The Bee Line

Newsletter of the Oregon State Beekeepers Association

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Pam Leavitt

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A Joint Venture of OSBA and the Oregon State University Extension Service
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Image above: The kind of frame we all appreciate, pulled during the Lane County Beekeepers Association Field Day in Creswell in early June (see page 11). A similar frame showed up in May during the Trifecta Event in Hood River (see page 14).

Reminders: For information on entering the honey show or staffing the OSBA booth at the Oregon State Fair, contact Bonnie King at bonjking@gmail.com or Marj Ehry at marjehry@hotmail.com.

Information about the honey show and other events at the OSBA Fall Conference will be posted as it becomes available.

How Do Bees Select Larvae For Royalty (Making Queen) During Emergency?

Ramesh Sagili

When a colony suddenly becomes queenless due to any possible reason, we see bees making emergency queen cells rapidly by modifying the existing larval cells with larvae that are less than 3 days old. Have you ever pondered how bees select larvae for making new queens in that emergency situation? Do bees randomly select some larvae for rearing queens during the emergency queen-rearing process? It is logical to assume that, as most-advanced social insects and having evolved over millions of years, honey bees probably have a more-systematic approach in selecting larvae for rearing queens to increase colony fitness (given the importance of the queen in success of a colony) rather than a random selection process. The criteria or factors considered by honey bee workers in selecting larvae to rear new queens during emergency queen rearing are poorly understood, except the fact that younger larvae are preferred for queen rearing.

As female caste (queen or worker) development in honey bees is dependent on type of larval diet (i.e., nutrition), in this study we hypothesized that the nutritional state of larvae is meticulously assessed and used by workers when selecting larvae for rearing queens. To test this hypothesis, we conducted a series of experiments by manipulating the nutritional status of one-day-old larvae by depriving them of brood food for a four-hour period, and then allowing workers to choose larvae for rearing queens from nutritionally deprived and non-deprived larvae. Please refer to the methods section of the publication [cited at the end of this article] for details. Further, in this study we also simultaneously investigated the role of genetic relatedness (between larvae and bees) in selection of larvae for queen rearing as there was some debate in the past regarding kin discrimination or nepotism. It was thought that honey bees may be preferentially selecting larvae that are closely related (same father and mother) to themselves to make new queens.

In all the experiments, significantly greater numbers of non-deprived larvae than deprived

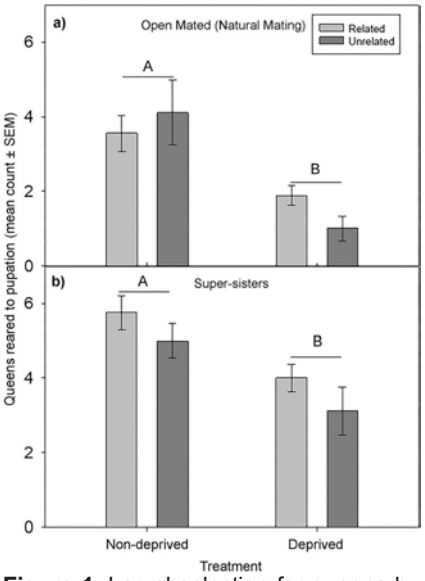

Figure 1. Larval selection for queens by workers between related and unrelated colonies having queens which are open mated and queens which are super-sisters (mated by only single drones) based on larval deprivation. No significant difference was observed in the number of queens reared to pupation in both (a) open mated (natural mating) and (b) super-sister colonies with respect to related (light grey) and unrelated colonies (dark grey). However, a significantly higher number of queens were reared to pupation from the non-deprived treatment groups when compared to the deprived group in both (a) open mated ($p < 0.0001$) and (b) super-sister colonies ($p < 0.05$).

Continued on page 2

MESSAGE FROM THE PRESIDENT

What a wonderful year it has been to be a beekeeper in Oregon and the Pacific Northwest! The winter of 2017/2018 maintained temperatures as mild and conducive for healthy wintering of bees as could ever have been wished for. The Willamette Valley had one cold snap early on in December. After that, ambient temperatures were so mild and steady, they rivaled that of temperature-controlled shelters.

The buzz in California almond pollination season in February was all about how great the bees looked!

Once back from almonds, this was the year to make increase, shake packages, and make divides. We have had bees coming out of our ears, on a sometimes ridiculous scale, all year long—so far.

The year 2018 has produced very lush vegetative growth resulting in sometimes unseasonably intense early nectar flows. Were you caught by surprise?

Of course, though I almost hate to bring it up after all of the great news, mites are always a problem when the bees are so successful. Be aware that we are on ***red alert*** this summer and fall for Varroa populations. Please take care.

The year is far from over. Make sure to check the Oregon State Beekeepers Association website www.orsba.org for upcoming events.

Remember, the OSBA is an association. Everything good that happens is the result of individual and team efforts of our membership. Your fellow beekeepers in the OSBA want to encourage you to volunteer on a level that suits you. After all of the hard work, we have to remind ourselves to have fun when we can. Giving back to the industry by helping out is fun!

Finally, I want to remind you of the OSBA membership drive that is underway. How many beekeepers do you know who are not members? Please help them understand their position in the Oregon agricultural community as beekeepers. They are very important. Encourage them to take themselves seriously and join the voice of Oregon beekeeping by becoming an OSBA member.

Thank you, OSBA beekeepers, for all of your hard work and support for the industry. Although we as beekeepers often work in isolation during the busy season or get buried in work, be assured: your contribution to your fellow beekeepers, beekeeping, and the industry does not go unnoticed.

