

The Bee Line

Newsletter of the Oregon State Beekeepers Association

Volume 41 Number 3 April 2016



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www.orsba.org

Oregon State Beekeepers Association orsbawebmaster@gmail.com

www.oregonmasterbeekeeper.org
Oregon Master Beekeeper Program

A Joint Venture of OSBA and the Oregon State University Extension Service info@oregonmasterbeekeeper.org

Above: Cheryl Walz and Mike Hewgill, participants in the Oregon Master Beekeeper Program, begin spring inspection of a colony of bees at the BeeCuz BeeYard in Pistol River.

OREGON STATE UNIVERSITY HONEY BEE LAB: NOSEMA AND NUTRITION RESEARCH SUMMARY

Ramesh Sagili

The microsporidian gut parasite of honey bees Nosema ceranae has been reported to be the predominant species in honey bee colonies in the United States. Currently there is significant gap in knowledge regarding biology and epidemiology of this relatively new species of *Nosema* in European honey bees. It appears to be a silent killer without much overt symptoms compared to Nosema apis that was more common in the U.S. Few studies have confirmed that N. apis has been displaced by N. ceranae in the past few years (Bourgeois et al. 2011, Smart and Sheppard 2011). Nosema ceranae appears to have a significantly different phenology when compared to Nosema apis, and also believed to be causing more problems for beekeepers throughout the year. Hence, many beekeepers have been forced to treat their colonies prophylactically with antibiotic Fumagillin to protect their colonies from N. ceranae without information on presence or absence of Nosema or its economic threshold. This prophylactic treatment has significantly increased hive management costs for beekeepers, as Fumagillin is expensive. Also, excessive use of the antibiotic may lead to development of resistance and hence a possibility of beekeepers losing an effective tool for Nosema control. Further, regular use of this broad-spectrum antibiotic may also have a negative impact on beneficial gut microbes that aid in digestion.

It has been shown in the past that resistance to pathogens can heavily depend upon nutrition (Behmer, 2009, Alaux., 2010, Mao et al., 2013). Also, there is anecdotal evidence that some beekeepers are successfully managing their colonies without using any *Nosema* treatments. These beekeepers believe that better nutrition (pollen/protein) helps their bees tolerate *Nosema* infections. To test this argument, we conducted a study at Oregon State University in 2014. We hypothesized that bees provided access to high pollen concentrations will have lower *Nosema* spore intensities and better survival. We examined the effects of diets that had different quantities of pollen on (a) prevalence and intensity of *Nosema ceranae* and (b) longevity (survival) and physiological parameters (hypopharyngeal gland protein and midgut proteolytic enzyme activity).

Newly emerged honey bees with similar genetics (progeny of sister queens) were obtained and stocked in cages in the lab and reared in an incubator. We had a total of 36 cages for this experiment with 250 bees in each cage. Following were the diet treatments: 1:0 (pollen:cellulose); 1:1 (pollen:cellulose); 1:2 (pollen:cellulose); 1:3 (pollen:cellulose); and 0:1 (pollen:cellulose). We also had a control diet group that was provided pollen similar to 1:0 (pollen:cellulose) treatment but did not receive any *Nosema* spores. Five days after initiation of these treatments, bees in each cage were mass-inoculated with *Nosema ceranae* spores. Once a week, we measured the consumption of diet and bee mortality was recorded every other day until the end of the experiment. Sixteen days after spore inoculation, 30 bees from each

MESSAGE FROM THE PRESIDENT



About 12 years ago after buying a new truck, I decided that I should start a mileage log to document fuel expenses for tax purposes. I placed one of them in all business vehicles, including pickup trucks.

Every time a truck is driven, the beginning and ending mileage, date, and time are recorded as well as a description or reason for the trip.

When I set this up, I had no idea of what a valuable piece of historical documentation it would become. I get calls all the time from fellow beekeepers asking about dates for blooming crops.

No problem! Since I never remove pages from the log, I can sit down and give the move-in and move-out dates for pollinated crops for the past 12 years.

One interesting trend that I noticed is peach delivery dates. I have 2 peach growers and both of them have called in bees earlier each of the last few years: 4-2-2012, 3-24-2013, 3-15-2014, 3-3-2015, 3-3-2016. The 2016 date is deceiving because the growers actually needed them a week earlier, but the bees were still in almonds.

I have located a sideline beekeeper that I may hand off one of the peach accounts to in order for the grower to get bees on time. That orchard was in full bloom when I delivered bees this year.

How much earlier will things get? Will there be a reversal sometime soon and bloom dates will return to normal? What other subtle (and not so subtle) trends should we be keenly aware of in annual weather patterns? For example, what is changing related to forage throughout summer and fall?

Factoring in seasonal weather trends MUST be a component of our scientific beekeeping management if we wish to stay ahead of the curve and manage predictively.

