The Nevada County Beekeepers Association

Local Buzz

November 2008

November Elections

The NCBA will hold its annual elections at the November meeting. If you are interested in being President (President leads meetings and coordinates activities), Vice President (VP acts as program chair and backup to president), Treasurer, Secretary, or Board member, let one of the current officers know (see back page for contact info). Also help is always needed as, or to assist, the newsletter editor, newsletter mailing person, librarian, coffee chair, raffle chair, and other jobs!

November 3rd Program

The Nevada County Beekeepers Association will be meeting November 3, 2008 (Monday night), at the Veteran's Memorial Building (back door off parking lot) on 255 South Auburn Street in Grass Valley at 7 PM. The program will be a travelogue by Randy Oliver regarding his recent trips to many places around the world. He will show slides of other beekeeping areas and other beekeepers and tell about the different ways he observed. All visitors are welcome.

Bee Bits

Powdered sugar dusting—sweet and safe, but does it really work?

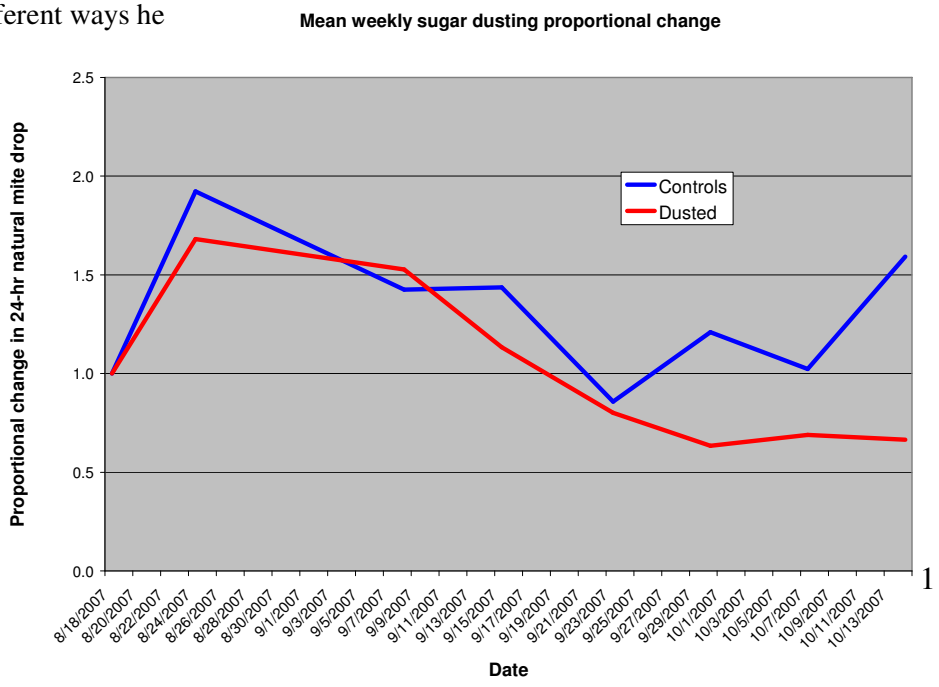
By Randy Oliver

Part 1

I had hoped for collaborators to confirm these projections [of dusting effect] by field testing that spring, but unfortunately, it didn't happen. So in August of 2007 I set up a yard of 20 mite-infested singles (mixed queen stocks), and fed them equally on pollen patties (Mann Lake) and 1:1 sugar syrup continuously to encourage brood rearing (and mite reproduction) for the rest of the season. Half the colonies (randomly chosen) were dusted weekly, the other half left alone except for feeding (in retrospect, I should have done a paired design, since the random coin flip happened to load the test group with a section of the yard that had higher initial mite levels).

I chose to perform weekly dustings since I wanted to see if the most frequent dusting period practicable would have any effect whatsoever upon mite populations, and I couldn't imagine any but the most diligent hobbyist dusting any more often.

All colonies had estimated mite levels indirectly determined by a 48-hour natural mite fall (converted to 24-hr fall) onto stickyboards prior to the weekly dustings. One colony went queenless, and was removed from the trial. I've graphed the results below:



Graph of the mean proportional change in mite drops, from initial level for each colony. All colonies begin at a level of 1. Going up to 2.0 would mean that the mite drop doubled from the initial level. Going down to 0.5 would mean that the natural mite drop was half of the beginning level. Although the differences were not statistically significant, it is easy to see that there was a distinct trend for natural mite fall to decrease for the dusted colonies, and to increase for the controls. (For those of you who noticed, the plots still look virtually identical if I take out the two treatment and control outliers). Thanks to Dr. Colin Henderson, Univ. Montana, for statistical help.

