

The Bee Line

Newsletter of the Oregon State Beekeepers Association

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www.oregonmasterbeekeeper.org Oregon Master Beekeeper Program

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

Image above: Honey bees in turnips. Todd sent this photo last fall, adding that *once* is enough. Even though the taste of the honey is unique, the honey crystallizes quickly and can be very difficult to extract. As the rains taper off and temperatures rise, may bees throughout the region be filling comb with nectar and pollen of many kinds!

The FDA has concluded that "a thick, sweet, syrupy substance that bees make as food from the nectar of flowers and store in honeycombs" accurately reflects the common usage of the term *honey*. Draft guidance for labeling is at: https://goo.gl/9oTvwX.

2016 POLLINATION SURVEY REPORT

Dewey M. Caron and Ramesh Sagili

Oregon State University initiated a survey of Pollination Economics of large scale commercial beekeepers in 1986. This is the 31st report. A total of 39 survey responses were used for analysis of 2016 pollination rentals that included 27 commercial, 10 semicommercial and 2 small-scale beekeepers (11 commercial, 4 semicommercial, and 1 small-scale respondent were Oregon beekeepers). Previous survey reports have been annually summarized in *The Bee Line*. A 2015 summary report was published in the July 2016 *American Bee Journal*.

In the latest survey, Oregon commercial respondents managed an average of 2,441 colonies/individual; semicommercials managed an average of 283 colonies/ individual. The Oregon survey respondents (owning a total of 47,846 colonies) managed 67% of total estimated colony numbers in the state; Pacific Northwest total colony number (154,483 colonies) represents 61% of the estimated colonies managed in three states (this is an increase in response from 57% last year). Overall, the 38 Pacific Northwest beekeepers included in this study reported 138 crop rental opportunities consisting of 18 different crops, constituting a total of over 195,500 colony rentals.

Sum of total value of pollination fee reported by the 38 Pacific Northwest respondents was slightly over \$26.3 million. The 2016 weighted average fee of rental colonies was \$134.60, an increase of \$16.20 over the previous year (see accompanying Figure). Also illustrated in the graph are weighted averages for the past 16 years for almonds (\$185.55 weighted average in 2016, \$12.30 greater than the previous year), tree fruits, blueberry, vegetable seed production (\$19.50 increase over previous year), and squash & pumpkin rentals.

The latest pollination survey continues to illustrate the importance of pollination rentals for beekeepers of the Pacific Northwest states. The 11 commercial Oregon

beekeepers reported renting colonies to one or as many as 9 different crops, averaging 6.8 crop rentals/beekeeper.

Oregon total rentals reported consisted of 88,251 colonies, for gross fee income of slightly less than \$10.2 million (see Table, page 13).



Weighted colony rental fee for all Pacific Northwest colony rentals (middle bolded line w/ circles), almond (top bold w/diamonds), tree fruits - includes pears, sweet cherries and apples (lower bold w/ squares), blueberry, vegetable seed crops (principally carrot, radish & onion), and squash and pumpkin crops for 16 years (2001–2016).

MESSAGE FROM THE PRESIDENT



Our good friend and former OSBA President, Chuck Sowers, once shared with us his balanced method of dealing with adversity. He calls it, "Bad News / Good News." Here is an example: The bad news was a flat tire on the freeway. The good news was the freeway exit 50 feet away with a Les Schwab store in clear view. Yet another: The bad news is a canceled queen shipment. The good news is that it was cold and rainy for the following week. Get the picture?

So, here is my bad news: a mountain of spring dead-outs. Can there possibly be any good news to follow? What could it possibly be?

Okay, the bees are dead so no use in whining any more about that. How about the other, great-looking hives that overwintered? They are really good news! There is more good news. The good news is weeks of cold, rainy weather (okay, that is bad news) that provided ample time to go through and completely renovate the empty hives and bring them into perfect shape for restocking (good news). The bad news is that we now have a mountain of junk frames, lids, boxes, and pallets to burn. The good news is that there are solid, premium hives in perfect condition for restocking, ready to go!

I am very grateful for the "Good News / Bad News" lesson that Chuck shared. It reminds us to try to be grateful for what is! Liz has a quote on the fridge that says a lot. Sorry, no author is noted: "Be thankful for what you have; you'll end up having more. If you concentrate on what you don't have, you will never, ever have enough." So true. The bad news is that many great Pacific Northwest beekeepers took some pretty heavy losses in the fall and winter. The good news is that we are all still here and next thing you know, we will all have bees coming out of our ears!

Keep smiling. Have a great season!

Harry Vanderpool

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WE KNOW BEES

TESTING FOR FAKE HONEY, FOR REAL

Rosanna Mattingly

A highly regarded beekeeper passed along a complaint he has received, one that is filed with the Department of Justice, Civil Enforcement Division. The complaint states that his honey has failed four "common home tests for real honey." Unconcerned because he knows the value of the work of his bees, the beekeeper asks: "Are there tests OSBA recommends that consumers can do to determine if honey is real? Is there an official site, say the National Honey Board, that lists tests consumers can do?" He answers his questions with, "I doubt it."

The beekeeper suggested an article. What to do? My trust in the beekeeper is absolute. Still, there's a need to look at what's presented with the assumption that what is done has been done with good intention—unless I may learn otherwise. The person filing the complaint (let's name him *Bob*) clearly believes he has a case against the beekeeper's practice. In subsequent correspondence, Bob references contact with "local investigative news organizations" and alludes to "weird logic" in the beekeeper's response that "only makes [him] more firm now in the conviction that [he] made the correct assumption"

The tests and results, as listed in Bob's complaint, are:

"1) Real honey will not dissolve in water. Their honey dissolves in water.