Harry Vanderpool

Emergency Queen Larvae—Continued from page 1

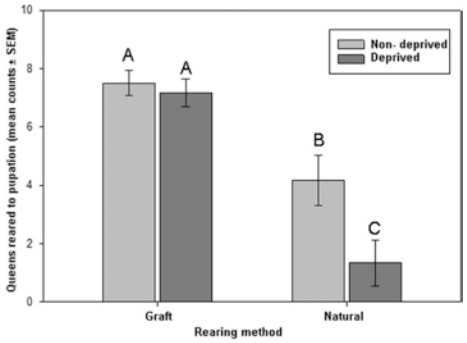

Figure 2. The effects of queen-rearing method on the acceptance of deprived (dark grey) and non-deprived (light grey) young larvae for queen rearing. A significantly higher number of larvae were selected for queen rearing (to pupation) from the non-deprived group compared to the deprived group ($p < 0.01$) when workers selected larvae in the natural selection method. No such significant difference between the groups was observed in the artificial selection method.

larvae were selected by bees for queen rearing, irrespective of genetic relatedness (please see Figures 1 and 2). Our results demonstrate that honey bees perceive the nutritional state of larvae and use that information when selecting larvae for rearing queens in the natural emergency queen-replacement process. We speculate that nutritionally deprived larvae send nutritional stress signal in the form of pheromones to worker bees, and worker bees in turn use that information when making choices regarding queen rearing.

For the full article, which is titled "Honey bees consider larval nutritional status rather than genetic relatedness when selecting larvae for emergency queen rearing" and appears in *Scientific Reports*, Volume 8, Article number: 7679 (2018), please visit:

www.nature.com/articles/s41598-018-25976-7

POLLINATION SURVEY REPORT 2017

Dewey M. Caron and *Ramesh Sagili*

Oregon State University has conducted Pollination Economics surveys of larger-scale commercial and semi-commercial beekeepers since 1986. A total of 20 survey responses were analyzed in 2017 from 16 Oregon and 4 Washington beekeepers; there were no surveys from Idaho beekeepers this year. Last year there were 38 total Pacific Northwest respondents, 12 from Idaho.

Among the survey respondents were 11 Oregon commercial beekeepers who managed an average of 3,049 colonies/individual and 5 semi-commercial beekeepers who managed an average of 255 colonies/individual. The total colonies owned by these respondents was 33,713. Three Washington commercial beekeepers averaged 8,433 colonies/individual. The total colonies managed by respondents represented 41 percent of the estimated colony numbers in the two states, about 2 percentage points lower than numbers of the three Pacific Northwest states last year. Oregon colony holdings were 47 percent of the total estimated Oregon colony numbers, down from 67 percent last year. Overall, the 20 Oregon/Washington beekeepers included in this study reported 117 crop rental opportunities on 18 different crops, constituting a total of over 120,198 colony rentals.

Sum of total value of pollination fee reported by the 20 Oregon and Washington respondents was slightly over $10.6 million dollars. The 2017 weighted average fee of rental colonies for Oregon beekeepers increased by $3.20. Graphically the weighted averages for the past 17 years' rentals for almonds ($177.80 weighted average), tree fruits ($53), blueberry ($58, up by $2.75 from last year), vegetable seed production ($19.80 decrease over previous year, due to sparsity of reports from seed rental east of the Cascades), and squash and pumpkin ($54.90) are shown in the graph [Figure 1].

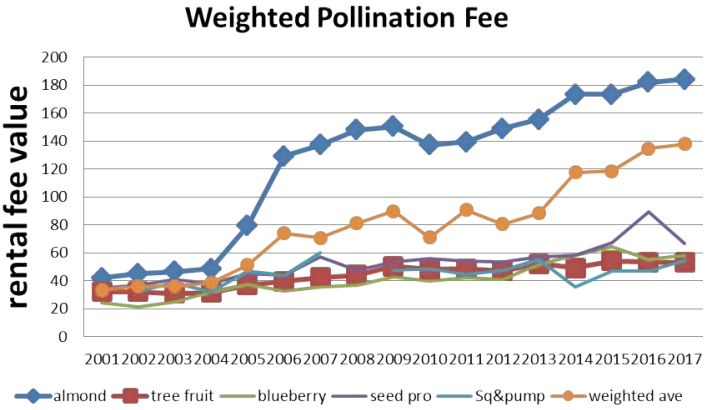

Figure 1. Weighted colony rental fee for Washington and Oregon beekeeper colony rentals (middle bolded line with circles, almond (top line with diamonds), tree fruits (lower bold with squares—includes pears, sweet cherries, and apples), blueberry, vegetable seed crops (principally carrot, radish, and onion), and squash and pumpkin crops for 16 years (2001–2017).

The latest pollination survey continues to illustrate the importance of pollination rentals for beekeepers in Oregon and Washington. The 11 commercial Oregon beekeepers reported renting colonies to one or as many as 15 different crops, averaging 7 crop rentals/beekeeper; semi-commercial beekeeper average was 4.5 colony rentals/person. Oregon total rentals reported were just under 80,000 colonies, for gross fee income of slightly less than $10.3 million.

By far the largest fee generator for Oregon and Pacific Northwest beekeepers was California almond rentals, as has been the case for the last dozen years. Fifteen Oregon beekeeper respondents rented 25,752 colonies (range 100 to 6,200 colonies) to almond growers. Rental fee received for almonds by Oregon beekeepers ranged from $130 to $220, with a weighted average of $184.2, which is $2.30 above the previous year rental. For Oregon beekeepers, almonds represent 62 percent of the total crop rental fee gross income.