Nutrition and pest & disease management timing and intervals should be carefully reviewed. I wish I had some good answers to this; I don't. I do have questions, however, AND our truck mileage logs as a starting point.

At a minimum, blindly managing hives by the calendar date may be something to reconsider. I look forward to evaluating these things with you and our fellow association members throughout the year!

Harry



Nosema—Continued from page 1

cage were removed for several analyses (*Nosema* intensity, hypopharyngeal gland protein, midgut enzyme activity, and so forth).

Interestingly, in our study we found that the bees that received higher pollen quantities had higher intensities of *Nosema ceranae*, but also higher survival. These results may seem counterintuitive, as both *Nosema* intensity and survival increased in bees that had access to higher pollen quantities. It appears that the bees receiving the higher

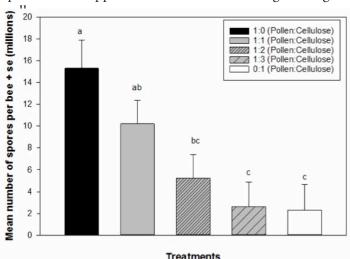


Figure 1. Mean number of *Nosema ceranae* spores per bee $(\pm SE)$ fed different pollen concentrations and sampled 16 days after infection. Means with different letters indicate significant differences among treatments (P < 0.0001).



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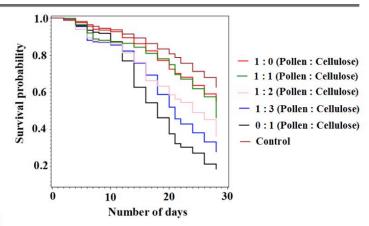


Figure 2. Survival of *Nosema ceranae*-infected bees fed different concentrations of pollen. (Control group was not infected.)

Note: This graph is color coded. For interpreting copy printed black and white, the Control group appears as the plot at the top of the graph, followed by treatment groups in the relative order (after the Control to the bottom plot) of the position presented in the key.

diet were able to compensate for the negative effects of *Nosema*, as higher pollen diet possibly resulted in a robust immune system and also compensated for the lost energy and nutrients in infected bees.

Further, our results suggest that *Nosema ceranae* is highly dependent on the host (bees) nutrition for its development, and hence bees receiving a higher pollen diet also become an ideal host for greater reproduction of this parasite by providing an ideal nutritional environment for this parasite.

The take-home message from this study is that better nutrition (pollen/protein) makes bees more resilient to pathogens such as *Nosema* and increases their longevity. This study was recently published in the *Journal of Insect Physiology* (http://www.sciencedirect.com/science/article/pii/S0022191016300051). You can also access the OSU Extension press release pertaining to this research at: http://extension.oregonstate.edu/news/release/2016/02/better-fed-honey-bees-fight-harmful-effects-parasite-0.



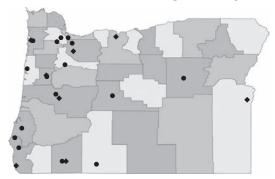


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WRBO.org Western Regional Beekeeping Observer

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South Willamette Valley: Karessa Torgerson 541.220.8919; karessat@gmail.com

OSBA REGIONAL ASSOCIATIONS

Cascadia Queen Breeders

Meets quarterly; contact the secretary for information.

Chair: Paul Maresh

503.283.2060; pmaresh@spiretech.com

Vice Chair: James Hensel Secretary: Ken Anthony klanthony1@comcast.net Treasurer: Tom Chester

Central Coast Beekeepers

Meets 6:30 PM, fourth Wednesday Newport Library, 35 NW Nye St, Newport

Information: centralcoastbeekeepers@gmail.com

Co-President: Nancy McDowell 541.487.4666; carverranch@gmail.com

Co-President: Anne Schatz

541.418.1156; rapscallion.retiree@gmail.com

Website: www.ccbaor.org

Central Oregon Beekeepers

Meets 6:00 PM, fourth Tuesday (except December)
The Environmental Center, 16 NW Kansas Ave, Bend

Information: contact@cobeekeeping.org

Co-President: Allen Engle aengle@bendbroadband.com
Co-President: Patricia Moreland

oregonpat@gmail.com

Website: www.cobeekeeping.org

Coffee Creek Beekeepers

Coos County Beekeepers

Meets 6:30 PM, third Saturday (except December) Ohlsen Baxter Bldg, 631 Alder St, Myrtle Point **President**: John Gardner—541.572.3847 **Vice President**: Shigeo Oku—541.396.4016

Secretary: Betsy Fleming **Treasurer**: Jane Oku

541.396.4016; janeoku1958@gmail.com

John Day River Beekeepers

Meets quarterly **President**: Matt Allen

541.934.9101; apricotapiaries@gmail.com Education Coordinator/Secretary: Liz Lovelock

