

Beeing Informed

Cowlitz Beekeepers Association Newsletter

Dedicated to Preserving the Honey Bee through Community Action, Awareness and Education

September 2021

Issue 9

Next Meeting:

Where: Nearly any place Via Zoom

When: September 16, 2021, 7:00 PM

Speaker: Jan Lohman

Topic: Fall Preparations

If you live in Cowlitz county or the surrounding area and find honey bees fascinating, then you should consider joining us. Reach us on Facebook by searching for Cowlitz Beekeepers Association or check out our website at:

<https://cowlitzbeekeeping.wixsite.com/website>

Jan Lohman has been a beekeeper for 30 years with partner Vincent Vazza at Vazza Farms in Eastern Oregon. Together they managed 2300 honeybee colonies until late 2017. Now in retirement they would be considered Sideliners with 450 colonies, still enjoying relationships with fellow beekeepers and addicted to their beloved honeybees. Jan is also on the Oregon Master Beekeeper Program Committee as well as a mentor and instructor for that program... a great passion as well. Helping new beekeepers become comfortable in beehive is such a joy!



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BEEKEEPERS CALENDAR OF SEASONAL ACTIVITIES

Suggested Activities for Beekeepers in the Coastal range from Washington, Oregon and Northern California...

September

-  Install entrance reducers to restrict access so mice, wasps, and yellow jackets.
-  Combine weak but healthy colonies with strong ones.
-  A hive needs approximately 60 pounds of honey to carry itself through the Pacific Northwest winters. If stores are insufficient, colonies should be fed a 2:1 sugar syrup mixture.
-  Use interior feeders to prevent robbing. Start feeding early in the month, because the bees will not store the syrup and cap the cells when the weather turns cool.



Barbecue Potluck CBA Get Together

Zenobia Scott August 22nd

What a wonderful day to have our annual BBQ picnic/potluck out at Willow Grove Park again! We started at 1:00 p.m. and were out by 4:00 p.m. Had a pretty good turn out. The conversation and food was awesome as always. BBQ burgers and hot dogs along with all the sides and desserts, yummm. A big thank you for all who were involved with the setup and tear down.



We held our annual honey tasting contest and had 13 entries this year. 1st place went to Lynn Kearns, 2nd place was Linda Corra and 3rd place went to Bill Homes. Congratulations to all of you!

We tried something new this year by having a silent auction. Up for auction was a smoker, a beekeeper's jacket with hood and gloves, an electric knife and a hive. All donated by the estate of Chuck Tadlock. Congratulations goes to Bill Holmes who had the winning bid for the smoker, John Holmes who won the hive, David Scott who won the electric knife & Barbara Skreen who won the beekeeper's jacket with hood and gloves.

Thank you everyone who attended, because of you we had another successful year!



I just read a novel titled "The Hive", a mystery thriller set in Bellingham and featuring a beekeeper. It is a new book published in 2021 by Gregg Olsen. I learned that queens rule the hive and make the decisions, drones perform the important task of scouting new locations for a swarm, and drones are responsible for feeding the queen royal jelly. I would think that an author, even for a novel, should try to get his facts straight. Asking any beekeeper to look it over before publishing would have been sufficient.



Zoom Monthly Meetings

We had hoped to have resumed in person meetings in September but that is not happening. Zoom Meetings have been a great alternative though. We have had incredible speakers for over a year now and have engaged our membership remotely and successfully. All you need is a computer or smartphone with speakers, a microphone, and a camera. Join us at our next meeting. Click the link I will send out a few days before the next meeting.



Out in the Bee Yard

Bill Holmes

Wax Moths

I am just finishing my wax moth foiling system for 2021. I've written of it before, so I'll just touch on it today. When I first started beekeeping, I had read about wax moths damaging comb, so I wrapped my supers in plastic trash bags and put them in the shed. Worked great. I believe that since I had only 2 hives and none of my neighbors had bees that the moths just hadn't discovered the table set before them. The next year they showed what they can do to my beautiful frames of drawn comb. Every year since then I have modified the previous year's system by drawing on the success or failure achieved. My apiary grew to 9 hives, and I could have 20-25 supers to protect. For several years I made 2 or 3 tall stacks, sealed them with tape and put a cup of paradichlorobenzene crystals above them and closed the top with an outer cover. I would get about 90% protection but seeing any disgusting web covered frame infuriates me. In addition, I did not like the idea of putting some fumes into my honey supers that I needed to air out for a few days before using. Never ever use Naphthalene moth balls, it will always leave residues which will later kill bees.

