THE MARIN BEEK NEWS

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What's the Buzz?

Our next meeting will be on Thursday April 2, 2015 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA starting at 7:30 pm. The meeting will feature Elina Nino, PhD, the new Extension Apiarist at UC Davis who replaced Eric Mussen, now emeritus.

Her expertise in queen biology, chemical ecology, and genomics was honed at the Grozinger Lab at Pennsylvania State University on a prestigious postdoctoral fellowship funded by the USDA_NIFA.

Upcoming Meetings:

May 7, 2015

Marla Spivak, PhD, Distinguished Knight University Professor at the University of Minnesota.

June 4, 2015

Mark Winston, PhD, Academic Director and Fellow of the Centre for Dialogue, Simon Fraser University, Vancouver, BC.

July

No meeting (Marin County Fair)

August 8, 2015

Annual Marin Beekeepers Potluck

What You Missed

Our last meeting featured a presentation by Christina Grozinger, PhD, Professor of Entomology and Director, Center for Pollinator Research, Penn State University.

Christina began her talk listing the main things that are killing bees: poor genetics, viruses, varroa mites, poor management, pesticides, monocrops, variable temperatures (climate change). Her research has found that nutrition is the key to bee health. There is a strong correlation between stress and nutrition. Good nutrition will increase the bees' resistance to stress. A study of bees exposed to the pesticide chlorpyrifos found that feeding the bees pollen improved their resistance to the pesticide but the pollen only showed improved mortality with the pesticide exposure.

She conducted an experiment to study the genomic response to parasitization. The bees were infected with nosema. In addition to the common symptom of dysentery, they found that the bees starved more quickly, their immune systems were altered and they tended to mature faster.

Christina then went on to talk about pesticides. Bees are exposed to many pesticides. Their studies found over 120 different chemical residues in bee hives with an average of six different residues per hive. A study that concentrated on beekeeper applied pesticides found that the expression of over 1000 genes was significantly changed by the pesticide exposure.

In another experiment the bees were infected with Israeli Acute Paralysis Virus (IAPV). They examined the gene expressions in the symptomatic and control group bees after 24 hours and found 753 differentially expressed genetic transcripts. They also found that there was very little overlap with genes that responded to bacteria or nosema. They also found that viral infections caused changes in the way that DNA acts.

Christina conducted a study focused on the overwintering of bees. Overwintering is a critical time and the average loss over winter in the United States is now at 30%. The goal of the study was to determine if there is a local northern stock that is better at withstanding the northern winters in Pennsylvania. She started out the study with four different bee stocks,

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two northern and two southern. In the fall she measured colony weight, food stores, and varroa loads. In the spring she assessed survival. Her study found no effect of stock on survival rate. She did discover that colony weight and adult bee numbers had an effect on survival. In her study she also noticed that survival rate was influenced by which apiary the bees were put in. So environment also played a role in survival.

Christina pointed out that other studies, particularly in Europe, have shown that survival rate can be affected by locally adapted stock.

Christina followed up with a study on the effect of population size on resistance to stress. Colonies were started with 1,000, 2000, and 8,000 bees. The colonies with 1,000 bees quickly collapsed while the colonies with 8,000 bees built up nicely.

In summary, there is a strong correlation between overwintering success and colony size and nutritional resources.

Hive Tips

By Bonnie Morse,
Bonnie Bee & Company

The flow is on!!! Prevent your bees from swarming: make sure there is adequate space in the brood chamber.

- **Strong hives are building quickly.** If your bees are starting to get crowded, add more space. Most importantly – be sure there is contiguous space in the brood chamber. If you add additional space, but there is only honey between it and brood area, you will not prevent brood area congestion – which is the cause of swarming.

- **Adding a new hive body above the brood with new frames?** Help entice bees to move up by adding a frame of with built out comb in new box. Are you a new beekeeper who doesn't have any frames with built out comb? Help entice the bees to move up by pulling a frame with young brood (young larvae & eggs) up into the new hive body from area below. Nurse bees will stay with these bees and their presence above will entice building in the new hive body. If you do this:

    1. Be sure frame you pull up is kept directly above other brood frame(s) for easy access by nurse bees.

    2. Replace frame you pulled in lower box. At this time of year (warmer temps so bees can break cluster to access food in different parts of the hive), you can place the replaced frame in the brood cluster area, OR between outermost brood frame & food frame, OR outside last frame in the box.

- **Bees not quite ready for more space above?** But you are concerned about swarm prevention? Add space BELOW. A super below your other hive bodies will give queen potential space to expand into and also give space to returning foragers.

A Simple Formula for Splitting: #7 Split = 2+2+2+1 (for a 5 frame nuc box)

- 2 frames of brood (one capped, one mixed age that has eggs/young larvae from which bees can start queen cells)

- 2 frames of food (include pollen and nectar/capped honey)

- 2 frames of bees shaken in (preferentially from brood frames that have a lot of nurse bees; return brood frames to parent hive after shaking bees into your split)

- 1 empty frame

- Check split in 2-3 days to be sure they are making queen cells (no queen cells? Are you sure you didn't get the queen?)

- After ensuring that bees have queen cells, then be patient and wait for about 30 days +/-. By then, if the queen successfully returned from her mating flight(s) you will likely see capped brood.

Cleaning out a winter dead out in preparation for the arrival of new bees?

- Check frames closely for the presence of American Foulbrood. While chances are more likely that your bees perished for another reason, this highly contagious disease continues to be found in colonies in Marin. Do yourself – and your neighboring bees – a favor and educate yourself on the signs. Unsure? Ask for help on the Buzz.