Klamath Basin Beekeepers

Meets 9:00 AM, last Saturday (except Nov/Dec)
OSU Extension, 3328 Vandenberg Rd, Klamath Falls

President: Paul Davitt

president@klamathbeekeepers.org
Vice President: John Wilda

vicepresident@klamathbeekeepers.org

Secretary: Judy Olson

secretary@klamathbeekeepers.org

Treasurer: Ray Rutler

treasurer@klamathbeekeepers.org

Website: www.klamathbeekeepers.org

Lane County Beekeepers

Meets 7:30 PM, third Tuesday, Trinity United Methodist Church, 440 Maxwell Rd, Eugene

President: Pam Leavitt

541.344.4228; pamseaver2000@yahoo.com Vice President: Max Kuhn—541.997.7390

Secretary: Jodi Wiktorowski Treasurer: Polly Habliston Website: www.lcbaor.org

Linn-Benton Beekeepers

Meets 6:30 PM, third Wednesday

Corvallis Waldorf School, 3855 NE Highway 20, Corvallis

President: Steve Oda 541.745.7227; steve@lbba.us Vice President: Everett Kaser 541.924.9214; everett@lbba.us Secretary: Laurie Bowman 541.250.1006; secretary@lbba.us

Treasurer: Suzi Maresh 541.967.9607; suzi@lbba.us Website: www.lbba.us

Oregon South Coast Beekeepers

Meets 6:00 PM, third Tuesday

OSU Extension Office, located at the Fairgrounds

in Gold Beach

President: Jim Sorber Vice President: Curt Sawall Secretary: Lynn Sorber Treasurer: Barbara Fitts

Portland Metro Beekeepers

Meets 7:00 PM, second Thursday Clackamas Community College Clairmont Hall, Room 118, Oregon City

President: Joe Maresh

503.703.5060; joemaresh@bctonline.com

Vice President: Rex McIntire

503.720.7958; remcintire 5@msn.com

Secretary: Patty Anderson

503.887.7057; wiseacrefarms@me.com

Treasurer: Barb Derkacht

503.631.3063; bderkacht@yahoo.com

Website: portlandmetro.org

Portland Urban Beekeepers

Meets 7:00 рм, first Wednesday

Alberta Abbey, 126 NE Alberta St, Portland

For information, e-mail: officers@ portlandurbanbeekeepers.org

President: Bill Catherall—503.572.6467 president@portlandurbanbeekeepers.org

Vice President: Laren Leland

vice-president@portlandurbanbeekeepers.org

Secretary: Simone Miller

secretary@portlandurbanbeekeepers.org

Treasurer: Linda Callahan

treasurer@portlandurbanbeekeepers.org **Website**: portlandurbanbeekeepers.org

Southern Oregon Beekeepers

Meets 7:30 PM, first Monday (6:30 PM demo thru bee

season) Southern Oregon Res & Ext Ctr

569 Hanley Rd, Central Point **President**: John Jacob

541.582.BEES; john@oldsolenterprises.com

Vice President: Risa Halpin rhalpin906@aol.com

Secretary: Ellen Wright

541.941.1894; ewright42@gmail.com

Treasurer: Cheryl Housden

541.659.6654; chousden@earthlink.net **Website**: southernoregonbeekeepers.org

Tillamook County Beekeepers

Meets 7:00 PM, second Tuesday (except December)

Fresh Cafe, 9120 5th Street, Bay City **President**: Bob Allen—503.322.3819

Vice President: Rick Stelzig rstelzig@embarqmail.com
Secretary: Claire Moody

503.318.9149; claire@vanirmail.com

Treasurer: Terry Fullan

503.368.7160; tfullan@nehalemtel.net

Tualatin Valley Beekeepers

Meets 6:30 PM (6:00 PM social time), last Tuesday

225 S First Street, Hillsboro

Contact: tualatinvalleybeekeepers@gmail.com

President: Jeff Clark

Vice President: Debby Garman Secretary: Dianne Hutto Co-Treasurers: Barb Falconer

Web: www.facebook.com/TualatinValleyBeekeepers

Willamette Valley Beekeepers

Meets 7:00 PM, fourth Monday, Chemeketa Community College, Building 34, Room A, Salem

President: Richard Farrier

541.327.2673; rfarrierfarms@gmail.com

Vice President: Mona Kanner Secretary: Emily Cross Treasurer: Laura Evans Website: http://wvbahive.org



≥ 2016 BEE SCHOOLS & BEE DAY

April 2, 8:30 AM-3:00 PM: Tillamook County Beekeepers Bee School, Fairview Grange. \$15, includes lunch.

April 15–16: GloryBee Bee Weekend, see ad, this page.

April 23: Portland Metro Beekeepers Bee Day, George and Susan Hansen's Foothills Honey. Registration form: portlandmetro.org.