2) I put the honey in the fridge and it did not crystallize overnight as real honey would.

3) Invert test: I inverted the bottle and the bubble inside moved entirely too quick for real honey.

4) Carmilization [sic] and burn: I put some hone [sic] on a q-tip and lit it on fire. Real honey will burn and not bubble. This does not burn and bubbles incredibly."

Clearly, the tests lack controls—among other things. Beyond the execution and interpretation of the tests, though, I had to wonder why they were being used as definitive tests, much less as solid evidence for a complaint. At the main website of the five that Bob sent to the beekeeper, I found:



1) Dissolving Method. This test notes that pure honey "doesn't get dissolved in water immediately." We do not know what Bob did to dissolve the honey, nor do we know the time frame or temperature. We do know that honey will dissolve in water. 2) No Overnight Fridge Test. I found a Crystallization Test¹ on one of the additional four sites though. Of note, perhaps, the test described provides no time frame over which crystallization is to take place. We know varieties of honey that crystallize in a matter of days and some, only after many months have passed. In addition, the test makes no mention of refrigeration. According to the NHB, crystallization may be encouraged at 50- 70° F, though $< 50^{\circ}$ F is ideal for delaying crystallization. Many beekeepers store honey in a freezer to keep it from crystallizing. 3) No Bubble Test. There is a Thickness Test that works with honey directly rather than a bubble though. Test results are said to range from *pure* honey that "takes a good time" to move from one side of a container to the other to fake honey that "moves really quickly." Whether speaking in terms of honey or of bubbles within honey, some kind of standard, including temperature, by which to assess the "entirely too quick" speed

4) No Q-tip Test. There is a Flame Test (dip a match in honey and light it) that matches the "lit it" part noted in the complaint though. We know that sugar burns. There is also a Heating Test that states that fake honey on heating does not caramelize and becomes bubbly. It makes no mention of lighting.

at which the bubble event occurred for Bob would be of use.

I took a look at the remaining three websites Bob provided to support both the topic of adulterated honey and the veracity of the testing. Two of the sites reference fake honey relative to the lack of pollen in products labeled *honey*, even though Bob's concern appears to be allegedly added sugar(s). The third site also references the lack of pollen in fake honey, and then cites the first (main) website Bob provided as its source for tests that can be done to determine if honey is real or fake. This third

Continued on page 15

¹Although we understand the crystallization process to take place relative to the balance of fructose and glucose in honey, the website citing the Crystallization Test says it works because "the bees infuse the honey with an enzyme that continuously rids it of water (even when it is stored)." Maybe someone needs to tell the bees?



Oregon State Beekeepers Association

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South Willamette Valley Rita Ostrofsky, 541.685.2875; ostrofsky@pacinfo.com

REGIONAL ASSOCIATIONS

Central Coast Beekeepers

Meets 6:30 PM, fourth Wednesday Newport Library, 35 NW Nye St, Newport Information: centralcoastbeekeepers@gmail.com President: Rick Olson 541.997.3792; rolson2@attglobal.net Co-Vice Presidents: Anne Schatz, Kathy Cope Secretary: Becky Fain Treasurer: Stan Scotton Website: www.ccbaor.org; www.facebook.com/Central-CoastBeeKeepersAssociation

Central Oregon Beekeepers

Meets 6:00–7:30 PM (5:30 PM beginners' corner), fourth Tuesday (except November) The Environmental Center, 16 NW Kansas Ave, Bend Information: contact@cobeekeeping.org President: Allen Engle aengle@bendbroadband.com Vice President: Patricia Moreland—oregonpat@gmail.com Secretary: Misty Lee Treasurer: Steve Crawford Website: www.cobeekeeping.org

Columbia Gorge Beekeepers

Meets 6:30–8:30 PM, third Wednesday, Hood River President: Zip Krummel 541.490.0587, zipk@gorge.net Vice President: James Lombardo james.lombardo@gmail.com Secretary: Pat Case 541.806.3052, patcase@gorge.net Treasurer: Ramona Tamiyasu 541.490.8746, ramona@gorge.net

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

Douglas County Bees

Meets 7:00–8:00 PM, first Wednesday, Douglas County Courthouse, 1036 SE Douglas Ave, third floor, Roseburg Information: douglascountybees@gmail.com President: Phil Moulton—503.349.8463 Secretary/Treasurer: Ivory Los Bonos www.douglascountybees.org; www.facebook.com/DCBeekeepers

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, 6923 Washburn Way, Klamath Falls President: Paul Davitt president@klamathbeekeepers.org Vice President: John Wilda vicepresident@klamathbeekeepers.org Secretary: Robert Clements secretary@klamathbeekeepers.org Treasurer: Ray Rutler, treasurer@klamathbeekeepers.org Website: www.klamathbeekeepers.org

Lane County Beekeepers

Meets 7:30/6:00 PM early session, third Tuesday (except Dec) Trinity United Methodist Church, 440 Maxwell Rd, Eugene President: Max Kuhn 541.999.0744; t.maxkuhn@gmail.com Vice President: Deb Elder 541.854.5336; dgdeb.elder@gmail.com Secretary: Tamara Andreas 541.406.0244; tandreas6@gmail.com Treasurer: Polly Habliston 541.461.0339; polly@uoregon.edu Website: www.lcbaor.org

Linn-Benton Beekeepers

Meets 6:30 PM, third Wednesday Corvallis Waldorf School, 3855 NE Highway 20, Corvallis President: Everett Kaser 541.924.9214; everett@kaser.com Vice President: Tim Wydronek Secretary: Laurie Bowman 541.250.1006; secretary@lbba.us Treasurer: Suzi Maresh 541.967.9607; suzi@lbba.us Website: www.lbba.us