My current approach is modified from the last time I wrote of it, but only slightly. I still use Sterilite 80 qt gasketed containers for western super frames, and the 54 qt for the deeps. I can get 22 westerns in a tote and 11 deeps in the 54 qt tote. The supers must be dry. The first year I put some up that I hadn't left out in the field for 3 days and they molded badly in the container. So always store dry never wet. Since the deeps frequently have honey stores that I want to hold on too, I added two 2" screened vents with tabs at opposite ends of the 54 qt totes. The ventilation has kept the moths out and kept the frames from mold. Before I fill the containers, I put them in the freezer for 24 hours to kill all stages of the Greater and Lesser wax moth. I then load the tote and take it into the house for a few hours to let the frames come to room temperature before securing the lid. The Mid-Atlantic Apiculture Research and Extension Consortium (MAAREC) published the following guidelines to kill both species of wax moth: 20 degrees F for 4.5 hours or 5 degrees F for 2 hours. Those numbers are not based on what time you loaded your freezer but the time the frames are at those temperatures. It all depends on how big your freezer is, how many frames in a load, how much other frozen stuff you have in there, the temperature of the frames going in etc. You must determine how long it should take, and its quite ok to freeze for 3 days or 30 days. My wife likes her freezer back, so I go for 24 hours but it still takes a few days since this little chest freezer which I bought used for \$25 holds 33 westerns and I usually have about 180 to freeze.

Mites

Winter bee larvae begin showing as we roll into the sapphire month of September. They will be capped at day 9 and if a mother mite enters that cell there will be, at best, a winter bee who will be of limited use come February. It is critical to control mites to protect the health of our winter bees. Our problem is that all our treatment options have unintended effects and though we struggle with choosing something that may also be detrimental to the bees, it's imperative that we make that choice or risk losing them all.

Apivar which is the chemical amitraz, is very gentle on the bees and a very effective killer of mites. It comes in plastic strips that you slip between the frames. Use 1 strip per each 5 frames covered in bees. Cost is about \$3 per strip. It works over a period of 6 to 8 weeks. If it's September 1 and you've just checked your mite infestation level, and it is say 3% or more then having something that works that slowly is not going to help



your winter bees. Apivar should ideally be applied at the beginning of August or even sooner for a fall treatment. It cannot be used with honey supers on the hive.

Oxalic acid vapor or drip is another very safe and bee friendly treatment. It's fast, killing mites quickly. But its large molecule size cannot penetrate capped brood cells where 60% or more of the mites are located in August. Many advocate multiple treatments like every 7 days, or 6 or 5 days. But, if you understand the mites cycle, and the length of time the OA crystals remain active in the hive you will see that those repeat treatments need to be every 3 days and continue for up to 2 weeks. That is a lot of intervention and something that I don't believe has been studied as to whether it even will work well or not cause problems in the hive. I would use OA only during broodless periods in the winter or with swarms. There is a method being tested and is unapproved that uses Swedish sponges soaked in glycerin and OA which may hold promise. But for now it's not known if it is going to be effective or if it could be a fall treatment. I am very hopeful it could be.

Hopguard is a natural food grade product which doesn't appear to have any negative effects on the colony and leaves no residue in honey. It's most effective when there is less brood in the hive which for us would be October through January. I have not heard that it is very effective, however that may be because of poor timing of the application. It may work but it is not a treatment I would use for August or September.

Formic acid as either Formic Pro or Mite away Quick Strips is an awesome killer of mites wherever they are in the hive. You can be finished with a treatment in one application lasting 14 days. Another option is a milder 20-day treatment. Formic acid will kill some brood which is something I would risk in August but would prefer to avoid in September. Queens occasionally are lost during a treatment also. Temperatures should be below 85 degrees during the first 3 days of treatment. Formic Pro is the slower release formulation but I still believe the 3 day 85 degree top temperature is reasonable. I would prefer it stay below 85 for a bit longer though.