Closer to home, Oregon beekeeper rental of colonies for fruit (pears, sweet cherries, and apples) remained the top "local" income opportunity. In 2017, over 16,000 colonies (20 percent of total yearly pollination rentals) were in fruit orchards with income of slightly over $850,000. If we exclude almonds and look only at the rentals in Oregon and Washington, tree fruit represents 30 percent of the rental colony number and 38 percent of the income.

Berry rentals (blackberries, raspberries, marionberry, and blueberry) accounted for 19 percent of "local" (within region) rentals and 16.5 percent of the income. Vegetable seed rentals (8,870 colonies) comprised 16 percent of local (excluding almonds) rentals, but with weighted average of $74.75, 23 percent of the local total gross income. Meadowfoam rentals consisted of 3,236 colonies, which accounted for 6 percent of local rentals and gross income, cucurbits rentals (watermelon, cucumber, squash, and pumpkin) included 3,826 rental colonies (7 percent of local rentals and 8 percent of gross income), and legume seed (11,458 rental colonies) accounted for 14.5 percent of the gross income.

The range in rental prices reported by respondents was extensive. For pear, the range was from a low of $30 to a high of $60, range for apple was $45 to $60 per colony, and for sweet cherry it was $35 to $60. Rental price range for blueberry was $40 to $80, and for meadowfoam it was $30 to $60.

Our survey asked the respondents if a pollination contract was used. Two respondents said yes, 7 said sometimes, and 7 said no. Average price to maintain a colony for the year was estimated as $233.70 (10 commercial beekeeper respondents); a slightly lower amount ($217.3) was reported by 3 semi-commercial beekeepers, though not all respondents estimated annual costs.

We appreciate those who sent in survey responses.

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KEEPING BEES IN JULY

Karessa Torgerson

Believe it or not, the beekeeping new year (August 1st) will be here soon! The condition of your colonies in the critical last months of summer will play a large part in determining their fate through winter and into next spring. A few timely actions taken now can pay dividends for the long run.

In most parts of Oregon, July brings the end of the nectar flow and the beginning of dearth. The end of the nectar flow means bees will not be drawing out wax or bringing in wet nectar to cure. It is time to start consolidating. If you have a honey super worth of empty honey frames on your colony, remove it. It's okay to move honey frames from super to super to get your boxes as full of provisioned frames as possible.

By the end of July you should be ready to harvest honey. If this seems early, keep in mind that colonies in many parts of Oregon don't gain much harvestable weight after the end of this month. More importantly, your bees will fare much better in the seasons to come if you complete your Varroa mite treatments before mid-August, and many treatments cannot be used with honey supers on the colony.

Your goal with Varroa treatment now is to help your bees raise a generation of well-nourished and "fat" bees that have not been compromised by mite infestations or mite treatments. If you are successful, your robust winter workers will have longer lifespans and should be more resilient to the stresses of cold and rain. They will be better equipped to raise next year's spring brood, which will also benefit from lower mite numbers at the start of the season.

Before treating for mites, it is important to do a mite count to find your initial mite load. A powdered sugar shake or alcohol wash can both give accurate results. You can also use the sticky board method. There is an excellent video on how to sample mites posted on the Oregon State University Extension Service YouTube page. If your mite numbers are truly very low (see next paragraph), you may modify your treatment plan accordingly.

A colony going into winter with high mite numbers is unlikely to survive. Many beekeepers are opting to treat for mites in fall when they count 3–6 mites per 300 bees, or a 1–2 percent rate of infestation. Colonies with counts even a little higher than that can collapse from thriving colony in July to dead-out September or October.

Before choosing your treatment, consider factors such as temperature, time available to treat, and the use of previous treatments. Formic acid, while effective and safe to use with honey supers on, can sometimes cause queen loss and other problems when used with high temperatures. The newer formulations may cause fewer problems. Other treatments, such as synthetics and thymol/other oil-based treatments, require that honey supers be removed before use. See the documents section of the Oregon Master Beekeeper website for a handy breakdown of the pros and cons of the options. It is important to always follow the manufacturer's instructions when using any treatment. Failure to do so could harm your bees, compromise your health, or, in some cases, risk an increase in mite resistance to the treatment method.

More Tips for July

❖ The end of the nectar flow signals the beginning of robbing season. Vulnerable colonies can be quickly plundered and robbing also transmits Varroa and disease. To prevent problems, don't spill honey or nectar near your colonies nor keep them open any longer than you absolutely must. Cover open boxes and frames to prevent easy access. Reduce entrances on weak colonies and keep a robbing screen handy, just in case.

❖ Speaking of weak colonies, consider combining them with stronger colonies if you can determine they aren't afflicted with Varroa or disease. Whenever possible, you want to "take your losses" in late summer and early fall instead of in the winter or spring.

❖ Continue supplying water for your bees if there isn't a dependable source available. This will keep your colonies from drawing the ire of birdbath watchers and swimming pool owners. A Honey Bee Biology article written by Dr. Wyatt Mangum and published to the *American Bee Journal* explains that keeping a nearby water source can also make a big difference for the hive; if a honey bee must fly a long distance to the water source, she is able to carry less water. For water carriers making an average of 50 round trips a day, this small difference can really add up over the course of the season.

❖ Ensure your colonies are queen-right while queens are still available. Sometimes it can be hard to find queens as fall approaches, and it is best to give yourself time to amend any queen-acceptance problems before the end of the season.

