Optimal nutrition is considered the key to sustaining robust, healthy colonies capable of withstanding pesticide stress, parasitic pressures, and diseases. Nutrition can be considered as a first line of defense for colonies to withstand both biotic and abiotic stressors. Habitat loss, monocultures, and changes in plant flowering phenology are considered the major contributors to poor honey bee nutrition and subsequent honey bee declines. Research to date suggests that adequate nutrition enables a colony to overwinter more successfully, have enhanced immunity and lower pathogen loads, among other improved physiological characteristics.

Bee nutrition encompasses both macronutrients and micronutrients. Macronutrients are vital nutrients required in larger quantities, such as carbohydrates (from nectar), lipids and proteins (from pollen). Micronutrients, on the other hand, are just as important, even though they are required in smaller quantities in comparison to macronutrients. Important micronutrients include vitamins, minerals (salts), and phytosterols. Although poor nutrition is cited as one of the crucial factors in global pollinator decline, the requirements and role of several important nutrients (especially micronutrients) in honey bees are not well understood. Phytosterols are one such group of essential micronutrients which are currently under-investigated. Phytosterols are crucial because they are the precursors to important insect hormones (viz. molting hormones) as well as they form the backbone of cellular membranes. Sterol auxotrophy—the inability of all insects (including honey bees) to synthesize sterols in their bodies—makes it imperative for bees to source sterols through their diets. Pollen is the primary natural source of phytosterols for all bees. Hence, understanding the sterol composition of plant pollens and the effects of critical micronutrients (phytosterols) on nurse bee physiology are important in understanding its long-term implications for colony health.

The sterol 24-methylenecholesterol has been reported to be the principal sterol for honey bees, playing a critical role in colony growth and worker longevity. A seminal study by Herbert et al. (1980) reported that honey bees not only preferentially consumed artificial diets laced with 0.1 percent 24-methylenecholesterol, but that worker longevity also improved by addition of this sterol. Phytosterols are acquired through food and stored in nurse bee tissues as endogenous sterols, which can then be transferred to the growing brood in the hives. Subsequent studies by Svoboda et al. (1980 and 1986) shed more light on the preferential transfer of this particular sterol to larvae through brood food and accumulation of this sterol in nurse bee hypopharyngeal glands. However, there has been a significant gap in understanding the requirements and physiological impacts of this important sterol for almost three decades. Even though bee nutrition has been studied for a significant amount of time, a substantial gap in knowledge exists regarding the physiological impacts of sterols in honey bees. Current studies at the Oregon State University (OSU) Honey Bee Lab aim to fill these gaps in research questions, addressing the phagostimulant

Continued on page 13
I hope this message finds you all well, with heavy colonies and low mite counts. August is the most crucial month of the year for managed honey bee colonies. This is the month we grow the nurse bees that will care for the bees that will eventually form the winter cluster. These are the most important bees we grow all year, every year. Mite-infested colonies addled with virus will simply not raise long-enough-lived bees required to survive winter. Summer worker bees will typically only live around 42 to 49 days or less. Conversely, late-summer/autumn reared bees have been observed to live up to 180 days or more when the conditions are right. Many factors account for this vast difference in life expectancy. Workload is one of the biggest factors that is pretty much hardwired into honey bee biology; however, there are many other factors that we beekeepers can influence. Chief among them are health factors, such as nutrition and disease loads.

Quality nutrition for bees has become an increasingly challenging proposition with an ever-growing amount of acres of land dominated by monocultures in the landscape of Oregon and beyond. This factor, coupled with a serious dearth in most parts of the state, makes it very challenging to raise fat bees with high vitellogenin levels that will live long enough to sustain the colony over the winter. Consequently, heavy feeding of pollen substitute has become the standard operating procedure in most of the successful apiaries that I know of. If you do not have a good summer or fall flow, please feed your bees. With annual colony loss rates still hovering over 40 percent, we need to do all we can for these beautiful creatures under our care. As time goes on, it will become more crucial to support bee-friendly farmers and crops with our pocketbooks; beekeeping does not look to be getting easier anytime soon.

Another challenge facing honey bee health is the widespread outbreak of foulbrood. The Bee Informed Survey this year has observed an EFB spike in many operations throughout our region. While there are many factors that can contribute to an epidemic, one big concern is the availability of antibiotics. The recently adopted rules requiring a veterinary relationship to prescribe antibiotics has created several hurdles. One hurdle is how few vets know enough about bee diseases to be able to prescribe treatment. Overcoming this is challenging enough for commercial beekeepers, and even a bigger hurdle for hobbyists. This is partly because of the scarcity of vets willing to prescribe, but also the volumes the approved medicines are available in. The volumes typically available are hundreds of times more than the average backyard beekeeper may need, and these medicines have a limited shelf life. This situation increases the risk of 1000s of colonies going untreated and becoming a reservoir of pathogens that can spread fast as colonies collapse and get robbed out. What is the solution here?

One solution is to educate the veterinary community on honey bee diseases and the vital role bees play in Oregon’s agricultural economy. To that extent, Carolyn Breece and the bee lab crew reached out to veterinarians and offered a seminar for them to get acquainted with honey bee diseases; unfortunately, only one vet showed up. So, what do we do next?

The solution may be right in front of our noses. The OSU extension program has all sorts of crop and livestock experts that have been an extremely valuable and widely utilized asset that has been of great service to Oregon’s agricultural community. For example, if I were a pear grower having a disease or pest issue, I could bring a sample to our local extension office and have the problem identified and remedy recommended. Wouldn’t it be great if we had honey bee health experts at every extension center that were qualified to identify honey bee diseases? In a way, we already have this with the Oregon Master Beekeeper Program. Perhaps there is a way that by working together with local qualified master beekeepers, regional bee associations, and the OSU extension program to have at least one person who has a developed relationship with a local veterinarian who could obtain the prescriptions and disseminate the antibiotics at the right time, in the right quantities, and in the right situations? A nominal fee for the materials could help cover costs, and as a community we could react faster when problems arise.

It would also be great to have someone available to issue honey bee health certificates for those of us who ship bees across state lines and national borders. Oregon currently does not have an apiary inspection program. This greatly limits where we can legally send our bees and may contribute to outbreaks of various maladies. It might be more palatable to not use the term apiary inspector and instead use a title like honey bee health specialist, or some such thing. I think as long as the program was voluntary many hobbyists and commercial beekeepers would benefit from and utilize such a service.