Oregon Prison Beekeepers

Sustainability Program Manager: Chad Naugle 503.373.7544; Chad.E.Naugle@doc.state.or.us

Oregon South Coast Beekeepers

Meets 6:00 PM, third Tuesday OSU Extension Office, Fairgrounds in Gold Beach President: Brad Remsey 330.980.6125; bradleeremsey79@aim.com Vice President: Harvey Young 541.661.0031; fishawk51@hotmail.com Secretary: Shelley Pottmeyer shelleypottmeyer@yahoo.com Treasurer: Barbara Fitts 541.698.0300; bgfitts@gmail.com

Portland Metro Beekeepers

Meets 7:00 PM, second Thursday Gladstone Senior Center, 1050 Portland Ave, Gladstone President: Rex McIntire 503.720.7958; remcintire_5@msn.com Vice President: Doug Sieckmann 503.804.5417; forty2chev@aol.com Secretary: Gary Barnard 503.898.0301; gary@dranrab.com Treasurer: Mike Hainley 503.341.0344; hainleyfam@gmail.com Website: portlandmetro.org

Portland Urban Beekeepers

Meets 7:00 PM, first Wednesday Rose City Park United Methodist, 5830 NE Alameda, Portland For information, e-mail: officers@portland urbanbeekeepers.org President: Bill Catherall—503.572.6467 president@portlandurbanbeekeepers.org Vice President: William Roll vice-president@portlandurbanbeekeepers.org Secretary: Simone Miller secretary@portlandurbanbeekeepers.org Treasurer: Amanda Shaw treasurer@portlandurbanbeekeepers.org Website: portlandurbanbeekeepers.org

Southern Oregon Beekeepers

Meets 6:30 PM, first Monday, 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: Kate Womack 602.321.6901; k8womack@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: Claire Moody 503.318.9149; claire@vanirmail.com Vice President: Rick Stelzig—rstelzig@charter.net Secretary: Kathy Cope 541.264.9222; beachwalkinlady@hotmail.com Treasurer: Terry Fullan 503.368.9149; tfullan@nehalemtel.net

Tualatin Valley Beekeepers

Meets 6:00–8:00 PM, last Tuesday, Jessie Mays Comm Hall, 30975 NW Hillcrest Street, North Plains (except Jul & Dec) Contact: tualatinvalleybeekeepers@gmail.com President: Debby Garman 503.318.5227 Vice President: Yvonne Shaw Secretary: Laura Stein-Weidner Treasurer: Julie Schmidlkofer Web: http://tvba.weebly.com/

Willamette Valley Beekeepers

Meets 7:00 PM, fourth Monday, Chemeketa Community College, Building 8, Room 201, Salem President: Richard Farrier 541.327.2673; rfarrierfarms@gmail.com Vice President: Mona Kanner Secretary: Shelley Growell Treasurer: Laura Evans Website: http://wvbahive.org

BEE EVENTS

April 29-30: Oregon Ag-Fest. Information: http://oragfest.com

May 20 (9:30 AM-4:00 PM): Randy Oliver/Morris Ostrofsky. Hood River. *Information*: http://bg-bees.com/randy-oliver

May 7: 2017 Bee Symposium. *Information*: http://honey. ucdavis.edu/events

June 24: Ruhl Bee Supply/Brushy Mountain Bee Farm 2017 Field Day. *Information*: http://ruhlbeesupply.homestead. com/RBS-Workshop2017.html

Jun 24-25: Tour de Hives. Information: https://tourdehives.com

August 19: Oregon Honey Festival. Ashland.

September 5–8: Western Apicultural Society of North America 2017 40th Anniversary Conference, UC-Davis. *Information*: www.westernapiculturalsociety.org

October 27–29: OSBA Fall Conference. The Oregon Garden.

November 14–16: CSBA Annual Convention. Lake Tahoe. *Information*: www.californiastatebeekeepers.com/events.html

REGIONAL NEWS

Note: For all groups, see pages 4–5 for meeting time and place, website, and/or contact information. All groups invite and welcome visitors to join them at meetings! In addition, regional associations often offer opportunities for learning, many of which are posted on their websites as well as on this page.

Regional Representatives

North Coast

My thoughts recently have centered on beekeepers, the OSBA, the affiliated local chapters, and the Oregon Master Beekeeper (OMB) Program. What a great group of folks we have in beekeeping. I can honestly say I have yet to meet a beekeeper or someone associated with OSBA or one of its affiliated chapters or OMB that I don't like. Some of us are a little weirder then others, but that also appears to be part of beekeeping.

The big news on the north coast has been the nuc pickup and delivery last Saturday. Both clubs got a total of eightyseven nucs. This was my second year of involvement with the nuc pickup and I still find it an amazing activity. Special thanks to Portland Metro Beekeepers (Joe Maresh), Foothills Honey, and Rick Olson, Becca Fain, Bob Allen, and Rick Stelzig for pickup and delivery of the nucs.

Tillamook County now has an average meeting attendance of thirty. I remember when it used to be closer to a dozen. Tillamook's last meeting was a demonstration by Jim Fanjoy on installing packages, and a video on oxalic mite treatment and discussion led by President Claire Moody. The 6 Tillamook County Beekeepers Bee Day was Saturday, April 1, 2017. Dr. Dewey Caron was again our featured speaker. We had about forty people attend. The event coordinators were President Claire Moody and Vice President Rick Stelzig. They did a great job. Breakout presenters were Alan Scovelle, Pam Burke, Rick Stelzig, and myself. Jim Fanjoy was the MC, and Anne Schatz did an excellent presentation on pollinator plants.