❖ Have you made arrangements to borrow a honey extractor and other equipment yet? Because harvest season is pretty fixed here, everyone needs an extractor at the same time. Reserve yours early to make sure one is available. Check with your local beekeeping association for guidance. Do yourself a favor and get a hot knife for cutting wax cappings if you can. They are much easier and faster to use than a standard cold knife.

❖ Don't forget to leave plenty of honey for the bees when you're removing honey supers. As a general rule of thumb, hobbyist Oregon colonies will need 80–100 pounds of honey to get through the winter.

❖ Finally, plant some fall flowers! Asters are a great fall food for bees.

BEE EVENTS .

August 3–5. Western Apicultural Society Conference. Boise, Idaho. *Information*: www.westernapiculturalsociety.org.

August 13–17. Eastern Apiculture Society Conference. Hampton, Virginia. *Information*: www.easternapiculture.org.

August 24–September 3. Oregon State Fair. *Information*: https://oregonstatefair.org *and* orsba.org.

October 26–28: OSBA Fall Conference. Salem Convention Center, Salem. *Information soon*: orsba.org.

November 13–15. 2018 CSBA Annual Convention. Harrah's Resort Southern California. *Information*: www.californiastatebeekeepers.com.

January 8–12. 2019 American Beekeeping Federation Conference & Tradeshow. Myrtle Beach, South Carolina. *Information*: www.abfnet.org/?

REGIONAL NEWS

Note: All associations invite and welcome visitors to join them at meetings! See page 15 for meeting time, website, and/or contact information. Many regional associations also offer additional opportunities for learning, which are posted on their websites as well as on orsba.org and under *Events*.

Regional Representatives

North Coast

My long time "bee" friend turned friend David Downs sold out at the coast and moved to the valley. Good for David, as his conversations include how great the forage is in the valley and how much honey his bees are producing. I am in Lincoln City, and David lived just outside of Pacific City. We were about twenty minutes apart, depending on traffic. For many years David was my backup beekeeper, as I was to him. If I ever needed a place to stash bees, needed someone to help with swarm collection, or needed equipment, he was my person. I kept a hive (or two) at David's apiary for many years. I will miss having him close by. The good news is I now have four beekeepers right here in Lincoln City. Two are first-year beekeepers, both in the Oregon Master Beekeeper Program, and one an experienced beekeeper and mentor for the program. What seems like many years ago, David and I carpooled to the Tillamook County beekeeper meetings together. At one time we had six of us in the carpool. One of the earliest Tillamook County meetings I remember attending had only eight or ten of us in attendance. The earliest Tillamook County directory I have has only eleven names on it, and two of those didn't attend many meetings. The most-recent membership directory has forty-nine names. How things have changed as time goes on. As David said during our most-recent conversation, you know, I am going to be 82 in a month.

Central Coast Beekeepers Association was at the Connie Hansen Garden Festival again this year. If you come to Lincoln City. Be sure and visit the garden. It used to be that if you saw a bee while visiting I could safely say it was one of mine, but not any longer. We will have also been at the Lincoln County Fair by the time you read this. Thanks so much to Kathy Cope for organizing volunteers for both events.

We have already had our first report of a bear attack. The attack does not appear to be devastating, but a hive was damaged nonetheless.

Blackberries, our main nectar flow, should be in full bloom soon, with some areas getting Japanese knotweed later in the summer. *Stan Scotton*

South Coast

A swarm was rescued from an azalea bush in a front yard during the Azalea Festival over Memorial Day weekend in the Brookings Harbor area at the mouth of the Chetco, thanks to the OSBA swarm list. The homeowner had thought he was going to have to call an exterminator, but his granddaughter knew how to find the website.

Interesting that two of the overpopulated Caucasian bees here didn't swarm at the end of May, and, instead, the ones we call the "mean bees," hybrid from a daughter queen, simply began annexing into clusters under the screened bottom board. We suppose that the horrid hybrids are the result of the virgin daughter queen going off and hanging with the local bad boys. Prior pres and co-founder, Carla Fletcher, has brought to meeting the bodies of what truly seem to be the supposedly extinct German Black Bees. Assuming that the more-aggressive bees are likely to be better survivors, this might seem to be better than taking a chance on going vagabond. When I added a third deep, they continued to live underneath. Several days later, the high humidity weekend with lots of drizzle changed their attitude about that!

The other Caucasian colony, originally obtained from Old Sol, is in its fourth summer now and survived this past fall/winter/spring with absolutely no assistance of any kind. No feeding, no hive box manipulation, no treatment, and not even any caretaker presence for the first four months of the year when many other colonies of the area were killed by the freeze and moisture. They had also survived the yellowjackets that killed many colonies of the county, possibly because of one of the two management assists provided in the summer, an adaptation of a Davis Robber Screen, this one simply a fence made of wire mesh tacked around the porch, about 4-inches high, totally uncovered above. After landing on the fence and crawling over it for several weeks, the bees learned to helicopter in and out.

It may seem reasonable that, since robbers tend to dive bomb directly through the entrance into the hive, the fence foiled them by preventing them from getting a direct shot at it. But it may seem impossible to understand why that tiny bee fence open to the sky, would keep neighboring bees, who have the same porch fence, from just helicoptering in at a neighboring hive to load up on looted honey for overwintering. But they don't. See the article by Dr. Eric C. Mussen of UC Davis, at:

http://entomology.ucdavis.edu/files/147611.pdf

Eric used wood to frame his fences, but simply tacking the fence around the base of the porch works just as well.

