GUILFORD COUNTY BEE KEEPERS ASSOCIATION

BEEKEEPING NEWS

October, November, December, 2012

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

Meetings & Programs

Tuesday, October 9, 7:00p.m. (no meal)

- Charles Fleckenstein, an owner of Little Flying Cows Honey and board member of the Orange County Beekeepers Association will speak about the health benefits of bee products.
- Nominating committee's slate of officers for 2013.
  President--Robert Jacobs
  Vice President--James Brown
  Secretary--Levern Allen
  Treasurer--Ruth Edwards
  Director-Don Berkman (replacing Martha Boren)

Nominations from the floor may be made by any GCBA member.

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

- **Election of Officers for 2013**

Kurt Bower will give a presentation on moving bees and building bear fences.

Tuesday, December 11, 6:30p.m.
Main Building Auditorium

- ***Annual Christmas Dinner*** ***Covered Dish*** (bring enough of your favorite main dish, side or dessert to share) Drinks, ice, plates, etc. and professional entertainment provided by GCBA. Appropriate for all ages--all members and family welcome. Evening will be used to socialize and enjoy the festive spirit that the Christmas season provides.

Articles of Interest

https://www.federalregister.gov/

National Organic Program; Amendments to the National List of Allowed and Prohibited Substances (Crops, Livestock and Processing)

Formic Acid

Formic acid was petitioned for use in May 2010, as a pesticide for suppression of Varroa mites. [1] The Environmental Protection Agency (EPA) has exempted synthetic formic acid from the requirement of a tolerance in or on honey and honeycomb when used to control tracheal mites and suppress Varroa mites in bee colonies, and applied in accordance with label use directions (40 CFR 180.1178). [2]

At its October 25-28, 2010, meeting, the NOSB recommended adding formic acid to the National List for use in organic livestock production solely as a pesticide within honeybee hives. Consistent with this NOSB recommendation, AMS published a proposal on November 8, 2011 to amend § 205.603(b) of the National List by adding formic acid, with a restrictive annotation.

Bees dying at an alarming rate

The varroa mite is already threatening bees in New Zealand, and some beekeepers believe a new threat might be about to make things much worse. Auckland beekeeper Kerry McCurdy has over 300 bees, and says his bees are dying at an alarming rate from what he believes is colony collapse disorder.

"We lost 40 hives out of 50, so we have 10 live hives left out of 50. We tested five of those yesterday with Agrisure, and of the five each had an individual problem," he says.

"We may or may not have colony collapse disorder, but we do have serious issues."

Mr McCurdy says cellphone wavelengths are also proving damaging for bees.

Watch the video for Firstline's full interview with Kerry McCurdy

Pollination under threat worldwide - study

Contributor:Fuseworks Media Wednesday, 22 August, 2012 - 13:49

Pollination is under threat worldwide and a University of Canterbury (UC) study has found a whole new way in which bees can be affected by climate change.

UC professor Jason Tylianakis said his recent study found that plant species will go extinct from losing their birds and bees more quickly than expected.

Three quarters of the world's food crops require pollination by pollinators (bees and birds etc) but our research shows this natural service is under threat. Our research showed that climate change and widespread fertiliser use can disrupt the relationship between plants and pollinators, for example by making flower nectar less nutritious for bumblebees, causing them to die more quickly.

The nutritional quality of nectar can reduce the survival of bees as we first discovered earlier this year. Climate can affect how plants grow and the size and shape of their flowers and this can make flowers less attractive to pollinators.

Bee species will decline if they can't survive climate changes, and we know from previous work that bee diversity is important for pollination success."

The biggest problem for pollination in New Zealand was the introduction of the Varroa mite, which is moving its way down the country. This affected honeybees, which were a species introduced to New Zealand and would potentially make crops more dependent on bumblebees and wild native bees (and some flies) for pollination.

Agricultural practices worldwide negatively affect native pollinators because they tended to nest in woodlands or natural areas, rather than in commercial hives. So we may have already harmed the species we need most. UC masters student Simon Litchwark is currently studying how the reduction of honeybees will affect crop pollination.

Animal pollination is needed for three quarters of the world's food crops, and we can already see examples worldwide where pollinator abundance and diversity are declining, and this is affecting crop productivity.