Central Coast Beekeepers' March meeting featured Max Kuhn on Spring Management. I admit I am prejudiced, Max was my mentor, but I think Max does an excellent class. There were lots of questions, answers, and discussion.

Oregon Master Beekeeper classes at the Lincoln County Extension office in Newport are done. Thank You, Dan Speers, Regional OMB Representative, for your coordination of the classes. Thanks to Dan, Max Kuhn, Rick Olson, and Anne Schatz for instructing. *Staw Scottor*

South Coast

Worm Farm on the bottom board was the biggest surprise of spring inspections so far. How does a family of earthworms get into a beehive? Turns out that the big windstorm of February had blown several hives to the ground and it was days before they were righted. The boxes stayed together well enough that the bees survived and were joined by several type of ground dwellers, including slugs and snails along with the usual rolly bugs, earwigs, and ants. Just another confirmation of the benefits of having screened bottom boards and ground ties on the hives.

Honey Judging during the class of the local group in the Oregon Master Beekeepers was so interesting that they decided that there should be honey competition at the Curry County Fair, so they offered to sponsor and assist with it. Hiving Langs and topbars, fair- and foul-weather methods, was featured in the lively demonstrations at the monthly meeting along with the popular potluck and short business meeting.

Bee packages were picked up from Koehnen and delivered to the OSU building early April by members, Russ and Babette Rose. Packages of survivor stock were picked up and delivered by president Brad Ramsey, who was also adding to his own extensive apiary. Nucs from Old Sol have been delayed until mid-May because of the impact by the fierce and persistent foul weather. Hive losses from humidity have been numerous. Beekeepers are hopeful for a better year. Yellowjackets killed colonies last year. So this spring we offered a bounty on the wasps. "Wanted, Dead or Alive . . . Queen Yellowjacket . . . Reward: \$10" We got one. Not from a trap. What is the trick to get the queens to go into traps? Mureer Walker

Southern Oregon

Last weekend I took a quick jaunt down to California. When I left, the landscape seemed to be in the "set" phase of "ready, set, go!" Buds were still green, dandelions were shyly starting to poke through grass and concrete alike, and there was a chill and stillness in the air. Upon my return, three days later, my yard (and the town) had exploded in full GO! Loud colors of yellow, red, green, purple, blue, and pink paint the town. It reminds me of one of my favorite Robin Williams quotes, "Spring is nature's way of saying, LET'S PARTY!"

The bees are equally enthused. My backyard hives sound like they were swarming from time to time. I can hear them all the way inside the kitchen! A few minutes after my return, I dashed out to investigate, but it was just the happy sound of thousands of wingbeats blasting into the sunrays. I've already made two splits off of my favorite backyard hive, and a few from other various apiaries. My losses were low this winter, and I attribute it to using the oxalic vapor method to combat Ms. Varroa.

As part of a collaboration with Dr. Steve Sheppard's WSU honey bee lab, I am running a Fungi Perfecti mycelium trial in my education and research apiary. While I was kind of hoping to have sizable mite counts, to watch the virus loads change over the study, we came up with zero mites in the average hive. A couple of hives had one mite, we never found more than two (using an alcohol wash). Not all diseases are spread via mite, some are airborne, and so it will be interesting to see what we find! As for my treatment protocol, if any hive was above a 5% infestation of mites, I used Apiguard in the beginning of September and November. Then, I vaporized all of my hives with oxalic in the very end of November and again in mid-January. I'm looking forward to hearing others' experience with oxalic, as well!

We're getting all geared up for Spring Bee School, we've added Dewey to the roster with Tom Chester and Karessa Torgerson. It's on par to sell out, and we're looking forward to getting a new batch of educated and inspired beekeepers out in the community. Sarah Red-Laúrd

Regional Associations

Central Oregon Beekeepers

In Central Oregon, our spring is staying just out of reach. There are a few blooms of crocuses, daffodils, forsythia, and the aspens/birches, and willows are coming along. However, we aren't getting the more and more frequent warm days we expect this time of year, but instead lots of cool and cold days interspersed with rain and snow. There were lots of losses during the winter, but those which did overwinter are booming and getting ready to split or swarm. Is it a recipe for starvation tragedy or a bumper year? Time will tell.

For our March meeting, we invited veterinarian Jaime Thurk to talk with us about the new federal rules for antibiotics acquisition and usage as we'll be needing to establish a relationship with a veterinarian to diagnose, acquire, and apply antibiotics for AFB and EFB and other uses. After a quick Spring Beekeeping Q&A session with club members, we enjoyed a discussion led by Master Gardener, Oregon Journey Beekeeper, and club member Clyde Dildine about plants which thrive in our Central Oregon climate which are useful to pollinators.

Shortly after our March meeting, we welcomed entomologist Rich Little to talk to our community about the acquisition and care of mason bees. Future talks will include a talk on Natural Beekeeping as well as an advanced topic, yet to be decided.

Our neighbors over in Kimberly at Apricot Apiaries invited area bee enthusiasts to spend the day working with their bees. Many of our members report a fantastic experience with lots of knowledge gained.

We had quite the wind storm in early April toppling many trees in our area, including an old poplar in Prineville that housed a honey bee colony. Fortunately, the folks were bee savvy and they reached out to our club. Big thanks to them and to club members Naomi & Larry for their quick rescue of the colony – our first call of 2017!