So let's look at the above graph. For the first week, mite levels increased in both groups. This is to be expected, since most natural mite fall comes from mites coming out of emerging bee brood, as opposed to phoretic mites, so dusting would have little immediate effect. We are likely seeing the typical end of August mite spike. Then both groups appeared to decrease, likely because colonies were winding down broodrearing in late August.

The trend to note occurs about September 23, after a month of continuous feeding, during which the colonies ramped up broodrearing, as well as the resultant mite levels, as demonstrated by the blue curve for the control colonies. The dusted colonies, however, dropped to below the starting mite level, and then appeared to stabilize—surprisingly similar to the prediction of the model shown earlier.

Attention almond pollinators: Note how late-summer feeding of pollen supplement for the purpose of reinvigorating broodrearing also ramped up mite levels! Such feeding may require readjustments to your mite management strategy.

Have we answered the question—does sugar dusting control varroa? This small trial was designed only to determine whether weekly dusting would have ***any demonstrable affect whatsoever*** upon mite populations. The answer to that question would be a qualified "yes." Did weekly dusting drop the mite level to acceptable levels? I'd have a hard time saying "yes," since the mite fall of several dusted colonies remained above a conservative natural drop threshold (to be discussed next month).

The main point to note is that ***weekly dusting apparently caused a drop in mite levels in colonies rearing brood (but not drones), but did not make mite populations plummet.*** Since few beekeepers will consistently dust on a weekly basis, I cannot recommend sugar dusting by this method as a robust mite ***treatment*** to save a colony when brood is present. Indeed, a trial (currently in press, by permission) by Dr. Amanda Ellis ***found no effect upon mite levels*** in Florida test colonies that were dusted every other week with powdered sugar! (She also found that dusting didn't appear to hurt the colonies).

How can it be, you ask, that when sugar dusting causes so many mites to drop out of a colony, that it wouldn't have a major effect upon mite populations? It just makes perfect sense! ***Time and again I've found that simply because something makes perfect sense on the face of it, things may be completely different in beekeeping reality.*** Look back at my simple spreadsheet model—at best, dusting would be expected to simply slow mite population growth, unless done weekly. Even weekly dusting at best would only hold mites at, or somewhat below, the initial level—not decimate them! Any mite immigration from other colonies could potentially offset the benefit….

Another answer is that removal of a proportion of the phoretic mites merely decreases competition among the remaining mites. At higher mite infestation levels (which occurred in at least some of Dr. Ellis' colonies), mites may multiply infest worker or drone cells. Net reproduction per mite is much lower in multiply-infested cells. So by eliminating the competition, dusting may allow the remaining mites to reproduce more efficiently.

So is sugar dusting a panacea for mite problems? Unfortunately, no. Then is dusting without merit? Hardly! ***Sugar dusting can be quite effective for reducing the mite population in broodless (or nearly broodless) bees***, such as during summer dearths or in winter (if the bees are not tightly clustered). ***It also works quite well to drop mites from package bees, shook bees, or swarms***. Another use is to ***"clean up" new nucs*** (best applied at day 7 after the queen begins laying--just before the first brood begins to be sealed).

An occasional sugar dusting may also be adequate to assist colonies that already demonstrate varroa sensitive hygiene. Note that the mite growth curve in the graph shown earlier was based upon a relatively robust 2.4% daily rate of mite increase. But mites do not always reproduce that rapidly—in some climates and conditions, or with some bees, the rate may be as little as half that. In those cases, perhaps sugar dusting would provide adequate mite control, perhaps even at less frequent intervals than weekly (I have no data to support this, only anecdotal reports).

If your colonies contain brood (in which mites will not be affected), then it is likely that the ***most effective way to use sugar dusting would likely be in combination with drone trapping***—a one-two punch. By removing a drone frame exactly every four weeks, and dusting when you replace it, you will remove both

the majority of mites in brood, and up to half the phoretic mites. I've been planning field trials of this method to determine efficacy, but alas, have not yet found the time (maybe next spring)….

I speak with many hobby and sideline beekeepers these days who successfully keep bees with minimal or no mite treatments. Their losses are often no greater than those of beekeepers who throw everything but the kitchen sink into their hives! My guess is that the future of beekeeping is being modeled by these very beekeepers.