I am sure there are other possible solutions, and I look forward to hearing input from our membership. I am also looking forward to seeing you all at the Oregon State Beekeepers Association Fall Conference. Joe Maresh has a stellar lineup for us, and we should learn a lot and have a great time. Please register early, and see the OSBA website
EUROPEAN FOULBROOD (EFB) ALERT

Ramesh Sagili

We have noticed a relatively higher incidence of European Foulbrood (EFB) in both commercial and backyard beekeeping operations in Oregon during the past three months (April–June 2019). We speculate that the higher incidence of EFB in honey bee colonies this year is a result of poor nutrition/forage. European Foulbrood incidence is usually associated with stressors such as poor nutrition / inadequate forage.

In many cases, EFB disease gradually recedes with improved foraging conditions. Some beekeepers with significant infection had to treat their infected colonies with the antibiotic Oxytetracycline (OTC), or Terramycin. Please monitor your colonies for EFB and assist the infected colonies in overcoming the disease by supplemental feeding (providing sugar syrup and protein patties). If the symptoms persist and the disease incidence is high, then, as a last resort, please consider using OTC. You will need a Veterinary Feed Directive (VFD) from a veterinarian to purchase antibiotics. If you choose to use an antibiotic to treat EFB during nectar flow, then you should not extract honey for human consumption from those treated colonies. Following are links to two short videos that depict EFB and AFB (American Foulbrood) symptoms.

vimeo.com/345971257
vimeo.com/345984410

Take care to note that Tylan (tylosin tartarate) is approved for treatment of AFB (American Foulbrood) only, not for EFB. Please feel free to contact us if you have any questions, or if you need further information or assistance with disease diagnosis. Following is our contact information:

Dr. Ramesh Sagili—ramesh.sagili@oregonstate.edu, (541) 737-5460
Dr. Andony Melathopoulos—andony.melathopoulos@oregonstate.edu, (541) 737-3139
Carolyn Breece—carolyn.breece@oregonstate.edu, (541) 737-5440

Thank you and good luck.

EXECUTIVE BOARD MEETING MINUTES

June 29, 2019  Alpine, Oregon

Meeting was called to order at 3:30 pm by President John Jacob at Queen Bee Honey Co. in Alpine, Oregon.

In attendance: John Jacob (president), Karen Finley (secretary), Joe Maresh (vice president), Joe Hansen (treasurer), Rosanna Mattingly (newsletter/website), Steven Coffman (North Willamette Valley regional rep), Mureen Walker (South Coast regional rep), Tim Wydronek (South Willamette Valley regional rep), Kathy Cope (North Coast regional rep), Everett Kaser (Linn Benton assn president), Rex McIntire (Portland Metro assn president), Eric McEwen (Southwestern Oregon regional rep), Mike France (Lane County assn president), Mike Rodia (ag liaison), Harry Vanderpool (past president), Richard Temple, Marjie Ehry, and Bonnie King (state fair).

Treasurer’s Report and Minutes

Joe Hansen presented the treasurer’s report: OSBA had a net income of $3,003.70 for the year through May 31. The balance is $60,316.37 in total assets, including $26,481.22 in General Fund cash and $24,410.29 in Research Fund money. Main sources of income to date are membership dues and ads in The Bee Line.

His report and Minutes of the last (April 20) board meeting as provided for review and as published in The Bee Line were approved.

Regional Representative and Association Reports

Kathy Cope reported that North Coast weather has been unusually warm and un-rainy. Bees are doing really well. Central Coast group is ready and preparing their fair booth. The Tillamook beekeepers’ raffle of the painted hive at the home and garden show generated money to begin remodeling work on the new community honey house in Tillamook.

Steve Coffman reported that area bees are good, and a lot of...
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KEEPING BEES IN AUGUST

Matt Allen

Every month is a busy month for a beekeeper, but August is particularly important. The weather is hot and dry, maybe with the occasional thunderstorm. It feels like the peak of summer, but this critical month is when we need to start thinking towards winter. It's time to strip the rest of your honey crop. Will they be heavy enough for winter or will you need to feed? Are there enough bees in the hive? Will the queen be viable until next spring? And probably most important for this month is, Are your mite levels under control?

August is the month to harvest the remainder of your honey. In many locations, even earlier. By mid-August, most marketable honey flows have tapered off. Pull your supers and start to focus on fall. There are a few notable exceptions, like buckwheat and mustard. Both plants are grown as part of a crop rotation system in certain parts of the state. Be aware that, if you decide to go after these potential honey crops, it may be difficult to get your mite levels under control in a timely manner. Make sure you have a plan in place. More on that later.

Queen availability will also begin to taper off at this point in the year. It is important to realize that new queens will not be available again until next spring. Are your queens laying a strong pattern? Do they have a good retinue? If the colony is weak or spotty, now is a good time to requeen. Requeening now allows enough time for a weak colony to turn around and build up before winter. If your queens are failing now, they will be failing in a month and failing in the spring. Failing queens are a major cause of colony loss in the spring. Replace her while you still can. It is generally easier to find queens in August than September, and definitely easier to find queens in August than in March.

How big are your colonies? If a colony is not solidly filling a box and a half with bees, it will require some additional attention. What is the brood pattern like? If spotty or drone-y, it may need requeening. A steady diet of supplemental protein and sugar syrup may work to build up some small colonies, provided strong queens and healthy brood. Otherwise, it is a good idea to start combining weaker colonies to get them ready for winter. Be sure to ask yourself why a colony may be small before combing. Combining sick colonies with healthy ones may be detrimental to your operation (AFB!!).

There are many opinions regarding supplemental feeding in the fall. At the minimum, it is a good idea to heft your hives to get a feel for weight. If it feels moderate or light, feed. If it hurts your fingers to heft, it might not need feeding. It's a good idea to look at those extra-heavy hives. They could be queenless or weak. Regardless of weight, you might consider supplemental syrup and/or pollen feeding in order to stimulate brood rearing and help carry brood rearing later into the fall. This can help ensure a large healthy young population headed into winter.

