

Local Buzz



February 2008



National Beekeeping Conference in Sacramento a few weeks ago. If you missed this conference, by now you must be kicking yourselves, missing all of those great talks, science meetings, and workshops. Did you know it had one of the biggest turnouts in the history of both the American Beekeeping Federation and the American Honey Producers Association? Over 1,500 people pre-registered, there were so many vendors, the overflow had to set up in the hallways and downstairs in front of the conference rooms. Those of you who went had a dizzying array of topics going on at the same time, how do you pick?

Well, don't feel bad, Randy and John are going to go over the topics and high points of the conference. Come learn the information on the current STATE OF HIVE! Join us for this great program and while you are at it, find out the information on Bee School starting in March.

President's Message

Almonds are upon us once again, if you're not taking any colonies, my question to you is: why not? A little extra money for honey containers or powdered sugar sure helps! My new old trailer/hoist is almost operational and my back can't wait to try it out.

I hope everyone has their equipment ready for increases come spring. We have little time left to decide what our '08 goals are, and still act on them. i.e. splits, packages, comb honey, etc.

I'm looking forward to Mssrs. Miller and Oliver's program at the meeting on the 4th. Everyone is welcome to join us at a no-host dinner for our speakers at Tofanelli's at 5 PM, and the meeting starts at 7 PM. See you all there.

Your President, Rob Slay

February 4th Program

Our February 4th program will feature the dynamic duo of John Miller and Randy Oliver telling about 2008

Bee Bits

By Randy Oliver

Notes from the 2008 ABF/AHPA & American Bee Research Conference

The Spanish team of Drs. Mariano Higes (pronounced Ee' hase, with a strong "h"), Raquel Martin-Hernandes, and Aránzazu Meana gave compelling presentations detailing their investigation into Spanish colony collapses. They found *N. ceranae* to be the culprit. The symptoms appear to be strikingly similar to CCD (however, it is clear that there are colonies collapsing in the US without detectable nosema). Drs. Steve Pernal and Tom Webster independently presented findings on treatments, and Dr. Judy Chen showed incredible graphics on the genetics and molecular biology of the beast, plus details of the progression of infection within the bee body. I will discuss information from these, and other presenters elsewhere in this article, and cite them as "2008 Conf."

N. ceranae appears to be a cousin to *N. apis*, rather than a sibling. Genetic evidence presented separately by Geoff Williams and Judy Chen indicate that *ceranae* is

closer to *N. bombi* (from bumblebees) or *N. vespula* (from wasps and some other insects), which helps explain why the European honey bee lacks resistance to it, and suggesting that it may spread to other bees.

Don't expect to diagnose nosema infections without a microscope--Chen and the Higes team both found that *ceranae* infection does not produce dysentery, swollen abdomens, a white gut, nor "crawlers" (although I find a few infected crawlers in my yards).

Higes and Meana explained that the pathogenesis of *ceranae* infection in a colony progresses through four stages: it builds slowly the first year, and can be detected mostly in foragers. The bees then compensate by rearing more brood, even through winter. There may be a "false recovery" during the second summer, during which the colony rebounds somewhat. However, during this time the infection starts to move into the house bees. Finally, the bees "lose ventricular function" (they can no longer digest food), stop eating (and stop taking medicated syrup, or pollen supplement), and simply starve to death in the midst of plenty. Most adults die far from the hive, leaving a handful of young bees and the queen.

Colonies can collapse either during summer or winter, but the character of the infection differs. During cold season collapse, most bees are infected, and spore counts exceed 10 million spores per bee. Contrarily, with warm season breakdown, less than half the bees are infected, and spore counts are generally much lower. Forager bees just die in the field, and the colony shows no symptoms other than dwindling away.

The Spanish researchers don't count spores, however. To them, a colony is either "clean," with zero spores, or infected, and on its way to eventual collapse unless treated with fumagillin. This knowledge makes accurate spore counting moot, and home diagnosis with a 'scope even easier. When you first start finding spores at a low level, it means that you'd better start taking action, and don't expect the colony to deal with the disease by itself. I asked Dr. Meana if she thought that the Spanish bees were more susceptible than other European races—she was sure that they weren't. However, I'm not clear as to whether the strain of *ceranae* that we have in the U.S. is as virulent as the Spanish strain. Dr. Pernal, et al, found the strain of *ceranae* that they tested to have about the same virulence as *apis*. Note that not all European researchers feel that infection by *ceranae* is invariably fatal.

What I'm seeing in California

Please remember that I'm new to nosema, haven't treated for it in twenty years, and never looked for spores until a few months ago (but I've looked at hundreds of samples since). The question to me (and others) is that since

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ceranae has been in North America for at least a decade, why haven't we seen massive losses before last year? After checking dozens of samples from various yards in my own operation, and those of friends (especially of lagging colonies, dinks, and deadouts), I've found some trends. First, there appears to be a large location factor, possibly due to nutrition. Some yards have zero spores, whereas in others nearly every colony is loaded. Most of our dinks and deadouts (even those with dead bees in front) showed zero to low spore counts (although a few showed moderate counts). This is opposed to the high correlation of nosema presence in CCD colonies (Cox-Foster, et al 2007; Bromenshenk, pers comm). However, my late splits that just wouldn't build up were loaded with spores, and dwindled badly in fall.

After hearing Higes' presentation, it is tempting to blame CCD on *N. ceranae*. However, it is clear that there are other factors or pathogens engaged in some colony collapses. Whether *ceranae* will become a major factor in colony losses in our future is yet to be determined, yet likely. In any case, it would be prudent for beekeepers to monitor nosema levels in their operations, and to understand their management and treatments options to deal with this parasite.

January Minutes

Pres Rob Slay opened with Q&A: John Miller re spring buildup--pollen patties in Jan, get fumagillin for Nosema *apis* and *ceranae*--fumagillin out of production so will be hard to find; make splits in April and requeen--pollination contracts \$160 for 8 full frames in two boxes @60F. Bees winter well at 40F. Finance-J Brisson NovBal\$1189.11; Inc\$111.50; Exp\$121.72; Nov End\$1178.96. December Exp\$404.63: Dec End Bal \$774.33

PROGRAM Dr. Larry Connor 1620 Miller Rd, Kalamazoo MI 49001. Color slides. Buying bred queens by mail risks poor performance if they have been 'Queen banked' from last year: fewer ovarioles, less pheromones, nosema. Local growers better-- can raise in nucs, sell for \$85, make multiple splits, reduce swarming, and still collect honey. An instrument-inseminated queen for \$100 can produce queen cells weekly. Breeding for hygienic recessive is widespread--

test by inserting plug of frozen comb into brood, next day count % of dead larvae removed.
Jack Meeks, sec

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NCBA

c/o Janet Brisson
20693 Dog Bar Road
Grass Valley, CA 95949

Dues are due now. If you have any questions, please feel free to call me at 530-913-2724 or email at rubes@countryrubes.com
See you at the meeting,
Janet, Treasurer

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Nevada County Beekeepers Association



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February 2008

February 4th Program
Our February program will be John Miller and Randy Oliver speaking about the recent national beekeeping conference in Sacramento. No-host dinner 5 PM at Tofanellis restaurant, 7 PM meeting at the Grass Valley Vets Hall.