The other management assist provided for the Caucasians in order to help them manage the mite situation, besides the screened bottom board with a white board below for mite monitoring, was an empty box beneath the brood boxes. The Carniolans taught the beekeeper to do that several years ago, and they seem to be enabled to do some very proactive mite control usage with that extra space to make all the drone comb down in the bottom box and then apparently eliminate the mites and sometimes all the drones from there. Instead of the empty box, though, this fall they will be getting a box full of empty frames, for better beekeeper management.

The empty box at the bottom may also have been what saved them during the freeze and the direct chill and moisture of the violent storm wind that are propelled horizontally through the cracks in structures. The overwintering tape covering the outside of the seam where the boxes sit on each other is likely helpful also.

The blackberries were just beginning to pop open their first buds during the last few days of May, with only a terminal blossom at the tip of some of the dominant vines. Then, after the long five-day spell of fog, mist, and drizzle on the second weekend of June, the main forage is in open season. For variety, the hills are covered in patches of blue and yellow, the bushes of deep blue of the ceanothus and the yellow of the beautiful but ruthless intruder, Scotch Broom. More welcome yellow highlights show among the bases of the grasses, fields filled with dandelions, mustard, and other bright-blooming ground cover.

The long gray weekend of intermittent drizzle, by the way, is usually one of dynamic winds, whipping up the waves, the time of the annual International Windsurfing Tour event at the Pistol River Wave Bash. It was definitely restricted flying weather for all airborne creatures! Rain gage contents for the drizzly weekend totaled 0.62 inch. That's in June!

Mureen Walker

Regional Associations

Central Oregon Beekeepers

Our association continues to find ways to educate and garner interest in beekeeping. Our last event was to participate at the Lincoln County Master Gardeners' annual plant sale. We set up an educational display and a honey tasting. There were over twelve varieties to expose the public to the subtle tastes of the different honeys. Several folks signed up to receive association information, which resulted in four new people attending our last monthly meeting.

Four of our association members attended the Hood River Trifecta and reported on learnings and their experiences. Jim Parrish led the discussion, sharing tips that were both helpful and entertaining.

As we look forward to Pollinator Week, we have planned a themed meeting. We will start with pollinator-related raffle items, followed by our "in club" Master Gardener and pollinator expert, Anne Schatz. She will speak to the relationship of beekeeping and how it can be a positive impact on other pollinators in the garden. Association members will then have a chance to make "pollinator plant seed bombs." All members will receive planted borage seeds to take home.

Patti Johnson

Central Oregon Beekeepers

We in central Oregon always like to keep things challenging and interesting. After the special challenges in late winter and

spring with the warm/cold cycle starvations, we had some great buildups with the wonderful fruit tree and early garden flows. This led to many unexpected, and perhaps inevitable swarms. The buildups were much faster than a usual year, so many of our members had an unwelcome surprise at their June inspection. The flip side, however, is that the feral swarms also were much more numerous than last year when there were practically none. Another odd finding this spring is the number of queen losses, both from existing hives and from newly installed nucs. We haven't yet figured out why, but perhaps a discussion at the nest meeting. Foragewise, June is, for the most part, a dearth month in the native areas with sagebrush being the next forage source in late June, early July. Those who have hives in the city fare better with a continuous supply of garden plants.

In May, we had a great presentation about methods of mite counting by one of our Oregon Master Beekeeper Program Journey students as well as a way of keeping inspection logs in good order. In June, we'll be listening to a local commercial beekeeper describing his use of a "repair nuc" in his apiary inspections. *Allen Engle*

Columbia Gorge Beekeepers

June has finally brought a lot more sun along with the absence of rain. This past spring witnessed our typical cold (<40 degrees with rain). The bees exploded from the Gorge hives in great numbers filling cells with nectar and pollen.

Our association has only been in existence for a mere year, yet we have grown to over fifty members this year. We are seeking to unite the beekeepers of the greater Columbia Gorge area focused on education. We have been blessed in having many outside speakers travel the long distance to our area.

Over the past few months, we have included an "in hive" demonstration of some facet of beekeeping (nuc/Package Installation, Splits, Varroa Testing, Supering) prior the general meeting. Our meeting location, being at the Hood River Extension, which houses two Langstroth Hives, has resulted in a terrific response to this addition.

The Trifecta Bee Event sponsored by Brushy Mountain Bee Farm and BG Bees was a terrific success on both Saturday and Sunday as beekeepers from Idaho, Oregon, and Washington traveled to enjoy the benefit of hearing and experiencing Dr. Tom Seeley, Dr. Andony Melathopoulos, and Alison McAfee. Our own Dr. Dewey Caron was a superb asset also. He delighted us with his presentation on "What's Your Plan" along with a recap of the Pacific Northwest Honey Bee Survey. What an asset Dewey is to the entire beekeeping community.

Hood River has put forth a Fourth of July Parade annually.

The Columbia Gorge association constructed a nice float last year and will be entering again to share beekeeping and pollination. We have partnered with the Master Gardeners to share a space in their booth at the Hood River Country Fair. This month Zip Krummel and Pat Case will be presenting alternative hives at our general meeting.

