COOPERATIVE EXTENSION UNIVERSITY OF CALIFORNIA

from the U. C. APIARIES University of California

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Yellowjacket Bait Not Effective

A year ago, I wrote about a new microencapsulated insecticide called Onslaught® that was promoted as being as effective as microencapsulated diazinon that used to be stirred into cat food and used to poison yellowjackets. Since that time laboratory and field research have been conducted on the product. Unlike the diazinon product, adding Onslaught to bait reduced its taste appeal to the point that the wasps would barely eat it. Thus, it did not work very well in field trials. Unless they can reduce the repellency of the product to wasps, microencapsulated esfenvalerate will not provide the wasp control that people seek around their properties.

CA Commission Referendum Defeated

The beekeepers who registered to vote in the referendum decided that they did not desire to contribute a fixed, per-colony assessment in California to help support honey bee research and educational outreach. The statistics were pretty even, whether counting numbers of colonies or numbers of beekeepers voting. In both cases it was 60 percent opposed and 40 percent in favor.

Whether California beekeepers will try this, again sometime in the future, remains unclear.

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Why Almond Rental Fees are Up

There is a nice review of the causes that pushed the prices of almond pollination from $35 in 1995, to $72 in 2005 and to around $150 by 2010 in the July 131, 2011, issue of Ag Alert, published by the California Farm Bureau Federation.

UCD researcher and author Hoy Carman published the article that is available on the web at: http://giannini.ucop.edu/media/are-update/files/articles/V14N5_4.pdf.

To no one's surprise, the two major factors were determined to be the appearance of colony collapse disorder (CCD) and the continuing expansion of the numbers of acres of blooming almond orchards. Carman reported that we required 802,000 colonies in 1992 and an estimated 1,480,000 colonies in 2010. When you have data to examine, you can find correlations such as Carman's estimate of an increase of $0.166 per hive for each additional 1,000 acre increase in blooming almonds.

Carman's analysis suggests that CCD and increasing acreages each account for about one-half of the increase. Thus, even without CCD, almond prices may have reached about $100 per colony, anyway. Please refer to the web site to see the details of this interesting study.

More on 2011 4H Essasy Winner, Rachel

By Kathy Keatley Garvey

A 14-year-old Sacramento County 4-H'er who quizzed 25 4-H members, friends and their families on their honey preference and then penned an essay about the results, is the winner of both the California State 4-H and the National 4-H Beekeeping Essay Contests.

Ninth grader Rachel Ricchiuto of Gold River, a nine-year member of the Sacramento County Country Centre 4-H Club, titled her 955-word essay, "The Buzz on Honey." She received $750 as her national prize.

All 4-H'ers—no beekeeping experience required--are eligible to enter the contest in their state. Each state winner then advances to the national competition. The 2011 theme: *"U.S. Honey: A Taste for Every Preference."*

Although Ricchiuto does not keep honey bees, she is involved in the Junior Master Gardening Project, a national youth gardening program of University Extension. This is her seventh year in the project, and her fourth year as a teen leader. She was also the 2010 California winner.

Extension apiculturist Eric Mussen of the UC Davis Department of Entomology, who chaired the statewide essay contest, described her essay as "very creative and comprehensive."

"Rachel conducted a good deal of background research, ran a little test and wrote about all of it in a very compelling manner," Mussen said.

In her essay, Ricchiuto noted that there are more than 300 unique kinds of honey in the United States. "A honey's color and taste," she wrote, "varies depending on what type of nectar has been collected."

She theorized that most people prefer clover honey so she decided to see if her panel, ranging in age from seven to adults, preferred it also.

Her panel scored five different liquid honeys—clover, orange blossom, sage,

buckwheat and eucalyptus—on color, smell and taste. She covered the labels "so people wouldn't be influenced by the name of the honey's nectar source."

"I found that some people rated a honey high in color and smell, but when they actually tasted it, they didn't like the flavor very much," Ricchiuto wrote.

To her surprise, her panel preferred sage, but clover trailed a close second, followed by orange blossom, buckwheat and eucalyptus.

"I think sometimes the nectar source or color of a honey deters people from trying a new variety; they just stick with what they know."

In her research, Ricchiuto learned that buckwheat honey is a good cough suppressant. Research published in *The Archives of Adolescent and Pediatric Medicine* showed that it "does a better job of reducing nighttime coughing than dextromethorphan (DM), a cough suppressant found in many over the counter medications," she wrote. "After learning this, I will never have to take that yucky cough syrup again.

Honey is also "the perfect ingredient to have in your cupboard for cooking and baking; it does not need to be refrigerated and has an exceptionally long shelf life," Ricchiuto related. "Choose your honey by taste when you are cooking so that it compliments your food.