Wishing a healthy, buzzing Spring to all. Allen Engle

Klamath Basin Beekeepers

We will have a meeting on Saturday, 22 April, at the OSU Extension Office. There will be a presentation on spring tasks for bees that have survived the winter and the education officer, Katharina Davitt, will demonstrate how to install a package. We will be getting four packages early as our club order won't be ready until the 29th, assuming it stops snowing every other day. One package will be installed on site and the other three will be installed the next day at Davitt Apiaries by club members that want to practice for their own packages. The package that Katharina will be installing will be used in a video timelapse project that aims to show how a brand-new package should develop over time-from initial drawing of comb, egg laying, food and pollen stores, and overall growth over the first year of the hive. This will complement our current bee package installation video that is used in our beginning beekeeping class.

Our club received a generous donation of bee jackets, includes jackets for children, from GloryBee in Eugene. These items will be used to promote honey bee education in our the Klamath Basin. Otherwise, our bees are starting to come out when they can in search of elusive pollen sources. *Robert Clements*

Lane County Beekeepers

Spring seems elusive here in Lane County. It is still raining as I write this, with the forecast for the next seven days showing five days of rain. That will take us to the middle of April with no significant sunshine. Even so, reports coming in indicate most hives have survived. That is not to say it was a good winter, but thus far it seems tolerable here in Lane County. Giving me hope for a good Spring and Summer.

We at Lane County are looking forward to our annual field day and picnic, usually held in mid-summer. We will be sharing our field day again this year with the Linn-Benton Club at the Oak Creek Apiary at OSU in Corvallis. This is a great venue for a field day, surrounded by all the various hives with bees flying everywhere. It is easy to forget the woes of winter in that setting. Sharing a few beekeeping stories with good friends over lunch is a welcome experience we look forward to each year.

Lane County wants to wish all the clubs a great Spring and Summer marked by a super beekeeping year. Max Kuhw

Linn-Benton Beekeepers

Looking forward to June, our meeting's speaker will be Karen Finley of Queen Bee Apiaries. Instead of a May meeting, we are looking forward to a field day on June 3rd at the OSU Apiary with our friends from the Lane County Bee Association.

In April, Morris Ostrofsky from Eugene was our speaker. The theme of his talk was "Swarms are coming – Are your bait boxes ready?" He shared his expertise on trapping swarms and options for mite treatments to start them off right with low mite levels. Congratulations go out to Morris for being published in the March issue of *Bee Culture*.

Back in March, Kenny Williams joined us to discuss the details of queen evaluation and introduction. He reminded us that our top management goal is not honey production or pollination, but to have a hive next year. Proper queen evaluation and subsequent requeening decisions will be a deciding factor of success.

Many thanks go out to Lynda Chadwick, Janaveen Gibbs, Ray Juhasz, Amber Reese, and Fred Mann for staffing the LBBA table at the annual BEEvent Pollinator Conference.

Southern Oregon Beekeepers

We have had some losses, but in most cases I have heard about, the beekeepers admitted no mite checks or treatments 8 in the fall, didn't feed them in the winter and early spring even though their bees couldn't get out to forage, not getting paying attention to fattening them up in the early fall, etc. I have heard it all. These mistakes hopefully were lessons learned.

Our bee school, April 15th, is almost here. Dewey Caron and Karessa Torgerson will be doing a smoker contest. This is something new for us. I'm sure it will be fun. Our summer/fall bee school will be on July 29th, at the OSU Extension Center in Central Point. *CherylHousder*

Tualatin Valley Beekeepers

Tualatin Valley Beekeeper Association members are springing to life right along side the tulips and trees to support our honey bee pollinators. New members have purchased their hives and gear, their nucs, their handbooks and Benadryl, and have received and installed new bees in mid-April. Others have nurtured colonies that made it through the winter and, with consideration of the blooms in flowering beds, branches, and brambles, are deciding on feeding regimens.

Our programs for April, May, and June include presentations by experts on topics like what to plant to support pollinators, how to capture swarms, and the five most common mistakes made by new beekeepers. Attendance at our meetings continues to grow, and has been over 100 for the past three consecutive meetings. It turns out the Jessie Mays Community Center is a great place to network and share tricks of the trade.

We will share some of those tricks with the public in this quarter by participating in local earth-friendly events hosted by our corporate neighbors, as well as upcoming fairs and expos. Washington County is a combination of urban living and farming operations. We encourage those with little yards to make a difference in big operations by planting in ways that support pollinators. Preferably without pesticides. Come join us for a meeting, chances are you may run into someone you know!

Yvonne Shaw



KEEPING BEES IN MAY

Lynn Royce

Beekeeping in the Pacific Northwest during the month of May has a lot to do with what happens in April. When colonies swarm in April, they have time (May and early June) to rebuild their workforce and be prepared to glean the best nectar flow to make stores for winter. There are swarms in May, and if April is too cold and wet, May can be a major swarm month.

The old ditty—a swarm of bees in May is worth a load of hay, a swarm of bees in June is worth a silver spoon, a swarm of bees in July is not worth a fly—somehow does not and never did work for Oregon. If a colony swarms here in June, it is less likely to survive winter without help. May is still a month where it is critical to support your colonies and prevent swarming. If the colony does not swarm, it may be strong enough to not only get through winter but also make a surplus of honey for the beekeeper.

