

# The Nevada County Beekeepers Association

# Local Buzz



November 2009

## November 2<sup>nd</sup> Meeting

Our next meeting will be Monday November 2<sup>nd</sup> at 7 PM at the Grass Valley Veteran's Hall. Amy Hobbs, avid crafter, will show us how to make Ukranian Eggs. Ukranian eggs are hollowed eggshells that are decorated for Christmas, Easter etc, with wax and dyes. Be sure to join us before the meeting 5:30 PM in taking Amy out for dinner at Lin Q Buffet, Raley's shopping center in Grass Valley.

## Bee Bits

By Randy Oliver

Once again this year we are getting lucky. This fall has been great for the bees! First, the unusual heavy early rainfall, then lots of nice warm days. That means plenty of pollen for the colonies as they prepare for winter.

I'm constantly surprised by the number of folk--small scale, sideliners, and commercial who get caught by surprise by varroa buildup, and don't think to do anything about it until late fall. Everyone should be monitoring their mite levels in mid August, and taking appropriate action.

I'm testing out a few stocks of mite resistant bees, and am watching them as they head into fall. I'm seeing lots of varroa sensitive hygiene (chewing out of infested brood), so we'll see how they do.

There is a new product for mite control coming on line--should be available for next season. The maker of MiteawayII formic pads has developed a gel formulation that looks like strips of gummi

candy. You lay the strips across the frames between the brood chambers. The strips release formic acid vapors to kill the mites.

The initial trials of the strips sound almost too good to be true-- they kill varroa in the sealed brood, can be used at temperatures up to 92°F, can be applied even during the honey flow, and require no rim nor removal of residue! And treatment takes only seven days.

I've spoken with the developer of the strips, and they are currently hand-making them for emergency shipment to Hawaii, one of the places where they were successfully tested. We should know much more about them within a few months.

If you haven't already extracted, get your honey off the hives now, so that the bees can seal up the cracks before cold weather.

Randy Oliver

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## Heat Forms Potentially Harmful Substance in High-fructose Corn Syrup



A new study shows that heat can produce a potentially toxic substance in high-fructose corn syrup that can kill honeybees and may also threaten human health. Image: Wikimedia Commons

Oct. 16, 2009 - Researchers have established the conditions that foster formation of potentially dangerous levels of a toxic substance in the high-fructose corn syrup (HFCS) often fed to honey bees. Their study, which appears in the American Chemical Society's bi-weekly Journal of Agricultural and Food Chemistry, could also help keep the substance out of soft drinks and dozens of other human foods that contain HFCS. The substance, hydroxymethylfurfural (HMF), forms mainly from heating fructose.

In the new study, Blaise LeBlanc, Gillian Eggleston and colleagues note HFCS's ubiquitous usage as a sweetener in beverages and processed foods. Some commercial beekeepers also feed it to

bees to increase reproduction and honey production. When exposed to warm temperatures, HFCS can form HMF and kill honeybees. Some researchers believe that HMF may be a factor in Colony Collapse Disorder, a mysterious disease that has killed at least one-third of the honeybee population in the United States.

The scientists measured levels of HMF in HFCS products from different manufacturers over a period of 35 days at different temperatures. As temperatures rose, levels of HMF increased steadily. Levels jumped dramatically at about 120 degrees Fahrenheit. "The data are important for commercial beekeepers, for manufacturers of HFCS, and for purposes of food storage. Because HFCS is incorporated as a sweetener in many processed foods, the data from this study are important for human health as well," the report states. It adds that studies have linked HMF to DNA damage in humans. In addition, HMF breaks down in the body to other substances potentially more harmful than HMF.

"Formation of Hydroxymethylfurfural in Domestic High-Fructose Corn Syrup and Its Toxicity to the Honey Bee (*Apis mellifera*)":

<http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/jf9014526>

## Recommended Reading About Mite Control With Essential Oils

For those of you with internet access, NCBA member Lynn Williams submitted this link with a number of articles about control of varroa with essential oils, take a look:

<http://www.wvu.edu/~agexten/varroa/varroa2.htm>

## October Minutes

President Rob Slay opened with Q&A: The queen and nurse cluster shouldn't be below a layer of cold honey; they should be in lower hive box. In cold climates, a styrafoam layer is used on top to

prevent cold, unavailable honey above cluster. Randy is conducting a double blind study for Bee Logistics, to compare three anti-virus prophylactics against Israeli Acute Paralysis Virus and Kasimir Bee Virus. 72 colonies, divided into groups plus control group, will be inoculated with virus. Results will be measured by comparing precise weight increase of each hive. Viruses are suspected factors in Colony Collapse Disorder, as well as nutritional, environmental toxics from herbicides and insecticides, etc.

