

THE MARIN BEEK NEWS

Volume 9, Issue 2

February 2017

What You Missed

Our January meeting featured a presentation by Bernardo Nino. Bernardo received his M.S. degree from NC State studying termites. He started working with bees at Penn State in Christina Grozinger's lab. He is currently a staff research associate at UC Davis.

He is the lead in multiple research projects involving varroa, queens, and nutrition.

One of his current studies is on the efficacy of novel bio-pesticides on varroa mites. Varroa is the number one honey bee pest. It was introduced to the US in the late 80's. Varroa feeds on hemolymph of bees and is a transmitter of a variety of bee viruses, such as Deformed Wing Virus.

Current chemical options

Synthetic :

- Apivar - Varroa has shown resistance to other synthetics

Biomitocides:

- Formic Acid (MAQS) [Mite Away Quick Strips]
- Oxalic Acid

In his current study Bernard's team is trying essential oils. He is not able to be specific as the studies are in the early stages.

His current study on bio-pesticides consists of 79 colonies which were placed in a single apiary on May 11, 2016. Mite populations were allowed to build to 1-8 mites per 100 bees.

They started testing for varroa using the alcohol wash method every 14 days. They also did sticky board counts pre and post treatment for 10 days. They evaluated the strength of colonies before the treatments and at the end of the 85 days.

Treatments were applied following the manufacturer's recommendations for treatment protocol.

See What You Missed on Page 2

What's the Buzz?

Our next meeting will be on Thursday February 2, 2017 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA, starting at 7:30 pm. The meeting will feature a talk by Les Eccles, Ontario Tech Transfer Program Team Leader. His talk will focus on the widely respected Ontario bee breeding program. For more advanced beekeepers, you'll get a peek at how their system helps beekeepers prioritize and track selection protocols used to select breeder queens. (We got a look at this at an Eastern Apiculture Society (EAS) conference a couple years back and were very impressed with its practicality for both small and large scale beekeepers). If you're a beginner beekeeper, you'll get a peek into what characteristics make for a good surviving and manageable colony – and might get a better idea of questions you should be asking of those from whom you source your bees.

Upcoming Meetings:

March 2, 2017

Ross Conrad, beekeeper and owner of Dancing Bee Gardens, Middlebury, CT. He will speak about CCD and Organic Solutions. Workshops will be scheduled for Saturday. See Page 5 for more information on workshops.

See What's the Buzz on Page 3

1	What You Missed
1	What's the Buzz
3	Farm Day
4	Hive Tips
5	Beekeeping Classes
6	From the Librarian's Desk
6	Upcoming Workshops

They found that an essential oil compound that they tested was very good at controlling mites. More tests are planned using various strengths of the essential oil compound.

None of the essential oil colonies died during the experiment. Also they were the strongest hives in the apiary. Not sure how the essential oil works to kill off the mites.

Still have to investigate the virus load in the various colonies, tests are underway now.

Minimize in-hive pesticide use:

Varroa mites – various treatments, management techniques and ideology

American Foul Brood – a single legal solution for CA “Tylan”
Prevention

Nosema – a single chemical treatment (fumagelin)
Might be mitigated with proper management

SHB – a single chemical (Checkmite) but not good on the bees.
Multiple mechanical traps.
May be mitigated with proper management.

Utilize an integrated pest management approach.

Cultural control – resistant bee stock, breaks in the brood cycle.
Physical-Mechanical Control – removing drone brood.
Biological control – not much of an option yet
Chemicals.