For example, buckwheat honey is good on pancakes; fireweed and orange blossom honeys on desserts; and clover and wildflower honeys "are both good in salad dressings and as an everyday table honey to put on toast or in tea.

Her family's preference? Raw local wildflower honey.

The annual contest is sponsored by the Foundation for the Preservation of Honey Bees, headquartered in Jesup, Ga. The charitable research and education foundation lists its mission as preserving and protecting honey bees "to ensure a quality food supply and environment."

Rachel also has an article about her winning essay on page 7 of the American Beekeeping Federation Newsletter – July/August 2011.

Pesticide Use Guidelines

I imagine that most beekeepers would not consider themselves to be in a profession similar to pesticide applicators (field) or pest control operators (structural) whose jobs consist of using pesticides daily. However, many beekeepers do use, or have their laborers use, pesticides in and around the hives for controlling various pests.

Despite those minimal and infrequent uses of pesticides, employers of workers using pesticides are required to provide proper training in pesticide use safety and emergency response to pesticide accidents.

While Power Point presentations delivered by a speaker are much more enjoyable, the principal items required for such annual training are itemized in a web site publication prepared by the CA Department of Pesticide Regulation: "Pesticide Use Compliance Guide for Employers and Businesses." (Cont. pg 6)

California State Beekeepers' Association
122nd Annual Convention
2011 Tentative Convention Program
Doubletree Rohnert Park
November 14-18, 2011

Program Presentations Allotted Continuing Education Credits are preceded by an Asterisk (*)

Monday, November 14

9:00 am	CSBA Board of Directors' Meeting	
1:00 pm	Participant-paid Wine Tasting Tour, including free President's Reception	
4:30	First free bus from Doubletree to free President's Reception	
5:00-7:00	President's Reception at Ramekin's Culinary School	
6:15	First bus leaves Ramekin's for Doubletree	
7:45	Last bus leaves Ramekin's for Doubletree	

Tuesday, November 15

8:00 am	Registration & exhibits open	
8:30-10:00	Opening Ceremonies & Reports of Standing Committees	
	National Anthem & Flag Salute	Gene & Christine Brandi
	Welcome & Call to Order	Frank Pendell, President CSBA
	Invocation	TBA
	Memorial Service	Gene Brandi
	Reading of Rules	Dr. Eric Mussen
	President's Message	Frank Pendell
9:00	Welcome by local representative	
	Introduction of Dr. Brian Johnson, new Bee Biologist, UC Davis	
9:15	Brief Reports of Standing Committees	
10:00-10:30	Exhibitors' Break	
10:25	Door Prizes	
10:30	"The State of California Beekeeping" – Eric Mussen, UC Davis	
11:15	"Southeast Beekeeping, with Reference to CA Connection" – Jerry Hayes, Florida	
12:00 p.m.	Lunch	
1:15	Door Prizes	
1:30	CA Legislative Update – Jackie Park-Burris and Holly Frumeni	
2:00	"CA Technology Transfer Team at Bee Breeders" – Katie Lee, UCCE Chico	
2:30	*"HopGuard: Label Review, Proper Handling and Use in Hives, Results of 2011 Trials" – Fabiana Ahumada, Tucson Bee Lab	
3:00	Exhibitors' Break	
3:25	Door Prizes	
3:30	"Apiculture Pilot Insurance Program" – Kevin Rader, Advanced Insurance Underwriters, Boca Raton, FL	
3:45	"Stock Importation" – Steve Sheppard, Washington State University, Pullman	
4:15	"How to Grade for Almonds: Training Program" – Shannon Mueller, UCCE, Fresno	
5:00	Exhibits Close	
7:00	New and Seasoned Members Reception	

Wednesday, November 16

7:00 a.m.	Sioux Honey Assoc. Member Breakfast Meeting – Doug Mammen
8:00	Registration & Exhibits open
	Introductions
8:00	"Bee Research around the World" – Randy Oliver, Grass Valley, CA
8:45	"Honey Bee Virus Data Gleaned by BVS, Inc." – Dave Wick
9:15	"Project Apis m Update" – Christi Heintz

9:30	*"Mite Away Quick Strips (MAQS): Label Review, Proper Handling and Use in Hives, and Results of 2011 Trials" – David VanderDussen, NOD Apiaries
10:00-10:30	Exhibitors' Break
10:25	Door Prizes
10:30	"Colony Collapse Disorder (CCD)" – Jeff Pettis, Beltsville Bee Lab
11:15	"Plans for UC Davis Bee Research Program" – Brian Johnson, UC Davis
12:00 Noon	Research Luncheon – **"*Ozone Fumigation of Combs: Use, Safety, and Environmental Considerations*"** – Dr. Rosalind James, Native Bee Lab, Logan, UT (ABF and AHPA ten-minute briefings during the meal)
2:00 pm	Auction Benefitting Honey Bee Research
4:00 pm	*"Safe Storage, Handling, and Transportation of Pesticides" – Larry Lima
7:00	Resolution Committee Meeting chaired by Brock Ashurst
7:30	Research Committee Meeting chaired by David Bradshaw