Lastly, and probably most importantly for August, is the ever-present issue of Varroa. August is a critical month for Varroa management. Take an alcohol wash sample. August brood will become the bees that raise your winter bees. If you have not read Randy Oliver's series on Fat Bees, you should. If you have, great. Re-read it. This series does a great job of explaining exactly why you need to have your mite levels down in August and keep them down through the remainder of the brood rearing season. You can find the article here: scientificbeekeeping.com/fat-bees-part-1. There are 4 parts. Boiling it down, Fat winter bees have increased vitellogenin or fat bodies to help carry them through winter and give them the energy to commence brood rearing in the early spring. The amount of vitellogenin corresponds directly to how well fed they are as larvae which corresponds to a large healthy population of nurse bees. The health of these nurse bees depends on having low parasite levels when they were developing. That is why August is so critical. August brood raises the brood that raises winter bees.

As a side note on vitellogenin, we now know that Varroa feeds not on hemolymph, but directly on vitellogenin (Ramsey et al. 2019). In addition to being a critical winter fat body, Vitellogenin also provides some important “liver function” in bees.

Formic Acid, Thymol, and Amitraz are all reasonable treatments this time of year. Make sure you read and understand the label before applying. Each material and formulation of each material has its own requirements for maximum efficacy and beekeeper safety. THE LABEL IS THE LAW! After you treat, take another mite sample to gauge the efficacy of your treatment. For a detailed look at available management tools and monitoring techniques, check out the following publication from the Honey Bee Health Coalition:


I have noticed a real challenge is not only getting mite levels low, but also keeping them low through the remainder of the fall. Be vigilant and continue treatments as necessary.

Enjoy the honey harvest. Smile at those big healthy bees. And look forward to fall and the OSBA conference.

Happy Beekeeping!
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BEE EVENTS


Note: All affiliated associations invite and welcome visitors to join them at meetings. See their websites or orsba.org for meeting time, website, and/or contact information.

Many regional associations also offer additional opportunities for learning; take care to check their websites as well as postings under Events at orsba.org.

REGIONAL NEWS

Regional Representatives

North Coast
Still sunny at the Oregon Coast . . . well, most of the time anyway. The weather has resulted in some interesting bloom times. I noticed a week or so ago that the blackberry blossoms seemed to be on the wane. This week they are out in full force again, at least in my area. Walking around the neighborhood I see lavender, borage, and marjoram blooming, ceanothus and escalonia bushes covered with blossoms, some early clematis, late meadowfoam and scotch thistle pretending to be a warm, fuzzy part of the landscape. The bees are busy and the beekeepers cautiously optimistic.

The County Fair went well for the Central Coast Beekeepers. Not surprisingly, the booth was one of the favorites at the fair—greatly due to the observation hive, bee-related handouts, pencils, stickers, and seed packets, honey sticks (yes, Rick, THOSE honey sticks), and a honey tasting featuring 15 honeys including interesting varieties such as mesquite, pumpkin, and poison oak—but mostly a result of the great volunteers who talked, explained, encouraged, and cajoled visitors for four days straight. Several people signed up for the association newsletter, and some indicated they were interested in an upcoming To Bee or Not to Bee (I borrowed the name from Claire) class for prospective beekeepers.

The Tillamook Beekeepers are looking forward to a fun fungi talk at their next meeting following a tour of their new honey house. They have a county fair coming up as well. Never a dull moment. Kathy Cope

South Coast
Abundance abounding, that’s July 2019. For the most southerly corner of the state, blackberry blossoms were just beginning the season of the biggest nectar flow, plentiful most everywhere because of all the extra rain. One county north, in Coos, the blueberries were plentiful and beekeepers were delighted with the results in the hives. One of the Oregon Master Beekeeper students in second year, Kelly Argenta, had her apiary dynamically improved by a vigorous swarm that she, I, and her husband rescued.

The OMB day at what we think of as the OSU apiary was abundant with activities, honey bee challenges, and informative presentations amid a vast array of blossoms at every level, from the wee ones on the ground to the huge treefuls of fragrance and buzz, and some with giant leaves and names nearly as big.

The OSBA Board meeting, with hours of issues to deal with, was blessed with the abundance of the accommodations of the Queen Bee Apiaries at the repurposed school facilities, along with the generosity of the proprietary Queen, Karen Finley, who tapped into the creative delights of an Alpine pizza place.

Oregon South Coast Beekeepers look forward to the Curry County Fair, July 24–27, with a booth and a craft’s table in the Curry Showcase Building focused this year on kids’ Make n Take along with games and the honey bees. Mureen Walker

Regional Associations

Central Oregon Beekeepers
Aaah, August in Central Oregon. We’re past most of the thunderstorms and cold wet weather days, and for the rest of the summer and fall, we’ll have severe clear, with hot in August, cooling in September. The currants and bitterbrush have bloomed. We have the sage brush in late July to early August, and the rabbitbrush in late August till mid September. In Central Oregon, we have a shorter growing season, so most of us will start our honey harvest in late August, finishing up by early September, allowing the hives to collect stores and start preparing the winter bees (yes, the summers are shorter). Also, as the bee population starts declining in late August, the mite percentages start increasing, so many of us work hard to get them (further) under control this month.
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Our Beekeeping family wishes all of you the best in 2019!

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In July we had a couple of shorter talks about research into AFB mitigation as well as yellowjacket control. August is our annual picnic which includes ... TA-DAAAA ... the results of our second annual photography competition. Personally created photographs from the previous year, evaluated by our own esteemed judging team, with prizes awarded and presented at the picnic.