May 21: Lane County/Linn-Benton Beekeepers Field Day, Oregon State University Apiary. Two tracks: one serving beginners and the other, more advanced beekeepers.

MORE BEE EVENTS

April 30–May 1: Portland Metro Beekeepers, booth at the Master Gardener's Fair, Clackamas County Fairgrounds.

June 25–26: Portland Urban Beekeepers Tour De Hives, featuring tour stops of backyard apiaries all over Portland. To become a sponsor, email: events@portlandurbanbeekeepers.org. Information: https://tourdehives.com.

July 18–20: International Conference on Pollinator Biology, Health and Policy, Penn State. Information: Kim Swistock, kar3@psu.edu.



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August 20: Oregon Honey Festival. Information: oregonhoneyfestival.com.

October 28–30: 2016 OSBA Fall Conference. The Oregon Garden, Silverton, Oregon.

October 12-15: 2016 WAS Conference. Honolulu, Hawaii.

REGIONAL NEWS

Note: For all groups, see pages 4–5 for meeting time and place, website, and/or contact information. All welcome visitors to join them at meetings! In addition, many groups continue to prepare opportunities for learning, including those that appear both on this page and on their websites.

Regional Representatives

North Coast

As I write this, it is wet and windy here on the north and central coast. We got eighty mile an hour gusts last evening and night. Good thing the hives were strapped down. We had flashes of spring earlier so hopefully this is just the end of winter. At the Tillamook County Beekeepers meeting it was noted that several members suffered some late winter losses. I know I had late season losses. The new Central Coast Beekeepers Association is largely made up of new beekeepers but many of the old timers in the area also suffered last season losses.

The Tillamook County Beekeepers Association Bee Day will likely have happened by the time you read this. I know the Tillamook County Beekeepers would like to thank those who presented, coordinated, and hosted the day. We would also like to thank the Bee Day sponsors and those suppliers that contributed to the raffle. Once again we were lucky enough to have Dr. Dewey Caron as our featured speaker and very much appreciate all he does for OSBA, the OSBA Chapters, and Bee Education. Thank You, Dr. Caron.

Central Coast Beekeepers Association was able to get their contact information in the recently published OSBA directory. The Tillamook County Beekeepers and Central Coast Beekeepers are doing a joint club bee order this year. Special thanks to the suppliers for providing this benefit to the clubs.

The central Oregon Coast Oregon Master Beekeeper Program classes are progressing at their location in Newport at the Hatfield Marine Science Center on the Oregon State University facility. It is a small class, but we are limited by the number of mentors in the area. Being involved in the instruction and mentoring now, I have a new and very appreciative view on all that Carolyn Breece and Rita Ostrofsky do. Thank you.

—Staw Scottow

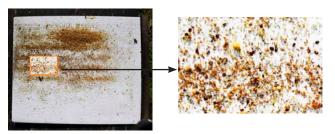
South Coast

"Ghost Bee" headlines two local newspapers at South Coast, supersized at the top of the front page of the *Curry County Reporter* and then giant sized, the single



honeybee all powdery white nearly filling the entire top half of the cover of the feature section in the *Curry Coastal Pilot*: www.currypilot.com/Features/Features/Sugar-coating-bees.

One of the Oregon Master Beekeeper Program apprentices, Mike Hewgill, discovers the tiny mites on the white board, recognizing them as reddish and shiny, gets one onto his finger and declares, "It looks like a little lady bug."



All publicity for the monthly meeting mid-March, "Mite-y Talks at Bee Meeting" with video showing at after potluck of first, the animated illustration of the life cycle of the *Varroa destructor* mite: www.youtube.com/watch?v=a2vg59Snt6c. "Aurrg!" And then the live version from USDA Jeff Harris, Agriculture Research Service, ARS: www.youtube.com/watch?v=a2vg59Snt6c.

Bee packages will be of top interest, all to be picked up mid-April by our commercial beekeeper couple, Russ and Babette Rose.

Barbara Fitts, Oregon Master Beekeeper Program instructor, will report on the nearly completed classroom sessions of the enthusiastic apprentices, including several group viewings of the live broadcast from OSU of the classes there.

Coos County Beekeepers had a major loss to hives owned by the main commercial beekeeping couple there, Randy Sturgell & wife, when a bear ransacked the beeyard during their absence. Now folks with blueberry farms are desperate for pollinators. One has asked for help seeking 8 hives for one place and 6 for the neighbor. If any are available, call me or email us at BeekeepersCoastal@ gmail.com

—Mween Walker

South Willamette Valley

Drones are abundant in area hives now, and mites are, too, where treatments haven't been diligently

applied. It looks like it may be another early year for swarms. The coming bout of rainy weather may delay things a bit. There have been a few reports of wax moths in even strong hives. The mild winter hasn't done us any favors on the pest control front! Bumblebee queens and yellow jacket queens are coming out of hibernation. Time to get the yellow jacket traps out.