Apiguard is a thymol-based product (essential oil of thyme) as is Apilife Var which adds eucalyptus, menthol, and camphor essential oils. Apiguard is good up to 105 degrees and Apilife Var 95 degrees. Apiguard is what I put on my 10 hives this year on August 4th. I am using a 50-gram tray set on top of the 2nd brood box for 10 days followed by a repeat of the same for another 10 days. The only problems I have read of is the queen may stop laying for a period while the treatment is ongoing. I'm ok with that as I am most concerned with September brood. After this treatment I did a mite wash and the results were very good and all queens were laying normally.

The calendar has suddenly turned to September, and if you realize you haven't done anything to control mites its urgent that you do a mite count and then implement a treatment plan. If your mite level is greater than 2% I would use the 14-day Formic Pro plan. If less, then I would go with Apivar. After the treatment recheck your mites, and if you used Formic then check for eggs/larvae. Healthy bees now are the key to a thriving colony next spring. Bill

Handmade Proud:

Looking to buy new woodenware at reasonable prices?

- Bottom Boards - Top Covers - Inner Covers - Hive Boxes and more...

Contact **Gerry Herren**

Ph. (360) 355-0051

Swarmchaser40@gmail.com



Members Can Borrow the Club Extractor

Contact Kathy at 360-601-0393 to schedule.

New Nutrition Studies at OSU by Dewey M. Caron

Poor nutrition is one of the stressors responsible for poor bee health. One question we would like to know is do our bees forage on the healthiest pollen sources that are available? We recognize that certain plants attract bees more than others, but does that necessarily mean those plants are the most nutritious?

Poor nutrition of bees is documented as due, at least in part, to agricultural mono-cropping and loss of habitat as changes continue 'down on the farm.' Suburbs continue their expansion into rural areas. Studies of alternative flowering plants, such as those being recommended for planting adjacent to agricultural crops like almond and blueberry, need better science-based data to identify what plants might provide better forage choices for bees.

The Oregon State Bee Lab has recently received a \$500,000 grant from the U.S. Department of Agriculture's Agriculture and Food Research Initiative (USDA, AFRI) that seeks to answer these and other questions related to bee nutrition. The grant was secured by Dr Ramesh Sagili, OSU associate professor of Apiculture and OSU Extension specialist, and Dr Priyadarshini Chakrabarti, former OSU research assistant, who just left Oregon for a new assistant professorship at Mississippi State University. Dr Sagili has addressed Cowlitz Beekeepers via Zoom.

Analysis of precise macronutrients and micronutrients in pollen, a technique developed by the OSU researchers, allows building a database of nutritive value. The lab will look at the flowers of more than 100 bee-pollinated crops, native plants and commonly used ornamental plants. And they need a team of volunteer citizen scientists to assist in pollen collection.

Such information can be targeted not only to beekeepers but also crop advisors (used by many cooperatively owned farming enterprises), land managers, conservation groups and the general public who will be able to use the information to choose the most nutritious plants for both native and managed bees. Choosing the best supplemental forage can help mitigate poor nutrition in bees, enhancing resistance to stressors and increase survival and longevity. Well-nourished bees can better withstand varroa mites, pesticides, parasites and loss of habitat.

Although we can sustain bee colonies with sugar syrup and protein supplements to artificially boost colonies when natural forage is inadequate, they are not the optimal diet. One aspect of the study will target the impacts of certain fungicides – called sterol biosynthesis inhibitors or SBI. Pollen sterols are a type of lipid that bees require for development and growth. Early studies indicate SBI fungicides could compromise the quality of pollen.