As always, please consider yourself invited to attend any of our meetings, the fourth Tuesday of most every month from 6 to 7:30 PM at the Environmental Center in Bend. **Allen Engle**

**Columbia Gorge Beekeepers**
The wonders of nature keep us mere mortals in total amazement. The “Bee Season” in the Columbia Gorge turned the later part of our winter into a month (February) of continuous snow. March brought forth the typical rains, cold temperatures, and winds, which continued through June. July, which typically transforms into pleasant weather, finds sunshine accompanied by high winds. Why the weather report? The poor honey bees have struggled! Many hives suffered from European Foulbrood, queen losses, and just did not expand toward the necessary workforce to meet the nectar flow. Most frustrating to our beekeepers. Coupled with this colony challenge, the Hood River Extension, funded by Hood River County, was threatened with closure due to budget shortfalls. Fortunately, the county chose to extend funding for one more year. Our young association continues to be blessed by some of the “greats” of the Oregon bee world (Jan Lohman, Dr. Andony Melathopoulos, Dr. Dewey Caron). With a late nectar flow, Jennifer Harty (Master Gardener/Oregon Master Beekeeper Apprentice student) shared the interaction of our honey bees and our plants. We are truly blessed as a young association to continue in strength, growing with each passing month. **Jerry Frazier**

**Klamath Basin Beekeepers**
Here in the Klamath Basin we’re finally getting the weeks of sunny, dry weather that we, and our bees, look forward to all year. Last month the association had a field day working on some of our Vice President John Wilda’s hives. Several new beekeepers showed up to open someone else’s hive while getting contradictory advice from the various long-term beekeepers present. Our next meeting will be on 27 July, where we’ll talk about new phage treatments for Foulbrood as well as mite checking and treatment options.

Paul and Katharina wrapped up the regular bee education program for 3rd and 4th grade classes in the Klamath Basin. They visited, over a six-week period, 19 different schools, 59 classes, and 1,401 students. They drove 942 miles and taught 83.5 hours of classroom time. Labor and mileage are donated by them while the club picks up the other costs of the program, including the printing of 1,500 books that Katharina wrote, that each child gets for free. Katharina will travel to Nashville in September to teach bee association members there about the program and how to replicate it there.

While the regular school year has ended, other educational events pop up, such as an event at the Klamath Library and the OSU Extension Office. Our booth was a hit at both events, where the highlight was the drone petting station. In August, the association will have booth at the Klamath County Fair in conjunction with the Oregon Master Beekeeper Program.

Here’s hoping for less smoky summer this year. **Paul Davitt**

**Lane County Beekeepers**
The summer months are such an enjoyable time to be a beekeeper in the Willamette Valley. So many blooming plants that are wonderful to watch as the bees visit for pollen and honey. In Lane County, we notice the blackberries are almost over in the second week of July. That means it’s time to pull off the honey boxes and check your bees for mites. Treatment can be tricky in late July and August, with temperatures often in the
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high 90s and sometimes over 100 degrees. Make sure to use a temperature-appropriate mite treatment for the time of year.

We are getting ready for the Lane County Fair that runs from July 24 to July 28. Every year we encourage our beekeepers to submit honey and other products of the hive to be judged. It is great fun to see each award and ribbon of a member.

Our July meeting will feature a talk on fall and winter management for our general session at 7:30 PM. As always, if you find yourself in Eugene on the third Tuesday evening, you are invited to our meeting. Introduce yourself and make some new beekeeping friends.

**Mike France**

**Linn Benton Beekeepers**

I usually stick close to home when the nectar flow is on, but the Scottish hills were calling my name. I spent ten days walking the John Muir Way trail from the west coast to the east coast of Scotland, approximately 134 miles, at the end of June and beginning of July. We did not notice many honey bees, but the bumbles were very active. We noticed a variety of bees pollinating a host of flowers as we walked along canal paths, through forests and along farm fields.

Now, it’s time to play catch up with my buzzing friends. It appears that summer is off to a slow start here in Linn and Benton counties. We have not had as many hot days this past month as we did last year, but that does not seem to deter the bees. Driving around, you can see hives with multiple supers on them. Let’s hope for successful harvesting this month.

Our joint Field Day program with the Lane County Beekeepers was a huge success last month. We hope to make this an annual event. Over 56 people attended. This month our association is hosting a speaker from the Oregon Department of Agriculture. The presentation will be centered on Oregon honey extraction and labeling guidelines and regulations. The speaker will also highlight new national requirements for sugar content. If time permits, a discussion on certified kitchens will also take place.

**Amber Reese**

**Oregon Prison Beekeepers**

The Beekeeper Program now has a new level of certification. All facilities in the Oregon Prison Beekeepers Association now have to complete a beginner’s certification before they move on to the apprenticeship certification. There are currently five prisons in the association for Department of Corrections: Coffee Creek Correctional Facility, Eastern Oregon Correctional Institution, Powder River Correctional Facility, South Fork Forest Camp, and Snake River Correctional Institution. Great job to SFFC (6 total) and PRCF (10 total) for completing the Beekeeper Beginner Certificate program!

Here is a great article about EOCI’s beekeeper program and the lessons learned of maintaining a colony: www.eastoregonian.com/news/local/queen-bee-makes-prison-break/article_4df1b7d6-92a5-11e9-b57f-d3917f7252780.html. The new beekeepers found out some bad news about losing the queen and potentially the entire colony. A local beekeeper stepped in to assist the program. Special thanks goes out to Jan Lohman, Hermiston beekeeper, for donating another colony of bees to keep the program going!

**Chad Naugle**

**Portland Metro Beekeepers**

With repairs completed, Portland Metro Beekeepers Association is again meeting each month at the Gladstone Senior Center, 1050 Portland Ave, Gladstone. During July, Harry Vanderpool, prior OSBA president and PMBA member, presented strategies for overwintering nucs. Our August meeting will be a picnic at Patterson Park in Gladstone on Saturday, August 10, 11 AM to 3 PM.

Bees in the PMBA local area seem to be doing reasonably well. Most likely their focus has been on blackberries, though lavender and borage are buzzing all day with honey and bumble bees, too. Several members are assessing the number of hives to transfer to a field of fireweed soon. Weeds, too, provide both nectar and pollen; so, often we include “weeds,” vegetables, and cover crops in landscapes.

Beekeeper focus should be on maintaining healthy, growing hives, keeping Varroa and associated ills at bay, planning for winter, and finally, one of the best parts, just enjoying the traffic as the girls fly to and from the hive. They are marvelous little creatures!

Harry gave detailed information to better ensure winter survival using nucs to reduce losses such as those experienced this past winter. Times are tough for bees and beekeepers with the risks of Varroa mites, colony collapse, and shipping hives from place to place. Harry has developed a process which is quite successful. Building nucs after harvesting honey and overwintering the smaller hives by wrapping the nucs, ensuring nutrition is close to the winter cluster (in the form of fondant), and having healthy, vibrant queens together provides a path to sustainability. In addition, Paul Stromberg brought a video on testing for mites using sugar, alcohol, or soap.