Finance: Janet Brisson: Aug Start \$3145.29; Inc \$15; Exp 289.61; Aug End \$2870.78. Sept Start \$2870.78; Inc \$27.50; Sept End \$2898.28.

Nominations for November election: For Pres, Rob Slay, Larry Merritt. For V.Pres Jeremiah Ferrell. For Treasurer Janet Brisson. For Secretary Jack Meeks. Board of Directors will comprise Outgoing President, new elected officers, member-at-large Charlie Whittlesey, guru emeritus Randy Oliver, et al.

PROGRAM: Randy Oliver; "Fall Treatment and Management" photos of cold weather protection, varroa control, feeding of pollen substitute and 1:1 light syrup through jars on top cover to stimulate brood raising for winter

Jack Meeks, sec

## About Powdered Sugar

Submitted by Janet Brisson, with permission from Dewey Caron for his article

When an article by Dr. Dewey Caron came out in Oregon's September 2009 issue of 'The Bee-Line' on Powder Sugaring Bees, the news editor, Rosanna Matterly asked for response from beekeepers using powdered sugar.

Hi Rosanna & Dewey, I just read the article, Powder Sugaring Bees by Dewey Caron in the September 09 issue of The Bee Line. I wanted to respond to the editor's request about beekeepers powdered sugaring bees on a regular basis. Since March of 2005, almost 5 years, we have used nothing but powdered sugar to reduce and control varroa mites in our hives. This year, we had 7 hives and by September, even though we

dusted the hives in mid-July, the mite counts were over the threshold (50 mites in 24 hours) in several of the hives. We did 5 applications of powdered sugar in 4 weeks and now our high counts are cut in half and the other hives are very low. Although we do not dust every week, we have someone in our club who dusts weekly and has no varroa. We tend to dust our bees several times a year 3 times, one week apart, mostly March, May and July. In September, with the really high counts we could dust 4 to 6 times in 3 weeks. From November through February, we dust once a month. Here in California, we do get a week of nice weather each winter month and it is a great time to get rid of the phonetic mites. August and September, we always have had high mite counts, and with regular dustings, we have always been able to get them down. Yes, it's intensive, but not hard on the bees or brood at all. One of the things I noticed is at first, the bees almost sounded angry when you dusted them. Now, almost a curious buzzing, they no longer seemed upset. Thanks, Janet Brisson

Powder Sugaring Bees – Does it work?  
By DEWEY M. CARON

Using powdered sugar (PS) for varroa mite control has been recommended as an IPM tool - to knock mites off workers captured in a jar to monitor mite levels as well as in entire colonies as a way to slow mite buildup in the colonies themselves. Monitoring mite numbers with PS is an relatively easy and helpful tool (see tutorial on MAAREC web site [www.MAAREC.psu.edu](http://www.MAAREC.psu.edu)) but a new study suggests adding powdered sugar to a colony to control mites (sometimes called the Dowda method) might not be providing the perceived benefit - a 12-month study of powder sugaring bees every other week was unable to document an overall mite reduction in bee colonies!

The new study conducted in Florida by Amanda & James Ellis (U FL) with Jerry Hayes of FL Dept of Apiary Inspection, compared mite numbers, adult bee numbers and brood area of colonies treated with PS for mite control to untreated controls. Colonies were dusted every other week for 11 months with 120g of powdered sugar. The study found no differences in adult bee populations or amount of brood between treated and control colonies but although there was significant initial (24h) mite drop following dusting, no differences between numbers of mites, numbers of mites prorated to adult bee numbers and no differences in mite numbers per capped brood cells in treated vs untreated colonies.

The study conclusion: "DUSTING COLONIES WITH POWDERED SUGAR DID NOT SIGNIFICANTLY AFFECT COLONY STRENGTH OR MITE POPULATIONS ... WE DID NOT FIND THIS METHOD OF DUSTING COLONIES WITH POWDERED SUGAR TO EFFECTIVELY CONTROL VARROA MITES."

Does this mean PS should not be used in whole colony dustings? In the October 09 in Amer. Bee Jour., Jerry Hayes, one of the authors of the FL study, in his monthly Q&A column answered a letter from Janet Brisson of CA on whether PS works or not as follows: "Yes research results showed that varroa was not significantly controlled by dusting with PS. Within the parameters of their research, PS didn't work great. But that does not mean that if the research trial were re-structured to treat more often or in a different way that results would not be different....research shows it doesn't work long term. But, in real world situations it does. What to do? I'd treat with PS until research catches up with reality."