Thursday, November 17

8:00 am	Exhibits open
8:30	**CSBA ANNUAL BUSINESS MEETING**
10:00	Exhibitors' Break
10:30	"Manipulating Your Colony Count" – George Hanson, Colton, OR
11:15	"Keeping Your Bees Healthy Panel" – Jackie Park-Burris, Palo Cedro, CA Jerry Hayes, Gainesville, FL Other TBA
12:00 p.m.	Lunch
12:00-2:00	**CSBA Ladies Auxiliary Business Meeting & Luncheon**
1:30	*"Effects of Imidacloprid on Honey Bees" – Judy Wu, University of Minnesota
2:15	"Results of Propolis and Other Studies" – Marla Spivak, University of Minnesota
3:00	Exhibitors' Break
3:25	Door Prizes
3:30	Exhibits Close
3:30	"Impacts of Varied Landscapes on Colony Success" – Matthew Smart, University of Minnesota
4:15	"Almond Pollination Outlook Panel" – Joe Traynor, Scientific Ag Company, Bakersfield Pat Heitkam, Orland, CA Bob Curtis, Almond Board of California Gordon Wardell, Paramount Farming Co., Bakersfield
6:00	Social Hour – No-Host Bar & Silent Auction
6:45	Silent Auction Ends
7:00 p.m.	Annual Banquet, Awards & Auction

Friday, November 18

8:00 am	CSBA Board of Directors' Breakfast Meeting chaired by Bryan Ashurst

CONCURRENT SESSIONS

Tuesday, November 15

1:00 pm	"Starting with Bees" – Randy Sue Collins, President – Sonoma County Beekeeper's Association
1:45	"Diagnosis of Honey Bee Diseases" – Randy Oliver, Grass Valley, CA
2:30	"Productive Hive management" – Jerry Hayes, Gainesville, FL
3:15	Exhibitors' Break
3: 30	"How to Keep Bees without Chemicals" – Serge Labesque, Glenn Ellen, CA
4:15	"Taking Care of Your Bees over Four Seasons" – Marla Spivak, Univ. Minn.

Wednesday, November 16

8:00 am	"How to Raise Queens" – Susan Cobey, UC Davis and WSU Pullman
8:45	"Swarm Prevention" – Eric Mussen, UC Davis
9:30	"Harvesting Your Crop" – TBA
10:15	Exhibitors' Break

10:30	"Apiary Locations and Moving Bee Hive Safely" – Gene Brandi, Los Banos, CA
11:15	"Question and Answers" – Jerry Hayes, Gainesville, FL
12:00	Research Luncheon

(Cont. from page 3) The 25-page document can be retrieved on the web at: www.cdpr.ca.gov/docs/enforce/cmpliast/compguid.pdf.

For those of you who are required to accumulate training hours for applicator permits or more advanced certifications, Larry Lima tries very hard to obtain as many hours of continuing education credits as he can from the CSBA convention presentations. This year, he is hoping to get four hours of credit, including some in the category of "Laws." Opportunities to obtain training credits in the Laws category tend to be quite scarce.

Free Industry Reception

Every California State Beekeepers' Association member and immediate family members attending the 2011 convention are invited to attend a FREE, pre-convention reception sponsored by Ramekins Culinary School in Sonoma. Free bus rides to and from the convention hotel will be available Monday evening for those who have not gone on the wine tour earlier in the day.

Be sure to take advantage of this offer by pre-registering early at: www.californiastatebeekeepers.com/events.htm.

Neonics and Western Chinch Bugs

Many beekeepers have focused their sights on the neonicotinoid insecticides (neonics) as one of the most important stresses on their honey bee colonies in recent years. Sometimes information from studies about these chemicals with different insects can be informative.

In this case, M.D. Stamm and five other researchers studied the effects of contact and systemic exposures of the western chinch bug, *Blissus occiduus*, to clothianidin, imidacloprid and thiamethoxam because field applicators were having mixed success using them against this pest.

The variations in response to the treatments show why honey bee studies with these compounds can be very challenging. With contact applications, thiamethoxam was much less toxic than the other two neonics to *B. occiduus* nymphs, but it was more toxic than the other two to chinch bug adults. In adult systemic trials (fed on treated plants), thiamethoxam was considerably more toxic than the other two products. Thus, thiamethoxam was much more toxic to adults either by contact or systemic exposure than to nymphs. This difference was not observed with clothianidin or imidacloprid.