Things to Consider:

Genetics:

- Hygienic:
 - Particular behavior (assay should be required)
 - May have less desirable traits (take out healthy brood, lousy honey producers)
- Survivor:
 - Easy to assess – alive, you are a survivor
 - Changes in years may select for different metrics of success

- Resistant:
 - Keeping the levels of pest/pathogen low on their own (grooming, etc.)
- Tolerant
 - Higher levels of pest/pathogens does not have severe effect on the bees

Feeding Hive:

- Should you feed colonies? It depends, but most likely. Watch out for robbing. Natural nutrition is always best
- Feeding supplemental
 - Sugar
 - Cane Sugar
 - Corn Syrup
 - Methods of feeding sugar
 - Cans
 - In-hive feeders
 - Pollen
 - Make your own
 - Pre-made

Honey bee colonies provided with natural forage have lower pathogen loads and higher overwinter survival than those fed protein supplements.

Hive/colony size – splitting and swarming

Apiary Size/Location

Number of hives can effect management
Proximity to forage and other hives.

Hive Equipment:

- Foundation vs foundationless
- Deeps vs mediums
- Langstroth vs top bar
- Use of drone comb

Colony Size and swarming:

Small hives swarmed more often and had:

- Lower varroa rates

- Less disease
- Higher survival compared to colonies in large hives

Swarming can reduce a colony's mite load. When colonies are crowded in apiaries this mite load reduction is erased as mites spread through drifting and robbing.

In their latest study, all colonies with high mite counts in late summer died over winter. All colonies with low mite counts in late summer survived over winter.

Varroa mites are highly capable of phoretically infesting foraging honey bees. Honey bees may drift upwards of 3 miles from a failing colony.

Ways to monitor varroa:

- Alcohol wash
 - Most accurate – but bees die
- Sugar shake
 - Pretty accurate and non-destructive
- Sticky Boards / 24 hour mite drop
 - Easiest but doesn't give you a mite population relative to the bees
 - Not as accurate

Recommendations:

- Monitor, monitor, monitor.
- Isolated apiaries with few colonies in each one.
- Use drone comb to trap mites and continue to cycle as long as possible.
- Keep hives well fed.
- Split colonies or let swarm.
- Consider a brood break.
- Treatment when needed (soft treatment first).

Bernardo then talked about the California Master Beekeeper Program

Benefits:

- Giving back to the community through volunteering
- Access to a growing network of fellow Master Beekeepers
- Access to the expertise at UC Davis
- Access to resources – latest information for management practices
- Discount for classes offered by Nino lab and the Honey and Pollination Center

- You become a better beekeeper

How to become a master Beekeeper:

Apply on line

There are three levels:

- Apprentice
- Journeyman
- Master

April 6, 2017

Charlie Blevin, beekeeper, San Francisco, CA. He will discuss swarms and extractions.

May 4, 2017

Randy Oliver. Workshops will be scheduled for Saturday.

June 1, 2017

Gadgets and Gizmos

July

No meeting: Marin County Fair.

August

No meeting: Marin Beekeepers Annual Potluck.

Farm Day

For those who like to plan ahead and would like to help out with the Marin Beekeeper's Farm Day exhibit, this year it will be held on Thursday, March 16 from 9:00 am to 12 noon at the Marin County Fair Exhibit Hall.

If you are not familiar with Farm Day, please check out their website at [www/http://cemarin.ucanr.edu/Programs/4-H_Program/Farm_Day_98/Farm_Day](http://cemarin.ucanr.edu/Programs/4-H_Program/Farm_Day_98/Farm_Day).

More details about Farm Day will appear in next month's newsletter and on the Buzz. If you would like to volunteer to help staff our exhibit or have any questions, please contact Steve Lamb at stlamb1@gmail.com or 415-412-6125

Hive Tips

By Bonnie Morse, [Bonnie Bee & Company](#)