James Lombardo

Douglas County Beekeepers

Douglas County Bees has participated in several local events during the spring, including the Douglas County Earth Day & Energy Fair, the Glide Wildflower Show, the Douglas County Master Gardeners Plant & Garden Expo, and the Umpqua Community Mother's Day Plant Sale. We are also planning to have a presence at the Blooms & Butterflies event in Elkton, Oregon, on June 23rd, and the Douglas County Fair, August 7–11. Our association continues to grow every month. The month of May was full with weekly reports of swarms, and reports continue to come in the month of June. *Gina Holgate*

Klamath Basin Beekeepers

Happy pre-summer from the Klamath Basin; we had a dusting of snow at Crater Lake this morning. Last month our association met at one of Vice President John Wilda's apiary locations, where we took folks through hive examinations, problem identification, mite checking, and a dry run on oxalic acid vaporization treatment. Our June meeting will be at our usual location. We'll discuss where hives should be in growth levels at this time of the year, importance and different methods of mite checking, our upcoming annual BBQ, the date for the intermediate beekeeping class, and have a report on the educational project at the elementary schools in the Klamath Basin—and, I'm sure, some other neat, informative topic from our education officer, Katharina Davitt.

In the past five weeks, Paul and Katharina Davitt have visited various schools in the Klamath Basin teaching third and fourth graders about honey bees, native bees, wasps, pollination, and much more. Here is the breakdown so far this teaching season:

17 schools, 21 visits, 51 classes
655 third graders, 611 fourth graders
1,266 honey sticks issued
1,266 *Black and Fuzzy Is So Lovely* bee books issued
1,203 miles driven

Do you or your bees have a story to tell? A learning? A question? A favorite tool or recipe? A record of bloom? Please send: osba.newsletter@gmail.com!

$566.80 mileage expense using the federal rate
$28.08 cost on fruits snack expense for fruit exercise
$188.64 cost on honey sticks
$1620.48 cost on books
$308.73 cost on flowers for dissection exercise
$1,550 donated labor expense

Total: $8,418.26

We still have at least one school before the end of the regular school year and some summer school programs along with various educational events planned throughout the summer. Our goal is to get grants to continue this effort in the future and reach every 3rd and 4th grade class in the Klamath Basin every year. *Paul Davitt*

Lane County Beekeepers

Jason Rowan shares a beautiful frame (see also page 1) with Nancy Ograin and Arthur Jones.

On June 2, our association had a very successful Field Day at the Beetanical Apiary, hosted by Jason Rowan. The day was perfect with sunshine and warm temperatures. The site has an 800-year-old oak tree, which provided ample shade for the picnic which followed the hive demonstrations.

Our celebration for National Pollinator Week will be held on June 23 at the Science Center. We will be joined by the North American Butterfly Association and the Oregon Bee Project to share the wonder of pollinators in our world.

Swarm season has been very active. We have a list on our website, which breaks our large county into areas to help callers find someone close to the area where those runaway bees have landed. We take confidence in only putting members on the list to catch swarms who have proven experience with beekeeping. The rationale is to give the association assurance that the people going out to provide this valuable service are folks who can interact with the public in an educated way and be knowledgeable beekeepers to help the bees be successful in their new home. We know how important this task is, especially when the public is "freaking out." The bees are a valuable commodity and we want them to go to beekeepers who can adequately provide for them.

In July, we will have an early session with a presentation on "Labeling Requirements," and our main meeting topic will feature Judy Scher sharing Fall and Winter Management. All are welcome to meetings on the third Tuesday of each month.

This is our very busy time of year, with adding supers to keep ahead of the heavy nectar flow from the abundance of blackberries in our area and soon to be planning our removal of the same and the sticky job of extracting. Lots to do. Stay hydrated, keep smiling, and may your bees be healthy and the honey sweet. *Pam Leavitt*

Linn Benton Beekeepers

On June 9th we held our field day event with 35 participants. Everyone had a great time despite the rain showers and modification of the day's schedule. The event concluded with participants viewing observation hives being used in a scientific study at the OSU Apiary through funding from DARPA (Defense Advanced Research Projects Agency.)

Ellen Topitzhofer from Oregon State University will be this month's speaker. Her presentation is titled, "Mite Fight: The attack of Varroa mites and how beekeepers can fight back." She will discuss how Varroa mites are a problem, their biological cycle, what Varroa damage looks like, and how to sample your colonies for them. She will include treatment options as well.

Bee joke for the month: "Why do bees buzz?"
Answer: Because they can't whistle. *Amber Reese*

Oregon South Coast Beekeepers

Information from the OSBA spring meeting was reported during the Oregon South Coast beekeepers meeting, and, after the usual pot-luck networking break, there was a viewing of video,

including several short informative clips from Bee Day by Portland Metro beekeepers, and one showing the OSCBA VP Daniel Strom giving his presentation at the Bee School by the Del Norte Beekeepers. Daniel plans to be able to supply queens and nucs locally next year.

The local owner/editor of two of the three newspapers of Curry County as well as one in Coos County, who is a beekeeper enjoying the benefits in his orchard, bought bee packages through OSCBA this year and always features beekeeping articles and meeting notices, in color when possible. He responded to the most-recent meeting notice by sending some photos of a swarm that moved into one of his empty top bar hives. Enthusiastic supporter!

Beekeepers of OSCBA are preparing for a sizable booth at the Curry County Fair with a display and presentation on "Local Pollinators and their Forage Plants." *Mureen Walker*

Portland Metro Beekeepers

May was certainly sunnier and drier than usual, keeping bees and their keepers busy with growing hives and, for some, swarming, or attempting to prevent swarming. One member reported 11 swarms in a single day (from an apiary with about 30 hives); the family captured some, but at the end of the day gave up on others—just too many to deal with! Personally, a fellow beekeeper helped me split two hives, then we split her one into two. Maple trees bloomed beautifully this year; I have already taken one super totally filled with maple honey. Blackberries are beginning to fill the PMBA area; I see bees on wild vetch near Ruhl Bee Supply in Wilsonville.