—Karessa Torgerson

Regional Associations

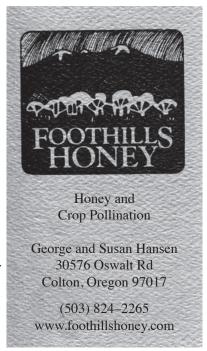
Cascadia Queen Breeders

Cascadia Queen Breeders wish to thank the First Alternative Co-Op in Corvallis for hosting our December 2015 Annual Meeting with a dozen members in attendance. We also wish to thank CQB member Morris Ostrofsky for his excellent presentation on the "Miller Method of Queen Rearing." In addition, we thank MannLake, Brushy Mountain/Ruhl, and Dadant and Sons for their generous donations of door prizes.

—Paul Maresh

Central Oregon Beekeepers

Things are starting to warm up. We've had several weeks with highs in the upper 40°s and lower 50°s. One of our perennial concerns, and in particular this year, is that our weather warms up early (now), but the larger honey flows don't start until later April or May, so springtime starvation is a big focus. The COBKA has just finished our annual Beginners' Bee School, held this year at the Central Oregon Community College. We had 75 students, including both existing club members and new members, with several new presenters. Our next club meeting will allow time for a bee school follow up Q&A





period and focus on welcoming new members. Later this month, we're looking forward to a talk by Dr. Ramesh Sagili on bacterial brood diseases at the Deschutes County Fairgrounds. Our volunteers are also making preparations for a talk featuring Dr. Dewey Caron discussing Africanized Bees. Details can be found as they become available at www.cobeekeeping.org. We don't know about other areas in the state; however, we've had at least one local bee supplier confirm that they will offer no packages this year due to external losses. We're hoping that other regional suppliers are having more success and will be able to take up the slack. We are encouraging all of our members to complete the PNW Honey Bee Survey as well as the Bee Informed Partnership Survey. —Allen Engle

Lane County Beekeepers

The Lane County Beekeepers Association held its 32nd Annual Bee School on Saturday, March 5.

We had 60 people in attendance, all eager to learn about keeping honeybees. They came from Corvallis, McKenzie Bridge, Yoncalla, Cheshire, Walterville, and Dexter, as well as the outlying communities surrounding Eugene/Springfield. Out of that 60, we gained 15 new club members. We couldn't have offered this worthwhile learning experience without our speakers and workshop demonstrators. A huge thank you goes to Chuck Hunt, Jonathan Loftin, Morris Ostrofsky, Judy Scher, Ken Ograin, Rick Olson, and Brandt Weaver.

GloryBee Honey provided us with several door prizes to give away and the grand prize of a free package of honeybees which was won by Leah Salerno. We appreciate the support and generosity of GloryBee.

Our March meeting featured an early session with Ken Ograin presenting "Yellow Jacket Threat" and at the regular session Chuck Hunt talked on "Hive Evaluation and Swarm Control."

Here in the Valley, our bees are building up, bringing in large amounts of pollen of varying colors, and the club members are waiting to hear of the first of the season swarm. Has it already happened? We are anticipating an early season, given the weather this year. —Pam Leavitt

Linn-Benton Beekeepers

We began 2016 with three newly elected Board members and speaker Stephanie Perreira, OSU Master's student. She shared research about interactions among pesticides, and their presence in pollen and nectar when applied systemically. At our February meeting, we had a great showing of 60 in attendance, with room for plenty more. Last year's decision to move to a larger meeting venue was a good one (we supered the clubhouse so to speak). Karessa Torgerson

was our guest speaker discussing Swarm Fundamentals. As this is going to press in March, we will joined by Morris Ostrofsky of Eugene to teach the Miller method of queen rearing. At the April meeting we will be mixing it up with a roundtable discussion format. We will break into smaller groups, bringing our burning questions, conundrums, and enthusiasm to focused topics, with a moderator in each group. Looking further ahead, on May 21, LBBA and LCBA will be co-hosting our annual field day at the OSU Apiary. This will replace our May meeting. Let's cross our antennae for warm, sunny weather!

—Lawrie Bowman

Portland Metro Beekeepers

Our March meeting was a packed house with many new beekeepers in attendance.

Our annual Bee Day will be held on April 23rd at George Hansen's apiary in Colton. We recommend registering early, as space is limited. Registration forms are available on our website: portlandmetro.org.

We will also be hosting a booth at the Master Gardeners' Fair April 30 and May 1st at the Clackamas County Fairgrounds.

We had a very informative round table discussion on what to expect this month and into April. It's important to check hives regularly for mites and treat if needed. Many folks will be buying nucs this spring, and it is recommended to check these when you add to your apiary.