- Feeding: If your bees are lucky enough to live in an area where they have been taking advantage of the eucalyptus blooms (since December!), they likely are faring OK since the recent prolonged rains. If not – and particularly with '16 colonies that were started later in the season or came from swarms – they may need a little help right now. We recently visited 50 colonies in Lagunitas, Forest Knolls, San Geronimo, Woodacre and Nicasio. They had not been visited in 3 months. 47 were still alive. The three that were lost were due to starvation. They were all '16 nucs that had been building quickly and apparently went through all food stores during the rains. The rest? 15 of the 47 needed feeding. 14 of those 15 were '16 nucs/splits and '16 swarms. Full sized colonies that had overwintered were in good shape.
- A lot of colony build up in Marin happens February – May, new colonies can sometimes have a tough time getting through their first winter. After that a healthy colony can likely take care of itself.
- Warm weather and early blooms mean that you MAY be able to start adding space again now. When in doubt, leave the colony as it is. But if you've got a colony that is busting out – and you're located near blooming eucalyptus – you might just be able to add a box and take advantage of the nectar / pollen currently available. Colony seems to be booming, but you don't want to take off the inner cover? Why not add a box ABOVE the inner cover (if your inner cover has a hole in the center)? Bees can access new box from hole, but solid portions of inner cover will prevent too much heat from escaping above cluster. If you're really not sure whether adding space is appropriate, you could even add a shim (or similar) to reduce inner cover hole to single bee space slit.
- Got a very small colony? Leave them bee. Not much you can do at this time of year and it will be very difficult for them to get temperature around brood (which is likely there) back up to 90+ degrees if you open them up. Best chance for a small colony right now is for you to let them alone until late winter / early spring when they've had a chance to build up a little more.
- We're starting to see drones out and about. Still early to consider splitting, but not too early to start planning for swarm season by thinking about setting up bait hives. If you've got bees, you should have at least one bait hive out. Despite our

best attempts to minimize swarming (which aren't always popular with the general public in urban areas – particularly if they move into the walls of someone's home), it can happen. Bait hives can provide a home to a nearby swarm, plus are just plain fun to monitor and observe during the season.

Not sure how to do it?

Review Tom Seeley's book, **Honeybee Democracy**, for complete details on what his research has shown that swarms prefer in a nesting cavity.

No time to read? We've had success with the following set up:

1. Deep hive box (10 frames is approximate size that Seeley's research indicated bees prefer, though here in Marin 5 frame deep boxes seem rather attractive to them as well)
2. A couple of frames with empty built out combs (if you have them) in the center surrounded by empty frames with starter strips (or just empty space – but you'll need to add frames soon after they move in or else they will start building from the top of the box).
3. Entrance reducer set to medium
4. Box above the ground 2-3' (higher if you are able)
5. Optional: Spray lemon grass tea (boil lemon grass until you make a dark tea) or other substances mimicking queen pheromones on the top of the frames and entrance of the hive.
6. Wait to observe scouts! And if you're lucky, get a move in.



Watching a Swarm Move In!

Beekeeping Classes

Upcoming classes with Bonnie Morse, Bonnie Bee & Company:

Beginner Series: 9 hours, \$99. Classroom sessions will include basic bee information, seasonal cycles of a colony, equipment options, where to place your hive, how to get bees and tips on working with your equipment. When the weather warms up, there will be a field session so you can observe and practice working with your tools and bees.

Class room sessions: Wednesdays, Jan. 25, Feb. 1, Feb 8, 6:30pm - 8:30pm (3 classes, course code 26357, drop in fee = \$30/class)
[San Rafael Community Center](#), 618 B St., San Rafael
Field Day: Sat., Mar. 11th, 9:30am – 12:30pm (drop in fee = \$40)

Intermediate Series: 9 hours, \$99. You've got your colony through winter (or not) - now what? Class sessions will include how to clean up your equipment, expanding hive size for spring, swarm prevention- and if that fails, swarm capture, setting up bait hives for swarms, identification of common pest and diseases and management options for them. Topics will also include dealing with special situations: aggressive hives, queen failures, and laying workers. Field day will include information on how to split a colony, pest and disease ID, and swarm prevention.