My point is, that a hobbyist may find that sugar dusting, or any other method or treatment, may be enough to help their colonies to survive, especially if they are using Russian, other mite resistant, survivor, or feral stock. However, the flip side is that a beekeeper may completely convince himself that a certain method is "working" since their bees survived last season. In actuality, the bees' survival may have be due to other factors; the beekeeper's pet treatment may have been of little more benefit than a placebo, yet made the ***beekeeper*** feel good because they were ***doing something***! (This applies to commercial beekeepers, too). I suggest that we be careful of "cures" until they are well proven by controlled trials.

Bottom line—if you are a hobbyist and use mite resistant stock, then you may be able to get by with minimal mite management. If you use screened bottoms, then sugar dusting is an option that may help. For determining mite infestation levels, sugar dusting is great! In my next article, I will present the results of my field testing of sugar dusting, including mite drop rate hour by hour, a comparison of dust-accelerated mite drop to other sampling methods, and a fresh look at varroa treatment threshold levels.

Randy

For Sale

For Sale: Country Rubes Combo Screened Bottom Boards

Special NCBA Club Price!

Call Janet for details. 530-913-2724 or email at rubes@countryrubes.com.

October Minutes

VPres Steve Reynolds opened with Q&A. Karla Hanson says don't equate swarm capture (often free) with removal from building walls ($35/hr up) which may require return visits to get them all out. Pollen patties are mainly imported from China. Mann Lake Proline Plus contains plant fiber and amino acid proline. Others mentioned: B-Bread with probiotics, Bee Thrive with folic acid and peat humus, Honey B Healthy. Dr Gordon Wardell, Tucson says bees like patties acidic pH4.5
with oil, citric acid, cinnamon soy and brewer's yeast. Colonies in danger of starvation can be saved by spreading granulated sugar if there is water also. Thin sheets of aluminum photo plates (used, from The Union, cheap) placed just under the top cover, reflect heat away from frames in summer, and back into hive in winter. Finance Janet Brisson July Start $1789.69; Inc $135; Exp $17.42; End $1907.17 Aug start $1907.17; Exp94.71 End $1812.70 Sept start $1812.70; Inc 104.50; Exp156.05; End $1761.21
Randy has Apigard thymol pads $10. Randy has converted a Dirt Devil hand vacuum using a PVC right angle to divert air and bees down into the collecting jar for mite/Nosema counting in volume. The "Suck-A-Bee" will make Randy more famous yet. Randy also uses a between-supers spacer with center frame to hold Mite-Away II formic acid ester pads, each 13.8oz = 392gm to kill tracheal and varroa mites during July-August (temp<82F.)

Jack Meeks, sec

Cottage Cosmetics

A how-to guide for making fine olive oil soap and all natural personal care products using beeswax is available from local author and herbalist, Linnie McNaughton. The guide includes detailed instructions. To order send a check for $15 to:
Green Blessings
21055 Dog Bar Road
Grass Valley 95949
Call (530) 906-0831
website: greenblessings.com

The Food Chain; Observing Varroa and Ants

By Janet Brisson

When we first started to use powdered sugar to knock down populations of varroa mites, it increased the number of ants in our bee yard. We use borax bait traps with jam or honey in glass jars with holes A few years ago, while I was following an ant trail, I noticed tiny black ants were carrying varroa mites, heading out from under the hives. I had dusted the hive a few days before and left the powdered sugar in the hive way too long. When I pulled the stickies, a lot of the sugar was gone. What was left was the icing or sugar, or hardened sugar that formed a glaze and ants running over it, but hardly any mites, a few walking on top of the icing but no where the number there should have been. I've come to learn if you leave your stickies in overnight, the ants will take the mites and you will not have an accurate mite count. Well, not really a count. I do what Randy suggested when dusting and look at the fallen sugar within a few hours, if it's black with mites you have a problem, if you have a few you are done treating. Who has time to count? This way, with a moderate amount, which is more than 30 that I can see in the powdered sugar without digging, I will treat again in 5 to 7 days and maybe continue for 4 or 5 weeks in the fall until I get the load down. I haven't seen black in a long time.

I had the opportunity to tell Dr. Mussen about the ants at one of our pre meeting dinners. He had noticed the same thing. Whenever he needs mites for his experiments, he puts bees in a jar with powdered sugar, shakes them off the bees and releases the bees. He plucks out the mites from the powdered sugar and goes back to his lab. When he noticed the piles again, little black Argentina ants are leaving with varroa.