Many beekeepers (including Tom Dowda of FL) dusting whole colonies with PS however believe it is an effective control method. In 9 years of surveying backyard beekeepers in the mid-Atlantic states, I found a growing number of beekeepers using PS for mite control while; over 50% of beekeepers who indicated they were monitoring mite levels prefer to use the PS roll method to determine mite levels vs sticky boards or other methods. In a recent survey of 100 Oregon backyarders (who filled out a survey form during April local association meetings), 65% of the beekeepers who had no over winter losses indicated they used powdered sugar as a control scheme in contrast to 38.5% of beekeeper who did have winter loss (57 of the 100 had a loss; 43 had no loss). Overall colony loss levels were similar for Oregon ( 25.8%) and Mid-Atlantic beekeepers (24 %).

Morris Ostofsky of Eugene OR is one backyard beekeeper who feels PS is effective. He shared with me his success using PS:

"I have successfully used PS to control mites. To give you an example of the efficacy of the PS treatment here are the results of my treatment of one of my hives, # 9 - 6, this year. This hive has two full depth brood boxes.

Date: 8/27 200 mites 24 hr drop using sticky board  
8/28 PS dusted  
8/31 144 mites on 24 hr on sticky board

9/3 & 9/7 PS dusted  
9/10 48 mites on 24 hr sticky board  
9/11 & 9/15 PS dusted  
9/20 4 mites on 24 hr sticky board

Please note that I would NOT normally treat this often; however, it was late in the season and I wanted to get the mite count down before fall. I know this was awfully invasive; however, I felt that the alternatives were worse. I have used this strategy to reduce mite loads in other problems hives this year and in previous years.

The fact that I did not lose any hives last winter and had used powdered sugar to reduce mite counts in fall is an indication that dusting is effective.

Whether targeted, short time use of PS in spring or fall or using a different method of applying the powdered sugar, such as the newly available powder sugar duster (a converted pesticide applicator from China), modifies the conditions sufficiently to improve overall mite control is unknown. The initial report of mite control using powder sugar (by Nick Aliano in his PhD studies with Marion Ellis at U Neb) utilized the labor-intensive method of shaking adult bees off their comb and powdering them in a shaker box. Up to 35% of mites fall off the adults when the shaking heats the adult bees in the shaker box (and in monitoring a sample mite numbers of 300 adults in a glass jar, it is important that the bees heat up the jar interior to get an accurate mite estimate).

Certainly an initial count of 200 mites in 24 hr drop (as Morris found) should trigger a decision to "do something" (50 or more mites is the widely accepted threshold number from Us and European studies). Morris and other beekeepers have demonstrated that PS can, at least in some instances, reduce the number of mites on adults to a more "reasonable" load. It would seem reasonable that beekeepers using PS should continue to do so – and continue to document and report PS effectiveness.

Read results and parameters of FL study in 2009 Jour Apic. Res & Bee World: Vol 48(#1), page 72-76 .

U Nebraska study is available in: Jour. Apic. Res. Vol 44(#2): 54-57

The Nevada County Beekeepers Association is dedicated to apiculture education and promotion of the art and science of beekeeping among beekeepers, agriculturists, and the general public. This is a "not for profit" organization. Meetings are held the first Monday of each month at 7 PM at the Grass Valley Veteran's Memorial Building at 255 South Auburn Street in Grass Valley. All visitors are welcome. The newsletter is published monthly as a service to the membership. Articles, recipes, commentary, and news items are welcomed and encouraged. Submission by email is encouraged. Please submit to Leslie Gault at [lesliegault@yahoo.com](mailto:lesliegault@yahoo.com). The deadline for the December 2009 edition is November 21<sup>st</sup>. A limited amount of advertising space (business card size 3" by 2") is accepted and need not be bee-related. Rates are \$1 per issue or \$7 per year for NCBA members and \$16 per year for non-members. All revenue from advertising goes to the Association treasury and helps offset the cost of producing and distributing this newsletter. To receive the *Local Buzz* via email: please email your request to [lesliegault@yahoo.com](mailto:lesliegault@yahoo.com)

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**Nevada County Beekeepers Association**



c/o Steve Reynolds  
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 First Class Mail  
 November 2009

**November 2nd Meeting**

The November 2<sup>nd</sup> program will be 'Making Ukranian Eggs', presentation by Amy Hobbs, 7 PM meeting at the Grass Valley Vets Hall. Join us for a no-host dinner at Lin Q Buffet at 5:30 PM, in the Raley's Shopping Center in Grass Valley