(to read more use internet search)

Biologists tag "zombees" with radio trackers to monitor parasitic infection

Fly parasite may be significant threat to honey bee colonies.

by Olivia Solon, Wired UK - Sept 8 2012, 11:10am

Biologists at San Francisco State University are tagging radio trackers onto zombie-like bees infected with a fly parasite to find out more about species population decline.Bees that are infected with the Apocephalus borealis fly abandon their hives and congregate near outside lights, moving in erratic circles on the ground before dying. .....Hafernik and his colleagues are trying to find out how much of a threat the emerging fly parasite might be to the health of honey bee colonies, or if the parasite is linked to the colony collapse disorder ....The team is tagging infected bees' thoraxes with transmitters the size of "a fleck of glitter" and then monitoring their movements in and out of a hive on the biology building. Laser readers at the entrance to the hives interact with individual trackers. They are also monitoring other hives nearby to check for signs of the parasite. They are inviting members of the public to get involved through the ZomBeeWatch website. Visitors can upload photos of suspected infected bees to help track the spread of the parasite.

It's important to monitor the comings and goings of bees to understand the progression of the parasitic infection, particularly how long it takes for affected bees to abandon the hive. The original paper found bees disoriented and dying at night, but researchers are keen to find out whether the infected bees only leave the hives to fly in the dark.(cont..)

Christopher Quock, an San Francisco State graduate biology student, said: “Hopefully in the long run this information might help us understand how much of a health concern these flies are for the bees, and if they truly do impede their foraging behavior. We also want to know whether there are any weak links in the chain of interactions between these flies and honey bees that we could exploit to control the spread of this parasite.” (read more on line)

EEC- THE EUROPEAN COMMISSION PROPOSES CLEAR RULES FOR MARKETING OF HONEY, THAT POLLEN IS A COMPONENT AND NOT AN INGREDIENT Saturday, 22 September 2012 12:19 Written by Analia Manriquez

A proposal to amend rules on honey to clarify the true nature of pollen following a European Court of Justice preliminary ruling was adopted today by the European Commission. In line with international WTO standards, the proposal defines pollen as a natural constituent of honey and not as an ingredient.

The Court of Justice based its interpretation on the honey directive dating back to 2001 and qualified pollen as an ingredient in honey arguing that the pollen is found in honey mainly due to intervention by the beekeeper. However, the Commission proposal recognises that pollen is a natural constituent and not an ingredient of honey; it enters into the hive as a result of the activity of the bees and is found in honey regardless of whether the beekeeper intervenes. Consequently, since pollen is considered as a natural constituent of honey, EU labelling rules requiring a list of ingredients would not apply.

The Commission’s proposal will not affect the conclusion of the Court as regards the application of the GMO legislation to GM pollen in food. In particular it does not alter the Court conclusion that honey containing GM pollen can be placed on the market only if it is covered by an authorisation under the legislation. Furthermore, the labelling rules on GMO in food will also be applicable3. The proposal also aims to align the existing Commission implementing powers in the Honey Directive 2001/110/EC with those introduced by the Lisbon Treaty.

Honey bees fight back against Varroa

September 27, 2012

BioMed Central’s open access journal Genome Biology finds that specific proteins, released by damaged larvae and in the antennae of adult honey bees, can drive hygienic behavior of the adults and promote the removal of infected larvae from the hive. Credit: Queenie Chan

The parasitic mite Varroa destructor is a major contributor to the recent mysterious death of honey bee (Apis mellifera) colonies. New research published in BioMed Central’s open access journal Genome Biology finds that specific proteins, released by damaged larvae and in the antennae of adult honey bees, can drive hygienic behavior of the adults and promote the removal of infected larvae from the hive.

V. destructor sucks the blood (hemolymph) of larval and adult bees leaving them weakened and reducing the ability of their immune systems to fight off infections. Not that honey bees have strong immune systems in the first place since they have fewer immunity genes than solitary insects such as flies and moths. These tiny mites can also spread viral disease between hosts. This double onslaught is thought to be a significant contributor to Colony Collapse Disorder (CCD).

But all is not lost - honey bees have evolved a way to fight back: hygienic behavior where diseased or parasitized larvae are removed from their brood cells, and Varroa-sensitive hygienic behavior which they use to reduce the number of reproductive mites on remaining larvae.