The front page of the May *Bee Line* on how two particular fungi provided significant benefit to honey bees piqued my interest. In fact, after reading that article and googling more, I moved some "aging" tree trimmings beneath several hives. While still new to *The Bee Line* and OSBA membership, I find the newsletter most useful—I'd recommend membership to all beekeepers. In fact, PMBA plans to make it easy to be a member.

Our next meeting on June 14, Anne Lesenne will advise on hive maintenance and flow hives. Doug Sieckmann will demonstrate methodology for removal of bees from honey supers and the use of an extractor. Upcoming events include a mite workshop under Joe Maresh's guidance and the annual the Oregon State Fair Booth in September. We're planning a picnic in August in lieu of a formal meeting.

Nancy Winston

Portland Urban Beekeepers

Portland Urban Beekeepers have had another busy and productive May/June. Thanks to members who donated swarms, the PUB Apiary at Zenger Farm now has 12 hives. Our first and third Sunday work parties have been well attended, and in early June we began sampling hives for mite counts. As predicted, the sugar shakes revealed minimal mite counts, but a small sample of drone brood showed evidence of infestation.

We had a very active and successful booth at the Multnomah County Fair over the Memorial Day weekend. The observation hive was a hit, as were the honey sticks. Many thanks to our volunteers who made this happen, and a special shout out to Rebekah Golden from Bee & Bloom for coordinating this event!

Our June meeting was well attended, and Glen Andresen reviewed what is blooming in the valley with beautiful bee and bloom photos. Cheryl Wright gave a twenty-minute overview of the Oregon Master Beekeeper Program and why she thinks it is such a great program. Finally, Dr. Dewey Caron gave a two-part presentation, starting with a review of the Bee Informed Partnership survey data. The PUB sustained heavy losses this winter. We had 67 respondents and a 55 percent loss of our 8- and 10-frame Langstroths, 70 percent loss of our top bars, 40 percent loss of nucs, 25 percent loss of Warré, and 71 percent loss in the "other"

category. All of our losses were heavier than both Oregon and US averages except for our Warré category. To be fair, 55 percent of the respondents had 3 years or less of beekeeping, so hopefully we can improve these statistics. The majority of losses were attributed to Varroa mites. The second part of Dewey's talk was about managing the Varroa mites in our colonies, how treatment-free can we be, and some effective alternatives to chemicals. He has primed us for our Tom Seeley visit this coming Labor Day. Dewey's lecture slides are posted on the PUB website.

Upcoming June events include June 16th Pollinator Week at the Oregon Zoo, where PUB will have a table, but live bees were not invited, so no observation hive. Tuesday, June 12th, Cascade Brewing Barrel House will be hosting a "Bee Fest" celebrating honey bees by offering honey brews, and donating proceeds from the days sales to PUB. *Cheryl Wright*

Southern Oregon Beekeepers

We welcomed Dewey Caron for our June meeting. Dewey talked about varying degrees of going treatment free, how practical it is for most of us, and what steps we would have to take to consider before taking that plunge.

Dewey also gave SOBA some very good news. According to the Pacific Northwest honey bee survey, SOBA had 20 percent overwinter loses, and for 3 of 4 years SOBA has had the lowest loss level of any of the bee associations. Congratulations SOBA!

Randy Oliver is coming to our next meeting on July 2nd!

Our Outreach and Education Coordinator, Leslie Lundgren, has outdone herself this season. These are some of the events she has on the slate so far this year along with other SOBA volunteers. We will or already have participated in "Live on Your Land Stewardship Conference" at RCC in Grants Pass, the Jackson County Master Gardeners Spring Fair, AG Day, a classroom visit to Cascade High School, Oregon Bee Project at the Farmers Market in Medford, Earth Day at RCC, Pollinator Week at SOU and also at the OSU Student Farm, the Children's Fair in Jacksonville, Living History Days at Family Farm, the Josephine County Fair in August, and Boatnik.

I would like to give a special thank you to Evergreen Bank and Marianne Heater for organizing a float for our Southern Oregon Beekeepers Association for the Boatnik Parade over Memorial Day weekend. Three SOBA members rode on the float in their bee jackets and hoods, while other volunteers walked along handing out candy to the crowds. It was fun for all!

Hope everyone has a good start to the summer bee season.

Cheryl Housden

Tillamook County Beekeepers

It seems too long between meetings and the meeting goes by so fast. It's fun to listen to everyone's stories, issues, and ideas. Take, for example, the person whose swarm went into the chimney of a neighbor's house! Someone suggested lighting a fire in the fireplace. Smoke them out. Should work, don't you think?

Scott Gordon gave a brief report about the Trifecta event in Hood River recently with Tom Seeley and others. Sounds like it was a wonderful event!

Someone brought in phacelia cuttings. Are you familiar with that plant? It's a bee magnet. Every stem has bees on it every sunny day, and it improves the soil.

We were blessed to have Carolyn Breece come and collect bees from four different beekeepers to send off for testing. She also was the speaker for the meeting. What a great job she did reviewing the basic issues with keeping bees, what we could affect and what we couldn't. Much of the speech was on Varroa mites, the life cycle and treatments. As she said, "Know your enemy!" If you are going to use oxalic acid, she highly recommended the dribble method. Her push was for monitoring before and especially after you treat. I was also thrilled to see a slide of the bee garden at OSU. It had huge swaths of phacelia, borage and sunflowers, and a section of mixed other favorites. **Beautiful**! Should be one such garden on every mile of our countryside!

