



### Remember...

Covered dish Thursday @ 6:00  
March 21st

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What's Blooming?

Red Maple	Acer rubrum	1- Feb	40	12- Mar
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MARCH 2013

NEWSLETTER OF THE ALAMANCE COUNTY BEEKEEPERS

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*Alamance County Beekeepers*

**This month's meeting...** Our Thursday, March 21st meeting at the Alamance County Extension building will begin at 6:00 pm with a cover dish meal. At 7:00 pm, Jennifer Keller, Apiculture Technician, Apiculture Program, Department of Entomology, NC State University will discuss "Queen Rearing (and special statement about when to add honey supers)."

## Fake Chinese Honey, In China. Go Figure.

Alan Harman

It's getting bad when the Chinese complain about fake honey.

Bee industry officials in Shanghai say sales of fake honey products are common in the city due to loopholes in the national standards,

Sun Deguan, director of the bee industry council of the Shanghai Association of Agricultural Science Societies tells the government-owned Shanghai Daily that honey sold cheaply by virtually all street vendors is fake because demand far exceeds supply.

Sun says street vendors use low prices to lure consumers, claiming their products are directly from producers, but they almost always turn out to be made from syrup and gum.

The cost of fake honey is only a tenth of the price of real honey.

China Bee Products Association senior official Lu Zetian says fake honey products account for nearly half of the market volume and it is hard for consumers to tell the difference between the fake and the real one.

The industry officials say new technologies for manufacturing fake honey products have emerged and traditional testing cannot always detect the fakes. Fake honeycomb made of gum and fake honey can pass tests such as those for flavonoid plant compounds and the oxidation index.

They say national standards issued in 2011 lag behind the market and while new standards are being discussed, nothing definite has been decided.

## Wild pollinators increase crop fruit set regardless of honey bees

So, got a couple million butterflies to rent?

Changes made by humans to the natural landscapes can often compromise ecosystems, which paradoxically are vital for human survival. Pollination of crops by wild insects is one such vulnerable ecosystem service, as wild insects are declining in many agricultural landscapes. The study, recently published in *Science*, focused on understanding whether the ongoing loss of wild insects impacts crop harvest. For this purpose, the researchers compared fields with abundant and diverse wild insects to those with degraded assemblages of wild insects across 600 fields at 41 crop systems on all continents with farmland.

The study found that fruit set, the proportion of flowers setting seeds or fruits, was considerably lower in sites with less wild insects visiting the crop flowers. Therefore, losses of wild insects from agricultural landscapes will likely impact both our natural heritage and agricultural harvest.

As hives of the honey bee are frequently added for improved pollination, the researchers asked whether this application can compensate for limited abundance and diversity of wild insects and fully maximize crop harvest. They found that variation in honey bee abundance improved fruit set in only 14% of the crop systems they served. Furthermore, wild insects pollinated crops more effectively because an increase in their visitation enhanced fruit set by twice as much as an equivalent increase in honey bee visitation. Importantly, high abundance of managed honey bees supplemented, rather than substituted for, pollination by wild insects.

These results hold even for crops stocked routinely with high densities of honey bees for pollination, such as almond, blueberry, mango or watermelon. Although honey bees are generally viewed as a substitute for wild pollinators, this study demonstrates that they neither maximize pollination, nor fully replace the contributions of diverse, wild-insect assemblages to fruit set for a broad range of crops and agricultural practices on all continents with farmland.

The leading author, Lucas A. Garibaldi, [Universidad Nacional de Río Negro - CONICET, Argentina](#) comments: "Our study shows that losses of wild insects from agricultural landscapes impact not only our natural heritage but also our agricultural harvests. We found that wild insects consistently enhanced the number of flowers setting fruits or seeds for a broad range of crops and agricultural practices on all continents with farmland. Long term, productive agricultural systems should include habitat for both honey bees and diverse wild insects. Our study prompts for the implementation of more sustainable agricultural practices."

## Measuring the Buzz in the Hive

Alan Harman

Honey bees may soon be able to communicate their poor health to beekeepers as a result of major new UK research project that aims to transform beekeeping and halt the decline of the sector in Europe.

A consortium – led by Nottingham Trent University and the Bee Farmers Association of the UK (BFA) – has launched a €1.4-million (US\$1.8-million) European Union-funded study to monitor and decode the buzzing of bees in the hive and pass crucial information to beekeepers via wireless technology.

The research also involves the European Professional Beekeepers Association in Germany and the National Institute for Agricultural Research in France.

The researchers have developed a hi-tech method of using accelerometers – devices sensitive to minute vibrations – to detect and translate the vibrations caused by bees during their activities and as they communicate with one another.

This means the researchers now can monitor when a hive is about to swarm and as a next step they are investigating changes and patterns in buzzing which may indicate specific health disorders, or deterioration in the hive.

They are developing methods to transfer wirelessly instant alerts to the beekeeper, either via email or SMS, so that they can intervene and manage their colonies.

The research is expected to significantly improve the efficiency of beekeeping, making it far less time-consuming and costly, as well as improving the health monitoring of the honeybee.

Beekeeping requires physical visits and regular inspections of every single hive by Europe's 600,000 beekeepers who have to nurture their bees, regardless of conditions.

Beekeeping generates more than €400 million (US\$520.8 million) a year in Europe, but only 54% of the total demand for honey and other bee products is produced on the continent.

Bee populations and beekeeper numbers in Europe have been falling at an alarming rate and honey imports to the EU, from countries such as Argentina and China, have risen by 20% since 2001.

"Despite its importance and the obvious potential for growth, serious problems face the beekeeping sector," Nottingham Trent University physicist and researcher Martin Bencsik says.

"Action to bring modern management tools to beekeeping and action to halt the decline of the European beekeeping sector is urgently needed, particularly as bees play such a vital role in agricultural productivity. We now have the potential to achieve this.

"Our tool will allow us to remotely diagnose colony status without the need for systematic invasive opening of individual hives for inspection. Commercial beekeepers will be able to keep more hives over greater geographical distances, which will both increase their efficiency and profitability."

BFA research and administration officer David Bancalari says this could be the golden hour for bee farmers.

"For years we have been struggling to improve the health of our bees," he says. "We know early intervention is crucial. This research could give us those vital, lifesaving early signs of problems allowing us to tend to our bees much sooner – giving us the equivalent of the golden hour in human first aid."