To find exactly how bees respond to hive infections, researchers from Canada looked at the natural behavioral of bees in the presence of damaged larvae and compared this to protein differences in the larvae and adults. After scanning 1200 proteins the team found that several proteins, including LOC552009 (of unknown function but similar to ApoO), found in the antennae of adults were associated with both uncapping brood cells and the removal of larvae. Other proteins were involved in olfaction or in signal transduction, probably helping the adults find infected larvae amongst a brood.

BioMed Central's open access journal Genome Biology finds that specific proteins, released by damaged larvae and in the antennae of adult honey bees, can drive hygienic behavior of the adults and promote the removal of infected larvae from the hive. Credit: Queenie Chan

In damaged larvae, transglutaminase, a protein involved in blood clotting, was upregulated, which appeared to be a key component in regulating the adult's behavior. Other proteins indicated adaptations to help fight infection, including chitin biosynthesis and immune responses.

Dr Leonard Foster from CHIBI at the University of British Columbia, who led this research said, "Bee keepers have previously focused on selecting bees with traits such as enhanced honey production, gentleness and winter survival. We have found a set of proteins which could be used to select colonies on their ability to resist Varroa mite infestation and can be used to find individuals with increased hygienic behavior. Given the increasing resistance of Varroa to available drugs this would provide a natural way of ensuring honey farming and potentially survival of the species."

Read more at: http://phys.org/news/2012-09-honey-bees-varroa.html#jCp

ASU ARIZONA STATE UNIVERSITY

Bees decrease food intake, live longer when given compound found in red wine

Posted: September 23, 2012

ASU researchers have confirmed that not only does resveratrol, a compound found in red wine, extend the lifespan of honey bees by 33 to 38 percent, it also changes the decisions that bees make about food by triggering a "moderation effect" when they eat.

The idea that drinking red wine may provide health benefits – or possibly even extend your life – is an appealing thought for many people. Now, there may be added attraction. Researchers have found that when given resveratrol, a compound found in red wine, bees consume less food.

Previous scientific studies on resveratrol show that it lengthens the lifespan of diverse organisms ranging from unicellular yeast to fruit flies and mice. Since bees are social animals like humans, a team of scientists from Arizona State University, the Norwegian University of Life Sciences, and Harvard Medical School, decided to test the effects of the chemical on the honey bee.

Photo by: Brenda

In a series of experiments published in the journal Aging, the scientists tested the effects of resveratrol on the lifespan, learning ability, and food perception in honey bees.

Their research has confirmed that not only does this compound extend the lifespan of honey bees by 33 to 38 percent, it also changes the decisions that bees make about food by triggering a "moderation effect" when they eat.

"For the first time, we conducted several tests on the effects of resveratrol by using the honey bee as a model," said Brenda Rascón, an ASU alumnus and doctoral student with Gro Amdam, an associate professor in ASU's School of Life Sciences and the Norwegian University of Life Sciences. "We were able to confirm that under normal living conditions, resveratrol lengthened lifespan in

honey bees."

Since resveratrol is an antioxidant, researchers also questioned whether it would be capable of diminishing the damaging effects of "free radicals" – often released during stressful conditions. Free radicals are believed to cause damage to cells, and have an effect on how we age. Resveratrol did not, however, prove to extend lives of bees living under stressful conditions.

Yet, since the bees tested with the compound were living longer, researchers asked the next question: What's happening that is causing them to live longer?

"Because what we eat is such an important contributor to our physical health, we looked at the bees' sensitivity to sugar and their willingness to consume it," said Amdam. "Bees typically gorge on sugar and while it's the best thing for them, we know that eating too much is not necessarily a good thing."

Interestingly, Amdam, Rascón, and their research team discovered that bees given the compound were less sensitive to sugar.

By using different sugar solutions – some very diluted and some with stronger concentrations – they found that bees receiving resveratrol were not as interested in eating the sugar solutions unless the sugar was highly concentrated. The bees basically changed their perception about food.

In a final experiment, they measured how much food the bees would consume if given the opportunity to eat as much sugar water as they possibly could.

"Surprisingly, the bees that received the drug decreased their food intake," said Rascón. "The bees were allowed to eat as much as they pleased and were certainly not starving – they simply would not gorge on the food that we know they like. It's possible resveratrol may be working by some mechanism that is related to caloric restriction – a dietary regimen long known to extend lifespan in diverse organisms."