The researchers concluded that it is of very practical significance to determine what stages of the affected insects are more or less susceptible to each of the neonics, individually, and not expect similar effects from all of them.

This study, "Dose-response relationships of clothianidin, imidacloprid, and thiamethoxam to *Blissus occiduus* (Hemiptera: Blissidae)," was published in *J. Econ. Ent.* 104(1): 205-210 (2011). You can find the article on the web in pdf at: DOI: 10.1603/EC10268.

Adjuvants of Greater Interest

The following example does not come from honey bee studies, but the results do show how adjuvants, that usually are considered "inert ingredients" can enhance the effectiveness of killing target pests. In some cases, non-target, beneficial insects may be impacted.

The study, by Peter Taverner *et al*., was conducted to determine if nurserymen could use a chemical less environmentally harmful than chlorpyrifos (Lorsban®) for killing eggs of light brown apple moth on foliage. They tried a number of substitute insecticides, including λ-cyhalothrin, γ-cyhalothrin, thiacloprid, indoxacarb, novaluron, and spinosad. Then, they mixed the insecticides with five different commercial horticultural mineral oils and dipped leaves with attached eggs into the solutions.

Normal control egg mortality was 7.6 percent. Chlorpyrifos alone killed 59 percent of the eggs. With All Seasons® spray oil added, the mortality rose to 79 percent. But, one would anticipate egg mortality with just the oil treatments, alone. In this case the other four oils resulted in mortalities between 21 and 40 percent.

Of greater interest to me is that the combinations of various insecticides and oils resulted in considerable differences in mortality. In water, alone, one insecticide was no different from the control. Used in water, alone, λ-cyhalothrin raised the mortality to 71 percent, better than the normal chlorpyrifos. Using five oil products, the impact of adding oils to λ-cyhalothrin was notable – 88 percent control with All Seasons and 94 to 98 percent control with four others. Spinosad, that killed an average 20 percent of the eggs without oils, only increased in mortality to between 23 and 71 percent, depending upon the oil.

Thus, it is evident that mixtures of insecticides and mineral oils have mixed impacts on target pests. You will not know the impacts until each combination is tested. When it comes to honey bees I am not concerned about the impacts of adding commercial minerals oils to insecticides applied to nursery foliage for light brown apple moth eggs. In fact, minerals oils are among the least likely materials to cause honey bee mortality. How-ever, these results do support the idea that there are many agricultural products being used in commercial agriculture as "tank mixes." Usually the mixes are tested for phytotoxicity. But I am not aware of any that are being tested for pollinator toxicity, either by direct contact or by ingestion of contaminated pollens. This is a gaping hole that could be critical to colony health.

The study from which this information was gleaned is: Efficacy of several insecticides alone and with horticultural mineral oils on light brown apple moth (Lepidoptera: Tortricidae) eggs. Journal of Economic Entomology 104(1): 220-224 (2011). On the web it should be at DOI: 10.1603/EC10248.

<u>Bee Feeding Info from Down Under</u>

Have you been looking for a nice six-page, color photos, information-packed article on "Honey Bee Nutrition and Supplementary Feeding?" Doug Somerville, the apiary officer, and Liz C., the assistant editor, combined forces and published the information on Nov 10, 2010. The article is extracted from AGFACTS, the outreach section of New South Wales Agriculture, Australia.

The major points of emphasis are:

1. Nectar/Honey
2. Pollen
3. Colony Populations
4. Management Strategies
5. Substitutes and Supplements
6. Carbohydrate Supplements
7. Honey
8. Composition of Sugar Syrups
9. Sugar Feeders
    A. Bottom Board
    B. Boardman
    C. Division Board
    D. Top Feeder
    E. Bulk Feeding
10. Protein Supplements
    A. Pollens
    B. Pollen Substitutes
    C. Torula Yeast
    D. Brewers Yeast
    E. Soy flour
    F. Canola/ Sunflower Flours

G. Vitamin and Mineral Supplements

11. Mixing and Feeding Pollen and Substitutes
    A. Recipes
    B. Commercially Prepared Supplements

This information can be viewed and downloaded at: http://informedfarmers.com/honey-bee-supplementary/. Or, simply put NSW Agriculture in your browser; use the link to Livestock, then the next link to honey bees. That leads to many more links, covering a wealth of information.

Of significant value to you at this time is the link to "General Public and Bees." Are you aware that, not very long after many regulators opened the doors to local beekeeping, complaints about honey bees began increasing? Despite the desire to not interfere with Nature, and let honey bees do what they do, if there are too many "beehavers" (not beekeepers) who let their bees create problems like swarming and being pestiferous about water collection, those beekeeping prohibitions will be reinstituted.

Sincerely,

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