Swarming is the reproductive event for honey bees. Like any reproductive event, there is a lot of uncertainty. When a colony of bees swarm, the bees that stay in their old home must raise a queen and she must successfully mate and return to lay fertile eggs for that colony to continue. Raising a queen from an egg to a laying queen is a timeconsuming event. There must also be time for the new queen to produce enough progeny so that there will be the foragers to collect winter stores and raise the bees to become the overwintering workforce that will keep the queen warm and fed until flowers return in spring. The swarm must find a new home, find food in the new location, and construct comb, so that their queen can restart her egg laying that will produce the workforce to collect winter stores and raise the progeny that will be the winter bees. It is easy to imagine how one or both of these colonies might fail. Swarming becomes an issue because it increases the likelihood of losing the colony. Swarm prevention requires an understanding of honey bee biology, especially their individual life cycle and their colony life cycle. Remember, swarming is a strong instinct and to be late with any preventive manipulation will probably result in swarming and perhaps loss of the colony left behind.

The queen in May is laying 1–2,000 eggs every day averaging 200,000 fertilized eggs plus a few unfertilized eggs during the laying season: March through October or November. The most-intense egg production occurs over spring and early summer. She is fat and heavy, and cannot fly.

Because the bees maintain a constant temperature within

the brood nest, development is very constant. When a colony is raising lots of drones, the colony is thinking of queen mating and swarming. Lots of drones can also be the result of a laying worker. Look at the brood. There should be eggs, larvae, and pupae; drone brood should be separate, usually in the corners and top of the comb. Old frames can cause confusion, having larger cells or drone brood more randomly distributed over the frame if bees had to repair the comb. Laying workers often lay several (3 or more) eggs per cell and their abdomens are short, so most eggs are on the sides of a cell. This problem can only be turned around near the beginning of laying by a worker, and the only remedy that I have seen that works is the introduction of 1–2 brood frames with eggs and young larvae from a queenright colony.

Back to the swarm event. If the queen is to fly off with a swarm, she must first lose weight. So, when the colony decides that the time to swarm is near, they stop the queen from egg laying a week or so before they expect to depart. This means that in 3 days there will be no more eggs in the colony, and in 6 days all the larvae will be 3 days old or older. A larva at 3 days old can no longer become a queen. Before the queen is stopped from laying, the workers have been busy making queen cells (called swarm cells). The cells are usually placed along the lower edges of combs; for beekeepers, this is the bottom bar of a frame in standard Langstroth equipment. Eggs are laid in these queen cells over several days, so the larvae in these cells differ in age. There can be only a few of these cells or many. I have counted as many 50 in a single colony. The first queen to emerge from one of these cells will begin to kill the other queen pupae. Usually some are missed so multiple virgins may exist in a colony during this time. Some are killed during battles between virgin queens, but in my experience never all.

Just before these queens begin to emerge, the colony will produce a "prime" swarm including about 20–30% of the workers. When conditions are right, the workers coax the old queen out of the colony. The colony is now left with mature queen cells, some older larvae, and capped worker and drone brood. When virgin queens emerge, they need 3–4 days development time (cuticle hardening and muscle development) to be able to make mating flights. A virgin queen may make 1–2 flights to mate. After mating, she needs another 5–7 days to get the sperm into her spermatheca and develop her ovaries. When she does start to lay, she will begin slowly. Her first laying pattern will only be a small areas of eggs. This colony, even with the newly mated queen, will not make excess honey and may need to be fed to have enough stores for winter.

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"After swarms" may occur when several virgin queens have emerged a few days before the prime swarm leaves. When the prime swarm has left, one or two of the virgin queens can leave the colony with a small number of workers. The function of after swarms has never become clear to me. Sometimes when more than one colony swarms at the same time in the same apiary, the swarms merge into a larger entity and will contain more than one queen.

After the colony swarms, a virgin queen must go on mating flights and return. Mating flights are hazardous for these small insects. Weather in spring is unpredictable and many predators (birds and other insects) are also flying, searching for prey. If the virgin is killed by bad weather or eaten, her colony will be queenless and without the



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resources (young open brood) to rear another queen. If the beekeeper has only the one colony, they are faced with starting over next year. Queens can be mail ordered. But it takes time and an already queenless, broodless colony does not have time. Currently, there are more local queen rearers, so the possibility may exist to get a mated queen quickly; generally though it can take at least a week or more for an ordered queen to arrive. Requeening in this situation is difficult since the colony has few young bees and no brood. Older worker bees are not likely to accept the new queen. Timing is also critical. A new queen needs 4-6 days in her introduction cage before she can be released. Longer is better because these are older bees and the probability of acceptance is already low.

If you have more than one colony, you can use open brood from a queenright colony to maintain the colony that swarmed. They can rear a queen from young brood if there are larvae less than 3 days old; however, time is against this being successful. So, how does one prevent swarming?

Swarm preparation begins when space in the colony is reduced and bees are crowded. Adding space can reduce the urge to swarm. One way to start before every cell is full of brood, honey, and pollen is a technique called checker boarding. This is taking empty frames and placing them between frames of honey and pollen. Start with empty frames on the outside edge of the box or super. If you remove frames, you will need a place to store these honey and pollen frames. Freezer space would be my recommended option. A second colony in need is another good option. It is a good idea to leave the brood nest alone. If the queen has no place to lay, an empty frame can be put into the brood nest for her to lay in. Another tactic to add space is to place a super with empty frames above the brood nest.