Claire Moody

Tualatin Valley Beekeepers

The TVBA members have been putting their honey supers on, and some members are collecting swarms. Dr. Dewey Caron presented at our well-attended membership meeting last month on the hive loss survey showing TVBA had higher losses than the state average and the reasons why. He also presented on treatment methods and good beekeeping practices to prevent loss. He showed how mite monitoring helps with loss prevention by 8 percent. We went overtime with many questions still to answer. On our outreach fronts, the TVBA continues to help and support the 4H and FFA programs, and we have members planning to have a booth at the Hillsboro Tuesday Market in August. *Eddie Frie*

TRIFECTA BEE EVENT

Charlie Vanden Heuvel

Beekeepers come in many sizes and shapes. Some are happy to have a hive in their backyard, others to devour each morsel of information. This past May a group of avid beeks came to Hood River to learn from Dr. Tom Seeley, Dr. Andony Melathopoulos, and Alison McAfee PhD.

The event began on Saturday, May 19, as the group was divided into small groups to learn from the presenters. Tom Seeley, in his studious, patient manner, provided great insights into the Waggle Dance, Shake, Treble, and Beep communication signals.

Not only could we see the dance in the observation hive and map out the location of the source, Tom also led the group out to the deck with his compass pointing to the sun. With the direction, we saw the Waggle Dance transformed from the bee into reality from the sun to the source.

Dr. Dewey Caron provided an in-depth demonstration of Varroa mite testing along with great resource information from the Honey Bee Health Coalition.

Dr. Andony Melathopoulos took his group through hive inspections with a discussion on "what they found, what needed to be done, and what to look for."

Alison McAfee, a star in the making, conducted liquid nitrogen hygienic tests while discussing the applicability of the test as well as alternative opportunities.

The following day, presenters provided two hours each of great insights into various aspects of beekeeping. Topics included Darwinian Beekeeping, Honey Bee Necromones, Unsung Bee Diseases, The Bee Colony as a Honey Factory, and more.

It is not often a small group can be afforded the time and learning from a few of the bee world greats.

Oregon State Beekeepers Association

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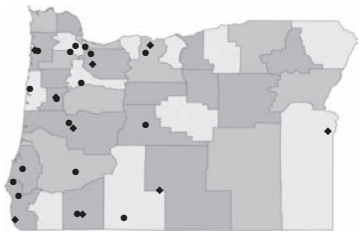

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South Willamette Valley
Tim Wydronek—541.740.4127; tim@aldercreekhoney.com

• REGIONAL ASSOCIATIONS

Central Coast Beekeepers
Meets 6:30 PM, fourth Wednesday, Newport
President: Patti Johnson—pattiandpatt@comcast.net
Website: www.ccbaor.org

Central Oregon Beekeepers
Meets 6:00–7:30 PM, fourth Tuesday, Bend
President: Allen Engle—aengle@bendbroadband.com
Website: www.cobeekeeping.org

Columbia Gorge Beekeepers
Meets 6:15–8:15 PM, third Wednesday, Hood River
President: James Lombardo—president@gorgebeekeepers.org
Website: gorgebeekeepers.org

Coos County Beekeepers
Meets 6:30 PM, third Saturday, Myrtle Point
President: Randy Sturgill—randys@rfpco.com

Douglas County Bees
Meets 7:00–8:30 PM, first Wednesday, Roseburg
President: Ivory LosBanos—ivohart@gmail.com
Website: www.douglascountybees.org

Klamath Basin Beekeepers
Meets 9:00 AM, last Saturday, Klamath Falls
President: Paul Davitt—president@klamathbeekeepers.org
Website: www.klamathbeekeepers.org

Lane County Beekeepers
Meets 7:30 PM, third Tuesday, Eugene
President: Pam Leavitt—pamseaver2000@yahoo.com
Website: www.lcbaor.org

Linn Benton Beekeepers
Meets 6:30 PM, third Wednesday, Corvallis
President: Everett Kaser—everett@lbba.us
Website: www.lbba.us

Oregon Prison Beekeepers
Program Manager: Chad.E.Naugle@doc.state.or.us

Oregon South Coast Beekeepers
Meets 6:00 PM, third Tuesday, Gold Beach
President: Harvey Young—fishawk51@hotmail.com

Portland Metro Beekeepers
Meets 7:00 PM, second Thursday, Gladstone
President: Rex McIntire—remcintire_5@msn.com
Website: portlandmetro.org

Portland Urban Beekeepers
Meets 7:00–9:00 PM, first Wednesday, Portland
President: Mandy Shaw—president@portlandurbanbeekeepers.org
Website: portlandurbanbeekeepers.org

Southern Oregon Beekeepers
Meets 6:30–9:00 PM, first Monday, Central Point
President: John Jacob—oldsolbees@gmail.com
Website: southernoregonbeekeepers.org

Tillamook County Beekeepers
Meets 6:30–8:00 PM, second Tuesday, Tillamook
President: Claire Moody
503.318.9149; claire@vanirmail.com

Tualatin Valley Beekeepers
Meets 6:00–8:00 PM, last Tuesday, North Plains
President: Eddie Frie—ejfrie@frontier.com
Website: tvba.weebly.com/

Willamette Valley Beekeepers
Meets 7:00 PM, fourth Monday, Salem
President: Richard Farrier—rfarrierfarms@gmail.com
Website: wvbahive.org

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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 August issue, 2018. The deadline for submitting copy is **July 10**, **2018**. 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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