Honey harvesting will begin fairly soon now! Portland Metro has a hand-crank extractor members may borrow for several days to process their own honey, and Kerry Haskins is ready to extract in his honey house.

**Nancy Winston**

**Portland Urban Beekeepers**

Our July 3rd meeting was lightly attended with about 45 members and seven visitors.

We started the meeting with some very interesting photos taken by our president, Mandy Shaw. The first set included...
three post-mated drones, who despite obvious damage to their reproductive organs, were able to fly back to the colony before dying. We were all under the impression that the males died in the field, immediately after mating, but apparently not always! Mandy also shared some microscopy photos of a deceased queen that she found at a hive entrance, which she subsequently, and very cleverly, dissected to determine if the queen had been mated by isolating and visualizing the spermatheca. Apparently, if the spermatheca, a small spherical structure, is clear then the queen is virgin, if it is opaque, then she was mated. Mandy’s queen had been mated.

Portland Urban officers are calling for new volunteers to consider running for office. Mandy will be stepping down after this year. We may have other positions coming open as well.

Our second quarter financial report was delivered by the treasurer, Cheryl Wright, and we are doing very well. Members were encouraged to bring ideas forward for books or association supplies that might benefit members.

Glenn Andresen, from Bridgetown Bees, reviewed what is blooming in the Portland area with his beautiful slide show of blooms with honey bees. Due to the cooler, wetter spring and early summer, we are seeing many plants blooming, including poppies, sunflowers, nettles, Lamb’s Ear, salvias, daisies, rosemary, sedum, alliums, jasmine, Linden, oregano, lavender, and beauty berry, to name a few. If you would like to see his photos, they are posted online at: www.bridgetownbees.com/whats-in-bloom.

Our featured speaker was Dr. Dewey Caron, who presented an in-depth analysis of the Pacific Northwest Honey Bee Survey 2018–2019. He discussed the major causes of colony demise, starvation and mite infestation, and how we could address both. Mainly, feed in times of dearth, supply dry forms of sugar over the winter, and aggressively monitor and treat mites. However, he reminded us that there is no “right” way to keep bees, despite what we might think secretly! He reminded us that some beekeepers will choose not to spend money on miticides, sugar, and pollen substitutes, not to mention time, simply trying to keep bees alive year over year. For some, it may be more cost effective to buy packages in spring, harvest honey, and let the bees survive, or not, on their own. Others, he said, will treat their bees like pets and do everything possible to try to ensure their success. He quoted Langstroth, who said that only keeping a few strong colonies over winter was one reasonable management technique. So, he asked us to examine our own motives, goals, and intentions that lead us to keep bees, and then make our management decisions based on this introspection.

Cheryl Wright

Tualatin Valley Beekeepers

Our beekeepers are busy monitoring their hives and adding supers to the more productive ones. Dr. Dewey Caron presented his bee survey results to our members at our meeting in June. Our beekeepers kept him busy answering questions about hive care from using bottom boards to how often to inspect the hive. Dr. Caron had survey results showing the success of these practices. Our past president and current secretary Debby Garman volunteered her efforts to help Hillsboro become a Bee City USA. She and other TVBA beekeepers met at the Hillsboro city council meeting June 18 to see the council adopt the resolution to become the ninth Bee City in Oregon. More on it here: hillsboro-oregon.civicweb.net/document/6760/8.5.1%20-%20CMO%20Hillsboro%20Bee%20City%20USA%20Initiative%200610.pdf?handle=90D37CBCA97E421E96C9B7DAE40B9152.

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Tualatin Valley members will enjoyed a potluck picnic and field day on July 20 picnic; Mike Standing demonstrated hive inspections and the group enjoyed extraction demo’s in the honey house. We are looking forward to a presentation on products of the hive from Marj Ehry at our August 27th meeting.

Eddie Frie & Debby Garman

Manage
Your Mites!

Manage
Your Mites!

Manage
Your Mites!
Phytosterols—Continued from page 1

effects of phytosterols (specifically 24-methylenecholesterol) in honey bees, investigating the optimal concentrations of this sterol for bees, and understanding its impacts on bee physiology. In addition to these questions, the impacts of this particular sterol on honey bee colony performance is being meticulously investigated. We are also currently exploring the sterol composition of various bee dietary sources to have a better understanding of available bee forage.

Preliminary investigations have been conducted with a specially formulated artificial diet (based on Herbert et al. 1980 study) with equal concentrations of proteins, vitamins, lipids, and salts. The concentration of 24-methylenecholesterol was varied across the treatment groups, with concentrations ranging from 0.1 percent to 1.0 percent. A control group, supplemented with a similarly formulated artificial diet but no sterol, was also included. Newly emerged nurses from sister queen hives were thoroughly mixed and randomly released into the laboratory treatment cages. The study was conducted for three weeks. The diet consumptions were measured weekly and survival was checked for treatment groups at the end of the study. Various physiological parameters were also studied, for example: total head proteins and abdominal lipids.

Figure 1. Mean consumption of artificial diets (mg per honey bee) in the different experimental groups for three weeks. Error bars indicate standard errors for means. For every week, different letters indicate statistically significant differences between experimental groups. C1 (solid black bar in each group): control; S1, S2, S3, S4 and S5: 0.1%, 0.25%, 0.5%, 0.75%, and 1.0% dry diet weights, respectively, of 24-methylenecholesterol in artificial diets.

It was observed that weekly consumptions varied between diets and significantly higher consumptions were noted for high 24-methylenecholesterol supplemented cages (Figure 1). Survival also significantly improved, with more bees surviving in the sterol diet groups (the highest being observed at 0.5%) at the end of the study. The total head proteins and abdominal lipid contents were also significantly higher at the end of three weeks in groups provisioned with high 24-methylenecholesterol in their diets. These findings are important in further investigating the role of this particular sterol across all bee species that are dependent on pollen forage, including honey bees. With multifactorial stressors contributing to pollinator decline, a fundamental knowledge of all nutritional needs of bees is crucial to improve and sustain pollinator health. Insights gleaned from this study have the potential to help formulate a more complete diet for honey bees in the future. A manuscript is currently being prepared discussing the results of this study. For further detailed information, please contact the OSU Honey Bee Lab.

Citations

Board Meeting Minutes—Continued from page 3

work to get them there. It is looking like a short honey crop so far; mite populations lower than last year.