Classroom sessions: Wednesdays Feb 15, Feb 22, March 1, 6:30pm - 8:30pm, 3 classes, course code 26356, drop in fee = \$30/class
[San Rafael Community Center](#), 618 B St., San Rafael
Field Day: Sat., Mar. 11th, 1:30pm – 4:30pm (drop in fee = \$40)

Mark your calendar for other 2017 classes and workshops ([additional information](#) available www.bonniebeecompany.com):

Intermediate Beekeeping, Sat. February 15, Fairfax Backyard Farmer, 3 hours

Backyard Beekeeping, Sat. March 18, Fairfax Backyard Farmer, 3 hours

Field workshop: Beekeeping Basics (using your tools, inspection basics, swarm prevention), Sat., May 13, 9:30am – 12:30pm

Field workshop: Intermediate Beekeeping (splitting hives, queen issues, space management), Sat. May 13, 1:30pm – 4:30pm

IPM / Hive Feeding, Sat May 20, Fairfax Backyard Farmer, 3 hours

Summer and Fall Hive Management class series,
Class room sessions: Wed. 7/12 – 7/26, 6:30pm – 8:30pm, San Rafael Community Center, Field Day: Sat. 8/12, 9:30am – 12:30pm, location TBD

Slow Bee: A Fundamental Shift Towards the Wholeness of Bees

With Michael Joshin Thiele

in the Wheelwright Center at Green Gulch Farm
Saturday, February 4, 2017, 9 am – 4 pm

“Slow Bee” is an attempt to redefine our relationship with bees and to create a new paradigm of apiculture. We will study the unique matrix of the life of honeybees and their intricate inner organization, and look at strategies of integrating core life principles into our own apiaries.

This workshop will offer a biodynamic vantage point and a bee-centric approach. Participants will be able to integrate new information and insights into the upcoming 2017 bee season.

Open to all levels of beekeeping and bee-lovers.

Fee: \$90; \$81 current SFZC members; \$72 limited income.

- Fee includes a delicious, organic lunch cooked in the Green Gulch kitchen.
- Some partial scholarships available.

To Register: Use the Register Online go to <http://www.sfzc.org/green-gulch/calendar/workshops-retreats/slow-bee-workshop> or call their toll-free number (888.743.9362) or local number (415.475.9362).

Biodynamic Apiculture - Supporting the Life of Bees

Green Gulch Farm, Muir Beach, CA, February 27, 2016; 9am – 4pm

This workshop will be an introduction into biodynamic apiculture and a treatment free, bee-centered approach. Topics will include alternative hive designs, working with natural comb, biodynamic management technics, the examination of core principles of their instinctual needs, self-sustaining apiaries & design, health and more. Info and reservations at <http://gaiabees.com/events/>

From the Librarian's Desk

American Bee Journal Subscriptions

Is it time to renew your subscription to the ABJ? As a Club member, you can receive a discounted rate if you use one of the forms available at the Library table. Stop by & pick one up at Thursday's meeting.

News from the Library

That time of year is approaching when the calls from folks wanting to have bees removed from their homes & property start to come in. The latest edition to the library is a copy of Honey Bee Removal by Cindy Bee and Bill Owens. A detailed equipment list is provided including instructions for creating a bee-vac systems. Numerous scenarios are presented with step-by-step procedures. For those of you with a sense of adventure, this will give you lots of tips & tricks.

As always - don't forget to bring back your borrowed items & have a chance for a fabulous prize!

Upcoming Workshops

Ross Conrad, our March guest speaker, will be leading two beekeeping workshops on **Saturday, March 4, 2017** in Corte Madera, \$50 per person, per session, 20 person max per session.

9:30am - 12:30pm: will cover - Pesticides and Honey Bee Health; and Organic Varroa Mite Control in Beehives.

1:30pm - 4:30pm: Overwintering Bees and Spring Management: Live Hive Demonstration (weather permitting). We will open hives and evaluate the colonies state of health and condition. If you have never handled bees before, this is your chance for hands-on experience!

Please contact Richard Hyde at rh@hyderanches.com to register and receive additional information.