Our April speaker will be Dr. Dewey Caron.

—Patty Anderson

Portland Urban Beekeepers

In lieu of our monthly member spotlight, Bill Catherall led an interesting 20-minute Q&A on all things bee-related at our March meeting. Glen Andresen shared his monthly Pollen & Nectar report. With perennial additions such as the hellobores, and bulbs like the crocus tommasinianus, we're also seeing a lot of the usual suspects like the sweet cherry and the Asian pear starting to bud and flower. For a more detailed report check out www.bridgetownbees.com/ whats-in-bloom for Glen's monthly "What's in Bloom" report. Also send photos and suggestions of other good honey bee plants to glen@bridgetownbees.com.

Bill Catherall shared an informative presentation on Swarm Traps and best practices on design, placement and baiting. By setting out swarm traps, we can make it easier to catch our own swarms and give swarming bees a place to move into instead of a neighbor's wall or attic space.

For more information on his presentation, go to Bill's blog post at: https://portlandurbanbeekeepers.org/2016/03/10/swarm-traps.





Our March meeting featured Jacqueline Freeman, who gave a dynamic presentation about her experiences working with Warré and top bar hives. Jacqueline is committed to a more relational and non-intrusive way of working with her bees to create treatment-free health and contentment in the hives. For more information about Jackie's classes, go to http://spiritbee.com/classes. We are so grateful to Jackie for taking the time to share with our group.

—Scott Macdonald

Tillamook County Beekeepers

As always our March beekeepers meeting was very busy and lively. Several months ago, Scott of Seaside had a lot of dead bees outside his strongest hive. He called the Department of Agriculture who came out to take samples of bees, honey, and wax. A few days after that all of the bees that were left in the hive absconded. Well, the report came back! Indoxacarb, an active ingredient in pesticides was found in the bees and ONLY in the bees, not the honey or the wax.

A google search on "indoxacarb" and "honey bee" will give anyone interested more info. It seems wise for anyone with dead outs to request the ODA to come and take samples. We welcome learning from the experience of others.

We also spent time taking our first look at a Honey Flow super. It was fascinating to see the movement of the combs as they would split to facilitate the flow of honey downward, through a plastic tube and into a container. A lively discussion followed and, of course, the jury is still out. Jim Fanjoy brought in a USB Track It Data Logger that he is going to use in his Cozy Bee experiment. To keep up with the project see: www.peacecrops.net. Swarming season will be upon us. So we organized a sign-up list by geographical location and level of difficulty. We'll be giving that list to the extension office, farm store, sheriff, postal carriers, and lawn service companies. Some of us are putting more emphasis on using bait hives. Bee Day is coming and everything seems to be in place for that. Dewey Caron will be our guest speaker. Wishing everyone who reads this a happy and successful spring!

-Claire Moody

Tualatin Valley Beekeepers

At the TVBA monthly meeting in March we learned about swarm catching and native pollinators identification and sustainability. On April 26, we'll host Morris Ostrofsky, talking about "Reading Frames," a great presentation for new and continuing-to-learn beekeepers. In addition, we hosted the most students ever at our three session (10 hours) annual Beginning Beekeeping School based in Hillsboro.

—Debby Garman

WINTER DEATH IN NORTHERN CLIMATES

Meghan Milbrath, Michigan State University Extension, lists the following characteristics:

- The colony was big and looked healthy in the fall
- A lot of honey is left in the top supers
- The cluster is now small, maybe the size of a softball
- There are hardly any bees on the bottom board
- ❖ Near or just below the cluster is a patch of spotty brood some fully capped, and some with bees dying on emergence (heads facing out, tongues sticking out).
- ♦ If you look closely in the cells around the brood, you will see white crystals stuck to the cell walls, looking like someone sprinkled coarse salt in the brood nest.

AND

You don't have records showing that varroa was under control.

See: https://beeinformed.org/2016/03/08/why-did-my-honey-bees-die/



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KEEPING BEES IN APRIL

Kenny Williams

April is one of the busiest months for a beekeeper. The weather begins to settle down, more plants come into bloom, especially trees, and beehive populations continue to increase. Among the concerns for a beekeeper in April are hive inspection and manipulation, monitoring food stores, queen evaluation and possible replacement, swarm control and capture, making increase to establish new colonies, and equalizing hives.

Settled weather and rising temperatures allow us to examine and manipulate a hive in more depth. Use this opportunity to clean or replace the bottom board and to remove any entrance reducers or mouse guards. This is also a good time to replace aging hive bodies, as the colony is still relatively small and the April inspections often involve removing frames for other purposes anyway.