Mureen Walker reported that Oregon South Coast beekeepers have contended with a late spring, late nucs, late queens, and later blackberry bloom. Their attendance at the fair requires a certificate of insurance, which she will coordinate with Harry Vanderpool. The fair is their big effort as an association.

Tim Wydronke reported a low swarm year in the Linn Benton-Lane County area.

Eric McEwen said the cold spring has become a moderate summer and only one hot spell so far has made for a decent honey flow. A second bee school focused on wintering bees will be held on August 3. Lots of swarms in their area. The Southern Oregon group is involved in the upcoming WAS conference in Ashland.

Mike French reported Lane County beekeepers had a booth as part of Eugene’s recent Bee City USA celebration. He encourages entries and volunteers at the county fair, and they are making a Facebook page for group communication.

Rex McIntire reported the blackberry flow is already ending in the Portland Metro area. Bees are doing well, a lot of swarms in the city of Portland and in the Beaverton area. They have a meeting coming up about honey extraction. He, too, requests an insurance certificate for their Clackamas County Fair attendance.
Harry Vanderpool specified the information needed for such requests is, as follows: Date, times, and place of event, AND the name, title, email, and phone number of the person in charge of the facility. With this information, it is not a problem to get the insurance certificates; branch associations should contact Harry when needed.

Everett Kaser reported that Linn Benton beekeepers had a field day at the OSU Honey Bee Lab apiary, and also a table at the Corvallis farmers’ market. The association has about 83 members. Honey flow is down; there was a short blackberry bloom.

**Ag Liaison Report**

Mike Rodia updated the group on efforts to update the Marion County residential zone beekeeping rules. Marion County is expected to align their guidelines with the guidelines adopted this month by the city of Salem. Mike submitted a copy of the Salem rules to the board. Maximum is 5 hives year around plus summer increase of 2. There are fines associated with violations, and it is complaint driven. Until Rodia’s involvement, Marion County had an old code prohibiting beehives in residential zones, and Salem had no rules at all.

Rodia also reported on a couple of beekeeper requests for assistance. The St. Helen’s group will work to write up guidelines/code changes as needed to allow beekeeping.

Board discussed problem solving “neighbor problems.” Mike France said Lane County group has identified a residential beekeeping consultant (as per OSU’s “Guidelines for residential beekeeping”) who can help mediate disputes. Harry suggested having a “train the trainer” type session at the state meeting on the topic Residential Beekeeping Consultant. Joe Maresh has been acting as a residential beekeeping consultant in a St. Paul area conflict. The group supported the value of improving RBC training and resource sharing. Harry and both Mikes will be following up on this.

**Vice President Report on Fall Conference**

Joe Maresh reported on all the progress on the program, lodging, and hospitality details of the upcoming statewide beekeeping conference to be held October 25–27 in Florence, Oregon. He has a list of hotels nailed down that will offer rates and expect bookings for the conference. The conference center is walking distance from some but not all sites. Joe plans to extend day or time between sessions to make this work. Speakers are all lined up and program details are being finalized. Banquet speaker is WSU’s Steve Sheppard. The program will be available soon, and a flyer announcement for WAS will be prepared. Help is needed for conference registration, and master beekeepers and the Lane County association might be tapped for volunteers.

**OSBA Fall Conference Honey Competition**

Marjie Ehry asked the board to authorize $175 for cash prizes to be given at honey show. (Approved.) There will also likely be a honey cookie/pastry competition. After judging, Marjie, a master honey judge, has offered to explain the honey judging process to entrants and others who are interested. Honey submitted for judging at the state conference is frequently donated after the contest to be used to fund future prize purses.

**State Fair**

Bonnie King is organizing the OSBA booth at the Oregon State Fair, August 23–September 2. She needs booth hosts and helpers; beekeepers with all levels of experience are welcome and useful: 3 people a shift 3 shifts a day. All get passes and parking pass with close-in parking. Willing OSBA members should connect with her directly if not through their local associations. Observation hive needs a coordinator and nucs need to be brought to stock the observation hive on a 2-day rotation. Honey tastings will be for 1 or 2 hours a day. Volunteers are needed to wear the HONEYBEAR costume and walk around the fair! Thanks to Culbertson Cleaning, the adorable costume is all refurbished. Competitors are solicited for the honey and bee products competition. There is also a honey cooking contest planned. There are several speaking opportunities. The group is printing over 1,000 handouts. Volunteers are encouraged to contact Bonnie at bonjking@gmail.com or text/call 503.864.2100. The OSBA website has a link for the State Fair.

**Website**

Rosanna updated the group on the revamp of OSBA website. This should be mostly up and running by the end of August. The conference website will be embedded. Details of membership benefits, contact information for regional representatives and branch associations, and list of speakers (which are often requested by schools and other groups) were reviewed.

**Membership**

The board finalized the language for changes to the OSBA constitution and bylaws, which are in the works to simplify the membership tracking process and improve the way OSBA works with branch associations. The general membership will be asked to approve the following language at the general membership meeting:

Bylaws Article 1 Section C to be changed to read, “Membership runs from January 1 through December 31, and can be paid at any time prior. Dues are due December 31.” Members will be encouraged to pay for the following year’s membership at the October meeting. On Everett’s suggestion, the board decided that a membership renewal notice be sent out to the entire membership November 1. “Branch association annual fees are changed to $1 per member.” Branch association presidents will be asked to submit information on members, contact information, and elected officers by January 15 so the directory can be published in a timely manner.

“Association presidents can identify a member of the same
association who is also an OSBA member as a proxy to vote at executive board meetings in their stead by written notice to the executive board 24 hours prior to the meeting” as an addendum to the constitution Article V Section 4.

**Other Business**

Board discussed needs and ideas for supporting the state's beekeepers who now require a veterinarian’s prescription for antibiotics for treating foulbrood or other diseases. Supporting OSU’s vet school training, continuing ed credits, or having a honey bee health specialist at OSU who can act as liaison with vets and diagnose diseases were ideas discussed. This is ongoing, and OSBA will coordinate with OSU diagnostic lab and master beekeepers on this effort.

Karen is researching the use of remote meeting applications so that meetings can be attended remotely, and will make that available before the first quarter Board meeting of 2020.

Next Board meeting will be at the fall conference on Friday October 25 in Florence, Oregon.

