colony Collapse Disorder**—the name given to the rapid decline of almost 30 percent of the honeybee populations that pollinate our food.

No one knows exactly what is causing Colony Collapse Disorder, but France and Germany suspended the use of the pesticide because of concerns that it may be linked to the bees' demise. Both nations are conducting further studies, and scientists and farmers around the world are eager for any pertinent information they can find.

The EPA Has Information That Could Help That's where the EPA comes in. Back in 2003, the agency gave conditional approval for using clothianidin in the United States, but it required the manufacturer to submit studies on how the pesticide might impact bees.

Did the studies ever get completed and filed? What did the studies reveal? How did EPA evaluate the information in deciding to leave the pesticide on the market, and what else did the agency consider? The EPA wouldn't tell us, so we filed a Freedom of Information Act request. When the agency stonewalled further, we sued them. The EPA wasn't happy, and it posted a letter to me on the agency's website.

The Agency Asked Us to File a FOIA Request

We would prefer not to have to resort to FOIA requests and lawsuits in order to review documents that should be available to the public in the first place. It is costly and time consuming. But in this case, the EPA expressly asked us to file a FOIA request after it declined to hand over the records informally.

According to FOIA rules, an agency has 20 days to furnish the request, but the deadline passed and NRDC still hadn't received relevant information.

Letters of Receipt Don't Count as Substantive Information The EPA claims it responded to our requests with two letters. The first one we received said that the agency had received our request. The second one (posted August 18, the day we filed our lawsuit, and not received until August 20) said that the agency still had not made a final determination on our requests.

This kind of bureaucratic reaction doesn't count as a meaningful response to our call for scientific studies. And it certainly doesn't meet the agency's legal obligation to provide a final ruling on our FOIA request within 20 days.

You Call That Transparency? In the agency's letter to me, it claims the EPA's Office of Pesticide Program "sets the bar" for transparency and public participation. NRDC begs to differ. The program has repeatedly refused to disclose information in response to FOIA requests until months or even years after the deadline. Several times, federal judges have rebuked the Office of Pesticide Programs in cases NRDC was forced to litigate regarding the EPA's lack of transparency.

There has even been significant press coverage of the agency's repeated private negotiations with the pesticide industry on key regulatory decisions—to the exclusion of public health and environmental groups.

The Public Has a Right to Know The most important issue here is that there is still no complete public record of the agency decision that NRDC is concerned about here: the EPA's approval of a new pesticide dispute expressing significant concerns about harm it may cause to bees.

The agency has posted some information on its website since our lawsuit, but we will push until all relevant material is shared. We believe that a decision about a pesticide which might impact what the USDA says is one-third of the diet of the average American should be made openly.

The public has a right to know.

- 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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