Are Neonicotinoids Killing Bees?

A Review of Research into the Effects of Neonicotinoid Insecticides on Bees, with Recommendations for Action

By Jennifer Hopwood, Mace Vaughan, Matthew Shepherd, David Biddinger, Eric Mader, Scott Hoffman Black, Celeste Mazzacano

A possible link between neonicotinoids and honey bee die-offs has led to controversy across the United States and Europe. Beekeepers and environmentalists have expressed growing concern about the impact of neonicotinoids, concern based on the fact that neonicotinoids are absorbed into plant tissue and can be present in pollen and nectar, making them toxic to pollinators.

This report details potential negative impacts of neonicotinoids insecticides to honey bees and other important pollinators. It also makes recommendations on how we can better protect bees.

Click here to view a full PDF of the report.

Some of the major findings of the report include:

- Several of these insecticides are highly toxic to honey bees and bumblebees.
- Neonicotinoid residues are found in pollen and nectar consumed by pollinators such as bees and butterflies. The residues can reach lethal concentrations in some situations.
- Neonicotinoids can persist in soil for months or years after a single application. Measurable amounts of residues were found in woody plants up to six years after application.
- Untreated plants may absorb chemical residues left over in the soil from the previous year.
- Products approved for homeowners to use in gardens, lawns, and on ornamental trees have manufacturer-recommended application rates up to 120 times higher than rates approved for agricultural crops.
- There is no direct link demonstrated between neonicotinoids and the honey bee syndrome known as Colony Collapse Disorder (CCD). However, recent research suggests that neonicotinoids may make honey bees more susceptible to parasites and pathogens, including the intestinal parasite Nosema, which has been implicated as one causative factor in CCD.
- Many neonicotinoid pesticides that are sold to homeowners for use on lawns and gardens do not have any mention of the risks of these products to bees, and the

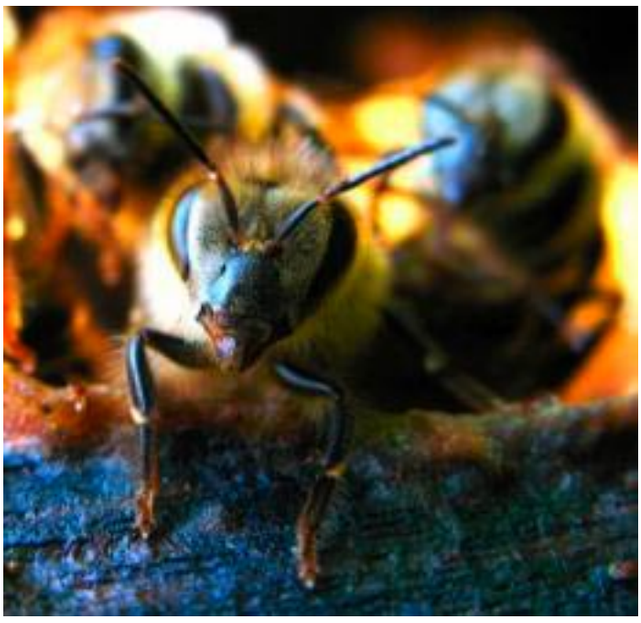
label guidance for products used in agriculture is not always clear or consistent.
The report recommends that regulators reassess the bee safety of all neonicotinoid pesticide products, reexamine or suspend all conditional registrations until we understand how to manage risks, and require clear labels so that consumers know that these products kill bees and other pollinators.

The report also recommends that the US Environmental Protection Agency adopt a more cautious approach to approving all new pesticides, using a comprehensive assessment process that adequately addresses the risks to honey bees, bumble bees, and solitary bees in all life stages.

Study Reveals That GMO's Cause Cancerous Tumors

A recent peer-reviewed study into the long term health effects of ingesting GMO's has revealed that Monsanto's genetically modified crops can indeed have very negative health effects. The study reveals that rats which were fed a lifetime of GM corn grow horrifying tumors.

Shock findings in new GMO study: Rats fed lifetime of GM corn grow horrifying tumors, 70% of females die early:
http://www.naturalnews.com/037249_GMO_study_cancer_tumors_organ_damage.html



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

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

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Norman Faircloth, editor (nfaircloth@northstate.net)