Karen Finley

**Oregon State Beekeepers Association**

**EXECUTIVE BOARD AND AFFILIATED REGIONAL ASSOCIATIONS**

<table>
<thead>
<tr>
<th>OSBA OFFICERS</th>
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<tbody>
<tr>
<td><strong>President</strong></td>
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<tr>
<td>John Jacob—541.582.2337; <a href="mailto:oldsolbees@gmail.com">oldsolbees@gmail.com</a></td>
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<tr>
<td><strong>Vice President</strong></td>
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<tr>
<td>Joe Maresh—503.703.5060; <a href="mailto:joemaresh@bctonline.com">joemaresh@bctonline.com</a></td>
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<tr>
<td><strong>Secretary</strong></td>
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<tr>
<td>Karen Finley—541.753.4120; <a href="mailto:finleykk@yahoo.com">finleykk@yahoo.com</a></td>
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<tr>
<td><strong>Treasurer</strong></td>
</tr>
<tr>
<td>Joe Hansen—503.824.2265; <a href="mailto:osba.treasurer@gmail.com">osba.treasurer@gmail.com</a></td>
</tr>
<tr>
<td><strong>Past President</strong></td>
</tr>
<tr>
<td>Harry Vanderpool—503.399.3675; <a href="mailto:shallotman@yahoo.com">shallotman@yahoo.com</a></td>
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<tr>
<th>OSBA REGIONAL REPRESENTATIVES</th>
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<tbody>
<tr>
<td><strong>North Coast</strong></td>
</tr>
<tr>
<td>Kathy Cope—541.264.9222; <a href="mailto:beachwalkinlady@hotmail.com">beachwalkinlady@hotmail.com</a></td>
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<tr>
<td><strong>South Coast</strong></td>
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<tr>
<td>Mureen Walker—541.425.0535; <a href="mailto:mureen.walker.111@gmail.com">mureen.walker.111@gmail.com</a></td>
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<tr>
<td><strong>Columbia Basin</strong></td>
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<tr>
<td>Bill Edwards—541.354.2223</td>
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<tr>
<td><strong>Eastern Oregon</strong></td>
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<tr>
<td>Jordan Dimock—541.372.2726</td>
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<tr>
<td><strong>Portland Metro</strong></td>
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<tr>
<td>Tom Cinquini—503.547.5386; <a href="mailto:tomcinquini@gmail.com">tomcinquini@gmail.com</a></td>
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<tr>
<td><strong>South Central Oregon</strong></td>
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<tr>
<td>Robert Clements—541.205.8562; <a href="mailto:kbbabees@gmail.com">kbbabees@gmail.com</a></td>
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<tr>
<td><strong>Southwestern Oregon</strong></td>
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<tr>
<td>Eric McEwen—541.415.5171; <a href="mailto:beetruehoneybees@gmail.com">beetruehoneybees@gmail.com</a></td>
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<tr>
<td><strong>North Willamette Valley</strong></td>
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<tr>
<td>Steven Coffman—503.838.2981</td>
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<tr>
<td><strong>South Willamette Valley</strong></td>
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<tr>
<td>Tim Wydronke—541.740.4127; <a href="mailto:tim@aldercreekhoney.com">tim@aldercreekhoney.com</a></td>
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<tr>
<td><strong>Central Coast Beekeepers</strong></td>
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<tr>
<td>President: Jon Sumpter—<a href="mailto:jonsmptr@msn.com">jonsmptr@msn.com</a> Website: <a href="http://www.ccbao.r.org">www.ccbao.r.org</a></td>
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<tr>
<td><strong>Central Oregon Beekeepers</strong></td>
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<tr>
<td>President: Allen Engle—<a href="mailto:aengle@bendbroadband.com">aengle@bendbroadband.com</a></td>
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<tr>
<td><strong>Columbia Gorge Beekeepers</strong></td>
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<tr>
<td>President: Jerry Frazier—<a href="mailto:jerry1.frazier@gmail.com">jerry1.frazier@gmail.com</a> Website: gorgebeekeepers.org</td>
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<tr>
<td><strong>Coos County Beekeepers</strong></td>
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<tr>
<td>President: Randy Sturgill—541.430.4095; <a href="mailto:randys@rfpc.co.com">randys@rfpc.co.com</a></td>
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<tr>
<td><strong>Douglas County Bees</strong></td>
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<tr>
<td>President: Ivory LosBanos—<a href="mailto:ivohart@gmail.com">ivohart@gmail.com</a> Website: <a href="http://www.douglascountybees.org">www.douglascountybees.org</a></td>
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<tr>
<td><strong>Klamath Basin Beekeepers</strong></td>
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<tr>
<td>President: Paul Davitt—<a href="mailto:president@klamathbeekeepers.org">president@klamathbeekeepers.org</a> Website: <a href="http://www.klamathbeekeepers.org">www.klamathbeekeepers.org</a></td>
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<tr>
<td><strong>Lane County Beekeepers</strong></td>
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<tr>
<td>President: Mike France—<a href="mailto:michaelj62@gmail.com">michaelj62@gmail.com</a> Website: <a href="http://www.lcbaor.org">www.lcbaor.org</a></td>
</tr>
<tr>
<td><strong>Linn Benton Beekeepers</strong></td>
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<tr>
<td>President: Everett Kaser—<a href="mailto:everett@lbba.us">everett@lbba.us</a> Website: <a href="http://www.lbba.us">www.lbba.us</a></td>
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<tr>
<td><strong>Oregon Prison Beekeepers</strong></td>
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<tr>
<td>Program Manager: <a href="mailto:Chad.E.Naugle@doc.state.or.us">Chad.E.Naugle@doc.state.or.us</a></td>
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<tr>
<td><strong>Oregon South Coast Beekeepers</strong></td>
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<tr>
<td>President: Jesse Fletcher—<a href="mailto:jesse.l.fletcher@gmail.com">jesse.l.fletcher@gmail.com</a></td>
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<tr>
<td><strong>Portland Metro Beekeepers</strong></td>
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<tr>
<td>President: Rex McIntire—503.720.7958 Website: portlandmetro.org</td>
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<tr>
<td><strong>Portland Urban Beekeepers</strong></td>
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<tr>
<td>President: Mandy Shaw—<a href="mailto:president@portlandurbanbeekeepers.org">president@portlandurbanbeekeepers.org</a> Website: portlandurbanbeekeepers.org</td>
</tr>
<tr>
<td><strong>Southern Oregon Beekeepers</strong></td>
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<tr>
<td>President: Risa Halpin—303.807.1830; <a href="mailto:rhalpin906@aol.com">rhalpin906@aol.com</a> Website: southernoregonbeekeepers.org</td>
</tr>
<tr>
<td><strong>Tillamook Beekeepers</strong></td>
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<tr>
<td>President: Brad York—<a href="mailto:bradleyyork@gmail.com">bradleyyork@gmail.com</a> Website: <a href="http://www.tillamookbeekeepers.org">www.tillamookbeekeepers.org</a></td>
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<tr>
<td><strong>Tualatin Valley Beekeepers</strong></td>
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<tr>
<td>President: Eddie Frie—<a href="mailto:ejfrie@frontier.com">ejfrie@frontier.com</a> Website: tvba.weebly.com</td>
</tr>
<tr>
<td><strong>Willamette Valley Beekeepers</strong></td>
</tr>
<tr>
<td>President: Richard Farrier—<a href="mailto:rfarrierfarms@gmail.com">rfarrierfarms@gmail.com</a> Website: wvbahive.org</td>
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The Bee Line