Check for stored honey. There should be at least two frames of honey, if not more, clear up until the major honey flow in your area. If you find less, then feed with sugar syrup to bridge the gap. With experience, a beekeeper can learn to estimate, by hefting one end of the hive before examining frames, whether or not the colony has enough stored food. Weather can be changeable in the Pacific Northwest and two frames of honey can vanish in less than two weeks if those two weeks were to be cold and wet. It would be a shame to get a colony this far only to lose it to starvation which could be avoided. Stay ahead of feeding and use a feeding method whereby the syrup remains accessible to a cluster in cool weather, such as an inside feeder (also known as a division board feeder), or a hive top feeder placed over the cluster, so that the syrup remains within reach of the cluster on a chilly spring day.

A healthy, vigorous queen is key to the productivity and survival of a hive. With experience and with the help of a mentor or other help offered through local bee clubs, one can learn to evaluate a queen and her brood pattern. While you have the hive open for an April inspection, consider the following queen attributes. Is the queen laying in a solid, regular pattern? Is the queen old and beginning to fail? Is she a drone layer? Is the colony preparing to swarm? If the queen needs to be replaced, April is a good month to do so. The population of an over-wintered hive also reflects the quality of a queen, and ought to be at least ten to twelve frames of bees in mid-April, certainly not less than eight. If larger, the colony may swarm in coming weeks, before the honey flow. If smaller, perhaps a combination or a boost is in order.

In my mind, the two notions of swarm issues and the

making of increase are intertwined, so I will address them together here, since making divides can be part of your swarm control and management. Your strategy to obtain a good honey crop as well as to minimize swarming can be attained by reducing congestion in a strong hive with the aim of planning for a peak population at the start of the main honey flow in your area, usually around late May in the Willamette valley, later in cooler areas. To do this, one may remove several frames of brood with adhering bees, perhaps anywhere between two and six frames, depending on the strength of the donor or "parent" colony. Be sure not to remove the existing queen accidentally. One may make up a nuc or a single story hive, utilizing these frames, by adding a purchased queen. Alternatively, frames of bees and brood removed this way may also be used to boost the population of a weaker but queenright colony. If you observe swarm preparation while taking out frames, you may make up a divide including one or more queen cells, which should result in a mated and laying queen about three weeks later. This so-called equalizing, or balancing, of hives in your apiary is one of the best things you can do in order to reduce swarming, maximize honey production, and assist colony survival. Of the eighteen frames in your parent hive, shoot for a colony with a good older queen or a better replacement queen, ten or more frames well (75% or more) covered with bees, four to six empty frames for the queen to lay in, and at least two frames of honey. Leave the colony with the queen, some brood and some empty frames in the lower box, as the queen tends to move up over time in her egg-laying.

Another plan for increase might be to remove the good, older queen from a strong hive showing swarm preparation (congestion and the presence of swarm cells), along with three or more frames of brood with adhering bees. This is equivalent to removing a swarm before they swarm on their own and can greatly reduce or eliminate the swarm impulse. The larger hive left behind can raise a queen from two or three swarm cells you leave intentionally, or can be requeened with a purchased queen after scraping out other swarm cells. Incidentally, removing unwanted swarm cells gives the beekeeper a chance to taste royal jelly, an ancient food unchanged for millennia.

To re-queen or to make up divides, one may need a small number of queens. These may be hard to come by on short notice. Check ads in the bee periodicals placed by producers who state the price and availability of one to ten queens; some producers have a larger minimum order. Learn who in your area may be a larger beekeeper who may be willing to sell a small quantity from the stock many beekeepers keep on hand in a "queen bank." Or perhaps somebody in your club may be putting together a group order. Some of

the bee supply outlets stock queens but supply is variable. It is well to plan queen needs ahead. Placing a queen order in January or February is not too early.

Other ways to make increase include installing a package of bees, purchasing a five-frame nuc and capturing a swarm. Since a nuc comes with an already accepted and laying queen, it is, in effect, three-to-five weeks ahead of a package or a captured swarm. Capturing a swarm can provide you with additional bees to boost a weaker hive, or a spare queen, or just another start-up. It helps to have more than enough boxes and frames ready to go.

Before closing up the hive after inspection and manipulation, checking food stores, and making divides, monitor for mite levels with the mite drop method, the sugar shake method or the alcohol wash method and treat with a "soft" treatment if levels are too high, as you will soon be supering.

In conclusion, I would emphasize that much of what I have described here to do in April is dependent upon planning and actions taken in previous months, such as ordering queens or packages and having hive bodies and frames ready to go. In addition, I would encourage beekeepers to avail themselves of the many benefits to be gained by attending local bee club meetings, field days, bee schools and mentoring programs. Those who wish to take their beekeeping skills to the next level might want to look into

the Oregon Master Beekeeper Program offered by the OSBA in collaboration with OSU.