This is a good month to make new colonies or splits, basically artificial swarms, where frames of bees are transferred from a strong colony to another box making sure each box has some open brood. For the colony that bees and brood are transferred from, this would take the place of a swarm. The difference is you supply the newly mated queen for the split. Splits start by ordering or raising new queens. Two days before you expect new queens to arrive, make your split. You can use a nuc box (five deep frames is a standard nuc) or a single regular box. For a nuc, include two brood frames with lots of young bees if possible, an empty frame for the new queen to lay eggs in, and two food frames with both pollen and honey. Brood frames should be centrally placed together so you can place your caged queen between these two frames, empty frame next, and food on the outside. These bees should be held queenless for at least two days before introducing the caged queen. I have found the best success with queen acceptance happens if it takes the bees at least four days to release her. Make sure the candy plug is available to the bees in the nuc or single. Queen rearers generally put the correct amount of candy for a 4-day release. Even though you expect the queen to be released after four days, leave the unit alone for at least six days, then just check by pulling up the cage to see if she is released. If she is not, check the plug making sure it is open or nearly open, then gently put the cage back. If she is released and cage is empty (sometimes a worker or two may be inside), remove the cage but leave the colony alone. Bees are very nervous when they are queenless even after a new queen is placed into the colony. Too much disturbance at this stage may

cause the workers to kill her. Give them another week, and then check for eggs and young larvae, by now these will belong to the new queen. When you are checking for eggs, you can reverse one of the frames that held the queen cage so the bees will correct the devits left by the cage. Sometimes if the devits are together the bees will build a bridge of comb between them connecting the frames.

You can also cage the queen to stop her laying and thus reduce population build up. I have never done this, as I do not like to cage a laying queen that is producing 1000plus eggs each day. I expect this tactic to be rather hard on the queen. I would never hold a laying queen longer than a few days.

May is a good time to requeen. Have your new queens ordered before you start this process. A new queen is less likely to swarm. Most seasoned beekeepers will say, find the old queen (that you are replacing) and kill her. However, I would use a nuc and hold the old queen until the colony has accepted the new queen. In my early days of beekeeping, my requeening acceptance rate was not 100%. If you only have one or two colonies and a new queen is not accepted but you have killed the old queen, do you have a backup plan?

As in April, feeding may be critical in May. The weather is still unpredictable, so watch your colonies closely. The bees are building population rapidly, and the colony may only be able to bring in just enough food to last a few days; if the weather prevents foraging, the colony will starve. It is always the biggest and best colonies that are lost when this happens. May is the time of year that can be good for collecting swarms. So, if you have nuc boxes, have them handy. The first person to the swarm usually gets the swarm. Keep in mind, early swarms will need full-size boxes soon. You must have equipment ready to transfer the swarm into, unless you want give the swarm away or sell the bees. Don't forget to feed the swarm.

May is the time of year when queen rearing in the Pacific Northwest can happen successfully. But it can also be cold, so I prefer to raise queens in a nuc box (5 frame) to be sure there are enough bees to keep a new queen or queen cell warm.

May is a good time to start checking for Varroa mites. There are several options for checking for mites and estimating their population. Probably the most common technique is the sugar shake. Use a pint jar with a screw-on ring and instead of solid top have a fitted screen (hardware cloth) with 8 squares per inch. Roll a sample of bees off the comb into the jar by placing the jar upright near the top bar and pressing the lip of the jar gently against the bees and move the jar in this position down the comb. The bees will roll into the jar. Be sure you find your queen and remove her on the frame and set aside, preferably in a nuc box, before you take your sample. When you feel you have collected about 300 bees ($\frac{1}{2}-\frac{3}{4}$ cup of bees), place the screened lid on the jar. Add about a tablespoon of powdered sugar through the screen and shake the jar to coat the bees with the sugar. Then hold the jar upside down over a white or light colored tray or plastic container and shake to separate the mites from the bees through the screen. Water can be poured into the container to make the mites easier to see. If you have 3-6 mites in spring, the recommendation is to treat for mites; in fall, treatment is recommended if you count 6 or more for a 300-bee sample. There are several websites that will provide pictures and/or other methods of sampling. It is a good idea to follow your mite loads through the season whether or not you treat for mites. It is one more thing we need to understand our bee colonies better.

EPIPEN RECALL

The U.S. Food and Drug Administration is alerting consumers to Meridian Medical Technologies' voluntary recall of 13 lots of Mylan's EpiPen and EpiPen Jr (epinephrine injection) Auto-Injector products used for emergency treatment of severe allergic reactions. For information, see:

> https://www.fda.gov/NewsEvents/Newsroom/ PressAnnouncements/ucm550170.htm



Dr. Ramesh Sagili recently received a prestigious award from the Pacific Branch of the Entomological Society of America. This award is given to an individual who has an outstanding record of accomplishment in at least one of the entomological sub-disciplines of physiology, biochemistry, and toxicology. The Pacific Branch Entomological Society of America includes 11 states in the U.S, 8 U.S. territories, 5 Canadian provinces and 4 states in Mexico. More details can be found at: http://oregonstate.edu/dept/ncs/lifeatosu/2017/ osu-bee-expert-wins-top-award-from-entomological-society/



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Pollination—Continued from page 1

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Crop	#	# Colony	Rental (Local	Gross	Gross Income
	Individuals	Rentals	Rental)	Income	(Local Income)
Almonds	PNW 34	117,322	60%	\$21,805,167	83%
	OR 15	40,764	46%	\$7,381,882	64.5%
Tree Fruit ¹	PNW 39	41,941	21%	\$2,238,143	8.5%
	OR 18	19,777	22% (42%)	\$1,075,495	10.5% (38%)
Caneberries	PNW 12	1570	1%	\$117,887	1%
	OR 10	970	1%	\$42,887	0.5%
Blueberries ²	PNW 13	8396	4%	\$464,640	2%
	OR 10	7572	9%	\$430,460	4%
Veg seed	PNW 13	8264	4%	\$736,950	3%
	OR 9	7014	8% (15%)	\$650,750	6.5% (23%)
Legume seed	PNW 9	6618	3%	\$278,490	1%
	OR 7	6118	7% (12%)	\$253,490	2.5% (9%)
Cucurbits	PNW 10	2894	2%	\$167,930	<1%
	OR 7	2764	3% (6%)	\$162,070	2% (6%)
Oil crops ³	PNW 6	8664	4%	\$563,200	2%
	OR 5	3264	4% (7%)	\$185,200	2% (7%)
Misc⁴	PNW2	22	<1%	\$450	<1%
	OR 1	4	<1%	\$180	<1%
Totals	PNW 138	195,582		\$26,321,867	
	OR 88	88,251		\$10,182,414	