Oregon State Beekeepers Association
2019 FALL CONFERENCE

Florence Events Center
Florence, Oregon

Priya Chakrabarti Basu, Oregon State University
Tom Cinquini, Sowers Apiaries
Jay Evans, USDA–Beltsville
George Hansen, Foothills Honey Company
Brandon Hopkins, Washington State University
Melanie Kirby, Washington State University
Andony Melathopoulos, Oregon State University
Garth Mulkey, GS3 Quality Seeds Inc
Morris Ostrofsky, Master Beekeeper–Washington
Mike Palmer, French Hill Apiaries
Ramesh Sagili, Oregon State University
Steve Sheppard, Washington State University
and More . . . !

October 25–27, 2019
SAVE THE DATE!

Session and registration information will be posted at orsba.org as it becomes available.

Program

Presentation and Panels: Topics to include updates on ongoing research, pollinator health, honey bee nutrition, queen rearing, pollinator habitat and planting for pollinators, microbes—good and bad, origin and diversification of honey bees, queen mating behavior, the sustainable apiary, managing stress and effects of pesticide exposure, and (of course) Varroa.

Honey Show: Prepare to enter!

OSU Honey Bee Lab: Bring samples for Nosema and Varroa mite analyses and see how the lab members do the analyses along with dissections for tracheal mites and hypopharyngeal glands.

Silent Auction and Benefit Auction: May be a good time to clear out closets; all proceeds are donated to honey bee research.

Friday Night Social

Banquet & Luncheons (add-ons)

Make sure to bring your rain gear (just in case :-) —along with all your curiosity and enthusiasm for the bees!

Accommodations

Several of the establishments in the area are offering special rates to OSBA conference attendees, October 25–27.

Best Western Pier Point Inn
85625 Hwy 101
Florence, Oregon
541.997.7191

Discount: Ten percent
Condition: Mention Oregon State Beekeepers Association
Deadline: September 25, 2019

Old Town Inn
170 Highway 101
Florence, Oregon
800.301.6494 | 541.997.7131

Discount: $79/night + taxes
Condition: Code is BEE19
Deadline: October 10, 2019

River House Inn
1202 Bay Street
Florence, Oregon
888.824.2454

Discount: Off River, $89/night; On River, $119/night + taxes
Condition: Use code BEE19
Deadline: October 10, 2019

Driftwood Shores Resort and Conference Center
88416 1st Ave
Florence, Oregon
541.902.6443

Discount: Single Queen, $119.00; King, $149.00; Double Queen, $165.00; Three bedroom condo, $329.00 + taxes
Condition: Online (desktop computer only), Group Code 306028 Pin 8263. By phone, mention Oregon State Beekeepers Association.
Deadline: September 2, 2019

Several of the establishments in the area are offering special rates to OSBA conference attendees, October 25–27.
OSBA Fall Conference 2019
Oregon State Beekeepers Association

October 25, 26 & 27, 2019
Florence Events Center | Florence, Oregon

Individual and Family Registration

Name: ___________________________________________ Date: ______________________
Company: ____________________________________________________________________________
Address: ______________________________________________________________________________
City: __________________________ State: __________ Zip: _______________________
Contact Phone: ___________________ email: ________________________________________________

Names of Additional Family Members Attending
________________________________________________________________________________________

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<td><strong>Full Conference</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Individual - $150</td>
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<td>Immediate Family - $180</td>
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Total<sup>4,5</sup> $ ______________________

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1) Attendees qualify for preregistration rate if application form (with registration fee) is postmarked on or before October 16. **Late and on-site registration rates are:** One Day $110.00, One-Day Immediate Family $130.00, Full Conference $190.00, Full Conference Immediate Family $220.00. **No refunds after October 11 or for no shows.**

2) The Oregon State Beekeepers Association is classified as a 501(c)(3) charitable organization. Research donations made out to the OSBA may be deductible; please consult your accountant.

3) Please include completed membership form(s).

4) Make check payable to OSBA and mail with this completed registration form, postmarked no later than October 16, to: Oregon State Beekeepers Association, 2019 Fall Conference, P.O. Box 10, Aurora OR 97002

5) Hotel reservations are not included in these costs. Special rates are available at local establishments.
The Bee Line

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

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 **September issue, 2019.** The deadline for submitting copy is **August 10, 2019.** Please let me know if you find difficulties with the deadline so we can work out the space and timing for the material.

*Be well!*

### Advertising

**Event**

- All events, space permitting (15 words) **Free**

**For a nonprofit group event**, an additional 30 words (total of 45) in the listing or an article **Free**

### Per Issue

<table>
<thead>
<tr>
<th>Advertising</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business card</td>
<td>$10.00</td>
</tr>
<tr>
<td>Quarter page</td>
<td>$25.00</td>
</tr>
<tr>
<td>Half page</td>
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<tr>
<td>Full page</td>
<td>$100.00</td>
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</tbody>
</table>

**Classified Ad** (30 words)

- **Members** $3.00
- **Nonmembers** $5.00