So, the other day, we're testing our new plastic sticky boards. It was really windy so I took a board piled high with powdered sugar into our greenhouse and placed it on our worm bed in the greenhouse. We raise worms to make horse poo into fertilizer and they get the powdered sugar and mites from our many dustings. The ants come in and take the mites away. I took a quick mental count of the mites in the sugar, noticing our load was finally going down. I got distracted and left the board overnight. They next day, it was cleared of mites and most of the sugar with just a few mites trapped in the patches of icing that was left. I scratched the mites out of the icing and the ants pounced on them and took off.

The following week, I dusted the bees early in the day and after a few hours; I removed the board to the greenhouse and left it on the worm bed. In a few hours I came back to ants all over the board. They were carrying off sugar. I could see the mites still wiggling in the sugar. I watched the ants pretty much go around them, although every once in a while, an ant would go over to a mite and poke at it. The mite's legs would go wild and the ant would jump back. I saw a few ants with mites, but not the line of ants that I've observed before. Suddenly, I noticed an ant, with its leg in the sugar, going in circles, like it was trapped. My camera, which has a movie feature, was handy so I turned it on and recorded the ant struggling, then I poked the sugar with a stick and out pops the ant's leg with a mite attached to it. It took a little less than a minutes for the ant to finally dislodge the mite. The film is a little blurry, but you can clearly see the ant with a mite attached to its leg. I'll play it at the meeting.

It seems that these little ants don't mess with lively mites. The bigger ants do. Randy noticed that the large desert ants will take varroa at any stage . I started to look for ants carrying mites and found that there was very little leg movement with the mites that ants were carrying off. You can watch mites in powder sugar wiggle for the longest time, but they eventually get weaker.

I should have a conclusion, something scientific, but I don't. Just more stuff to ponder. Like my next job… cleaning under my hive stands and make it real dusty under there, so to ensure mites dropping naturally have no chance to crawl out and try to find a bee hitch a ride on.

Orzo Wild Rice Salad

Contributed by Karla Hanson

1 cup Wild rice (cooked to directions)
½ box Orzo (cooked to package directions)
Yellow, orange and red peppers – diced (about 3 cups)
Choice of currents, cranberries or dried cherries – (about 1 cup total)
Toasted pine nuts – (about 1 cup)
Dressing
½ Cup Vinegar – Rice or wine
¼ Cup Oil or less
¼ Cup Honey

California State Beekeepers Association Annual Convention

Dear Fellow Beekeepers and Friends,

You are cordially invited to attend the 118th Annual California State Beekeepers Association Convention, November 13-15 at Harrah's, Lake Tahoe. This has been an unprecedented year for the beekeeping industry. With this in mind, I have tried to invite outstanding speakers who will address current issues and topics. At our Research Luncheon, Amanda Ellis, Florida Dept. of Agriculture, will discuss 'The Effects of Parasites on Honey Bee Pollination Efficacy'. During the convention, honey bee colony size and strength, nutrition, bee lab research, the seedless mandarin issue and, of course, CCD will be addressed.

Orin Johnson, President, CSBA

A membership and preregistration form for the convention was provided in last month's issue. Preregistration is due Oct 28. Or see website at http://www.californiastatebeekeepers.com/ and membership and registration form at

http://www.californiastatebeekeepers.com/pdfs/MembershipRenewalform.pdf

Coming Events

Nov 11-13 California State Beekeepers Association Convention at Harrah's Lake Tahoe
Jan 6-10 American Honey Producers Association Convention, Fresno
Jan 13-17 North American Beekeeping and American Beekeeping Federation Conference, Nugget Casino Reno.
Dec 1 Annual Nevada County Beekeepers Association potluck and pirate gift exchange

Now Playing: The Secret Life of Bees

This novel by Sue Monk Kidd has been made into a movie that is now playing in theaters. The Secret Life of Bees is a tale of self-discovery.
Fourteen-year-old Lily Owens strikes out on a journey to escape her abusive father and unravel the mystery of her dead mother – all set to the emotionally charged backdrop of the 1960s South. She is joined by her African-American nanny Rosaleen, who was beaten by racists on her way to register to vote.
They find the fictional town of Tiburon and a trio of African-American sisters. Set amidst a honey farm, the walls of their pink house hold the secrets and redemption Lily seeks.

(This is a chick flick.)

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 . The deadline for the December 2008 edition is Nov 20th . 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

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c/o Steve Reynolds
PO Box 548
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First Class Mail
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November 3rd Program

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7 PM at the Grass Valley Veteran's Hall.