If you haven't done so already, it's time to set up your bait hives!

- First swarm of the season was reported on March 5th. If you plan to set out bait hives this year, now is a good time to do so.

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- 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? Local beekeepers report success with the following set up:

  1. Deep hive box.

  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!

- Have a bait hive tip? Post it to the Buzz!

Bonnie Bee & Company Breeds Local Survivor Queens for all of Their Nucs

From the Librarian's Desk

Many thanks to Robert MacKimmie for looking after the library last month. Look for our newest addition this month - Bee by Rose-Lynn Fisher - a fascinating collection of scanning electron microscope photos of bees. All of the shots are wonderful, but the eyes are really something to see! Some of you may remember Rose-Lynn speaking at the club a few years ago.

We also have some new, gently used back issues of the American Bee Journal that members are welcome to enjoy.

Beekeeping Classes

Beekeeping Basics (3 hours, $35)

Saturday, May 16th, 9:30am – 12:30pm, tentative location: San Geronimo
Limited to 20 participants

You have your bees, now what?? Learn tips and techniques for using smoker, bee brush and hive tool. We will look into how to work your frames and what to be looking for to determine health of your queen and the colony as a whole. As urban beekeepers, it is important to prevent swarming (to the best of our ability), so you'll learn what causes swarming, how to prevent it, and how to recognize early warnings that a colony is making preparations to swarm. You'll also get to see what a laying worker colony looks like (we inevitably have a few from queens who didn't successfully return from mating during our nuc production) and techniques for making it queenright.

Email bonnie@bonniebeecompany.com to register.

A New Beekeeper Inspecting Her First Frame

2015 Marin Bee Census

It's survey time again! Over the past six years, we have been able to collect a lot of data on what is happening with our local bee population, and what methods/equipment/etc. local beekeepers are employing to get these results.
Whether you have one colony or twenty, your input is important. Even if you don't keep bees, but observe a feral colony in a tree or the walls of the house, we want to know what's happening with the bees.

Past surveys have indicated that some of the fewest losses occur with local splits and early season swarms. Before 2012, few beekeepers were splitting colonies, but the trend seems to be increasing. Did you do splits or receive splits last year? How did it work out? How about Bonnie Bee & Company nucs? Colonies from the Split Squad? We want to know!

Average annual losses reported over the last six years are at 44%, but for the first time last season, beekeepers reported sourcing 75% of their increases from local stock. That's the magic number breeders look for to have "isolation". Are we reaching a tipping point as a community where we'll see overall lower losses? Take the survey, and then wait to find out!

Survey will be available online soon. Watch for the link on the Buzz – and share with your beekeeping friends who may not be association members.

Fair News

The **2015 Marin County Fair** is fast approaching. The official Fair entry form deadline is 14 May 2015. If you entered last year you should have received an entry package by now. If not, or if you are entering for the first time, there are entry forms and the 10 category descriptions for the Adult Honey Department on the Fair website, under Competitive Exhibits.
http://www.marinfair.org/2015/competitive-exhibits/adult-exhibit-information
Entry forms are available at
http://www.marinfair.org/~/media/files/fair/2015/contests/2015-entry-form.pdf?la=en

Please don't be shy, enter as many categories as you wish.
Exhibits will be received over 2 days at the Exhibit Hall at the back of the Fair Grounds.
Friday, June 12, 3 pm to 7 pm & Saturday, June 13, 10 am to 5 pm, Exhibit Hall
This is an opportunity for all of us to participate in a little good-hearted competition with other beekeepers on all types of hive products: honey, beeswax, and candles. Cash prizes are associated with the first 5 places. There are two big prizes, the Best of Show and the Barney Salvisberg Award, a founding member of Marin Beekeepers. Again, this year each will have additional monetary awards. All the exhibits are on prominent display at the bee booth during the fair (ribbons included) for your friends and neighbors to see, and we can showcase the many different hive products produced locally in Marin. There is still time to assemble and get your entries in.
Next up is staffing the bee booth inside the exhibit hall during the Fair which this year is from **Wednesday July 1st to Sunday July 5th**. This is our club's opportunity to do outreach and get the word out about our little "trusts" and hopefully dispel some misinformation. We get to talk about bees, show off the observation hive (a fresh one every day), look for the queen and enjoy the various reactions. Even as a "newbie" you have more knowledge than most of the public. The club also gets paid from the Fair to help continue our excellent list of speakers.

We staff the bee booth with 2 people during each 3- to 4-hour time slot. In exchange, each staffer receives a pass to get into the Fair and each time slot will have one car pass to the exhibitors' parking lot in back of the exhibit hall. The rest of the day you can enjoy the other parts of the Fair. Check out the entertainment at the web site http://www.marinfair.org/2015/concerts (included with entry), special events and attractions, especially the fireworks display each night at 9:30 p.m. The sign-up schedule is attached. Email me your preferences. Stralka.daniel@epa.gov Please sign up and join in the fun!

The important dates are:

May 14
Entry forms due in with this year's entry fee of $2.50 per entry.

June 12 and 13
Drop off exhibits in the Fair building at the back of the Fairgrounds
Friday, June 12: 3:00 to 7:00 p.m.
Saturday, June 13: 10:00 a.m. to 5:00 p.m.
We can accept late entries even if you hadn't submitted a form. Fill out the forms before you come to expedite the processing.

June 14
Judging by Chef Frank Villa, Executive Chef at Marinitas in San Anselmo.

June 22
Finalize Bee Booth sign-up.

July 1 to 5
MARIN COUNTY FAIR!

July 7
Entry retrieval and collection of awards.