2016 Pollination Rentals and Income

¹Tree Fruit includes Pear, Sweet Cherry, and Almond

² There were no Cranberry rentals reported this year

³ Meadowfoam & Canola

⁴ Misc = Kiwi

By far the largest fee generator for Oregon and Pacific Northwest beekeepers is California almond rentals, as has been the case for the last dozen years. All 15 Oregon beekeeper respondents rented 40,762 colonies (range 500 indicated using a contract. Average price to 10,000+ colonies) to almond growers. Rental fee received by Oregon to maintain a colony for the year was beekeepers ranged from \$155 to \$190, with a weighted average of \$181, estimated as \$233.50 (22 commercial which is \$9 above the previous year. For Oregon beekeepers, almonds beekeepers); a considerably lower amount represent 46% of the total crop rentals and generated nearly \$7.4 million (\$135) was reported by 5 semicommercial fee income (72.5% of total gross income). For Pacific Northwest beekeepers beekeepers Not all respondents estimated it was 60% of total rentals and 83% of total income.

Closer to home, Oregon beekeeper rental of colonies for pears, sweet A complete report will be published and cherries and apples remained the top "local" income opportunity. In 2016, posted to the OSBA website.

just under 20,000 (22%) of total yearly pollination rentals were in fruit orchards with income of slightly more than \$1 million. If we exclude almonds and look only at the rentals in the Pacific Northwest states, tree fruit represents 42% of rental colony number and 38% of the income.

Berry rentals (blackberries, raspberries, marionberry and blueberry) accounted for 18% of "local" (within region) rentals and 17% of the income. Vegetable seed rentals (7014 colonies) comprised 15% of local rentals but with weighted average of \$92.80, 23% of the total gross income. Meadowfoam

rentals consisted of 3,264 colonies which accounted for 7% of local rentals and gross income, cucurbit (watermelon, squash and pumpkin & cucumber) rentals included 2,764 rental colonies (6% of local rentals and gross income) and legume seed (6,118 rental colonies) accounted for 9% of the gross income.

The range in rental prices reported by respondents was extensive. For pear, the range was from a low of \$42 to a high of \$65, similar to range in apple \$42 to \$60/colony ;in sweet cherry it was an even larger with a range of \$35 and \$100. Range in reported rental fee in blueberry was \$40-70 and in Meadowfoam (\$35 to \$65) was nearly double form lowest to highest rental fee.

Our survey asked the respondents if a pollination contract was used. Thirtyeight percent (38%) said NO and the same percentage said sometimes. Twentyeight percent (28%) of respondents annual costs.



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Fake Honey—Continued from page 3

site has a free download for another test to detect fake honey. It requires an e-mail for the download. I didn't go there.

Real detection of fake honey is increasingly complicated today, more so when more than one substance has been added. I visited a lab that tests honey for adulteration that recommends, as we might expect, first doing a sugar profile. Then, depending on circumstances, samples might be sent to another lab for a look a ${}^{13}C/{}^{12}C$ levels. The person I spoke with at the lab noted initially that, given the wide range of honey varietals, there are honeys that would "fail" all of the "common home tests." He, too, was curious about why Bob was using them and wanted to consult with others in the lab. Later he phoned to say that the last two tests that were done could be said to have a logic to them if the adulteration agent is water. I expect they may be based on an assumption that any sugar(s) added is dissolved, and that such additional moisture could then be detected.

Confusion surrounding the issue is obvious. And it's likely that beekeepers are not immune, for Bob states that he himself has "had bees." My sense is that increasing consumer awareness of adulteration is healthy-we all need to know what is being added-as well as what is being removed. Yet, with so many



substances that may be added, intentionally or otherwise, as well as the removal of pollen, consumers also need to be aware that legitimate testing is complex and highly technical, and that kitchen science (based on accurate information as well as conducted and interpreted appropriately) yields results that need to be taken with that proverbial "grain of salt."

The complaint against the beekeeper has permanent lodging on the Department of Justice website. And, as far as I can tell, there are no consumer tests recommended by either the OSBA or the NHB. Yes, we might dismiss outright all such accusations. Yes, we might call into account lack of discernment in using Internet resources as well as proper testing procedures. Yet, we might also step back and ask, what are consumers to do? What information and guidance might we contribute to the conversation? How might we individually and together increase public understanding and appreciation of the true measure of pure raw honey? It's sticky business, though a home test states that real honey is "not sticky if rubbed between fingers."

The resources Bob provided for fake honey and testing: *https://goo.gl/hJLwce *http://www.thehealthsite.com/diseases-conditions/how-to-

differentiat-between-real-and-fake-honey-pa0115/ *https://goo.gl/L4PCQQ *https://goo.gl/MZV0jX *https://goo.gl/b4TMdh





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Reminder: The date on the mailing label is the expiration date for membership. If the date is May 2017 (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 June issue, 2017. The deadline for submitting copy is **May 10**, **2017**. 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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