PNW SURVIVORHIP SURVEY

Dewey M. Caron

Last year, 250 OR/WA backyarder beekeepers were surveyed seeking information on overwintering colony losses/survivorship, and management such as colony feeding, sanitation and Varroa control efforts. The results are posted on this website: www.pnwhoneybeesurvey.com/annual-surveys. This is a companion survey to mailed survey sent to larger-scale beekeepers from Ramesh Sagili and Dewey Caron

Colony loss levels from all respondents were 29%. For both 8-and 10-frame Langstroth hive beekeepers, losses were 27%, while losses were double that number for 5-frame nuc and top bar hives while Warré hive losses were intermediate between the two groups. Larger scale beekeepers (50+colonies) experienced a 13% winter loss, less than half the backyard beekeeper loss level (see our report in BEEINE June 2015 and 2015 report on website above).

For the most recent (2015-2016) overwintering period, the electronic survey will be open March 17th and continue through April. It should take no more than 5-10 minutes to complete. If you manage more than 50 colonies do not use this survey instrument – a 2-page paper survey has been mailed to you (if you didn't get one contact the OSU Bee Lab or Dewey Caron (dmcaron@udel.edu) and one will be sent).

Information requested will be very similar so I can compare last year with the current one. If you would like to review the inquiries in preparation for the survey please locate the "2016 PNWals" pdf download available on

the websites blog page and by simple Google search.

The BeeInformed survey is also conducted in April each year. I ask that you continue to participate in this national survey as well. Although funding is now in the last year of this effort, we are hoping continue to what is now a 9-year record of overwinter loss/survivorship. report from last year is posted on the pnwhoneybeesurvey site

EXHIBIT AT OREGON HONEY FESTIVAL AUG. 20-21, 2016 ASHLAND, OR.

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and I include comparisons to losses in Canada and Europe. Access this survey at: www.beeinformed.org (it is available in April only)

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2016 ALMOND BLOOM SPRAY ISSUES SURVEY

California State Beekeepers Association

It has come to our attention that there are a number of beekeepers picking up their hives from almonds to find the emerging brood seriously dying, typical signs of an IGR application. Bee supply was severely short this spring and will continue to be short due to almond bloom sprays negatively affecting package bee production. Beekeepers all across the country are hurting. In order to gather more information about this problem, please complete the survey below. This survey will be used by the CSBA to guide decision making and inform the almond industry and our other partners. Thank you for your participation.

Recent reports indicate that many beekeepers have noticed significant loss of brood in their colonies about two weeks after fungicides and/or fungicide/IGR combinations were applied to blooming almonds. In many cases the hive entrances have been clogged with dead young fuzzy bees and pupae that failed to hatch. All beekeepers who experience such losses are encouraged to file a report of loss with the agricultural commissioner's office in the county where the loss took place. If no report is filed there is a rebuttable presumption that no loss occurred.

If you experienced such brood losses in your colonies, which pollinated almonds, please fill out and send in the following survey:

- 1) Did you experience any abnormal loss of brood in your colonies that pollinated almonds in 2016?
- 2) How many of your colonies experienced severe brood losses?
- 3) Are you aware which pesticide products were applied in the area where your bees were pollinating almonds?
- 4) Did you file a report of loss with the agricultural commissioner in the county or counties where your bees were exposed the pesticides?
- 5) Please describe location of the colonies while in the almonds using Section, Township/Range, or Road names/numbers and County
- 6) Have pollen or dead bee/brood samples been collected for chemical analysis?
- 7) Have these losses been reported to any other bee industry brood loss survey in 2016?

Please e-mail your completed survey to: gbrandi@sbcglobal.net.

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The **Oregon State Beekeepers Association** is a nonprofit organization representing and supporting all who have an interest in honey bees and beekeeping. Membership is open to anyone with an interest in bees and beekeeping. You do not need to own bees or reside in Oregon to join. Membership includes the ongoing work of the organization on behalf of the honey bee and beekeeping, a vote in OSBA elections, discounts on publications, placement on the swarm call list, three free ads on the website, and an annual directory and subscription to *The Bee Line*.

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Reminder: The date on the mailing label is the expiration date for membership. If the date is April 2016 (or earlier), this is your friendly renewal notice.

The Bee Line

The Bee Line is the official publication of the Oregon State Beekeepers Association. Annual subscriptions to the newsletter are included with each membership in OSBA.

Please send news about your bees and your experiences in keeping them, as well as events, corrections, comments, questions, photographs and stories, interviews, recipes, points of view—and ads/advertising—to: Rosanna Mattingly, *The Bee Line*, 4207 SE Woodstock Blvd Ste 517, Portland OR 97206; e-mail: osba.newsletter@gmail.com. It's your newsletter—we want to hear from you!

The next issue to be printed will be the May issue, 2016. The deadline for submitting copy is **April 10**, **2016**. Please let me know if you find difficulties with the deadline so we can work out the space and timing for the material.

Thank you!

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