With their floral fidelity, bees forage one specific flower species, if in adequate numbers. The grant will need such pollens collected directly from flower foragers. See video on procedure:

<https://www.dropbox.com/s/ndzgd7zyr6unzpn/Sagili%20and%20Chakrabarti%20USDA%20Pollen%20Database%20%281%29.mp4?dl=0> Bees will be immobilized in freezer and can be released after pollen is removed. If interested contact either Dr Sagili at 541-737-5460, ramesh.sagili@oregonstate.edu or Priya at priyadarshini.chakrabarti@oregonstate.edu



The 2021 WASBA Conference will be held on Saturday October 2nd and Sunday 3rd at the WSU Honey Bee & Pollinator Facility in Othello, Washington. Camping/RV spots at the facility are also available for purchase so you can stay on-site. There will be a virtual option for those who cannot attend in person. Tickets available at: <https://www.accelevents.com/e/WASBA2021PacificNorthwestBeekeepingConference>

Winter Bees

Bill Holmes

Should you be feeding pollen patties to your bees in late summer? Many promote it to keep the colony strong when pollen availability declines in August and September. I have not provided patties to my bees at any time of the year, but I wondered if my beekeeping toolkit should include them. Since this is the period when the hive turns to making winter bees, I looked to understand them better.

Winter bees are produced during the fall and will take the colony into the spring. The main difference between a summer bee and a winter bee is that winter bees have enlarged fat bodies in their abdomens. These fat bodies break down fats, proteins, and carbohydrates, and they produce vitellogenin, which is linked to honey bee immunity and longevity. They also have enlarged hypopharyngeal glands which produce the royal jelly compound fed to all larvae during their first 3 days. Winter bees form the thermoregulating cluster when temperatures drop.

We're familiar with the honey bee castes of drone, queen, and worker, but did you know the many believe the winter bee is a 4th caste. Winter bees have very differently adapted bodies and very different functions than their summer counterparts. As honey bee colonies expanded their range north, bees were forced to adapt to survive cold temperatures and periods without incoming pollen. They had to figure out how to insulate themselves, create warmth, and store energy to survive long cold winters. Summer bees perform the high energy task of creating royal jelly when they are young and have lots of energy. Winter bees, however, are put on nursing duty near the end of their long lives.

When we think about our bees having enough energy for winter, we usually just focus on honey stores. Most of the energy needed for winter survival (and spring growth), however, is inside the bees! Winter survival depends on having a large amount of healthy winter bees.

Several environmental cues associated with seasonal changes, such as photoperiod, temperature, and nutritional state, have been examined to determine if these trigger seasonal changes in physiology. Of these, only pollen availability has been shown to impact a transition to winter bees. Increasing pollen stores through supplementary feeding or restricting pollen stores by placing pollen traps across the colony entrances will, respectively, delay or accelerate the timing of the production of long-lived winter bees relative to control colonies. The formation of winter bees starts in late summer when the food supply begins to dwindle, and pollen becomes scarce and lower in quality.

In a study by Dr. Heather Mattila she found that in full-sized, established colonies, providing a pollen or pollen substitute in the fall promotes a boost in brood rearing. This brood-rearing boost delays the transition in colonies to a population of long-lived winter bees and didn't translate into improvements for the winter bee population. Despite the onset of fall, those bees were summer bees, and soon died off. None of the extra pollen provided to colonies was invested in enhancing the quality of winter bees that the colonies reared, nor does fall protein supplementation produce more winter bees. In a second research article, Mattila and Otis fed colonies pollen patties for different lengths of time into the fall, they found that colonies whose pollen supply dwindled earlier had a correspondingly early onset of rearing winter bees. Conversely, those receiving extended pollen supplementation into the fall delayed their winter bee rearing. But all groups still produced similar numbers of winter bees, in the end. Feeding pollen in the fall does not "fatten up" winter bees.

So, it appears that feeding pollen patties has no effect in the final production of winter bees. If you would like to delay the onset of winter bee production, then feed pollen patties. But it seems that fall pollen feeding has been so common place that beekeepers don't question the practice. The wild card to me is our urban beekeepers who have a landscape of exotics seemingly blooming year-round and producing pollen. Those plants will impact the transition to winter bees but the impact hasn't been studied.

Overwintering honey bees: biology and management Mehmet Ali Doke, Maryann Frazier and Christina M Grozinger

Winter Bees and Pollen Patties Allison McAfee December 2020 ABJ

The Greatest Generation: Winter Bees by Meghan Milbrath January 2020 ABJ

Fall nectar and pollen: Asters

by John Holmes

Asters are great forage for pollinators providing both pollen and nectar during late summer and fall. Here in the Pacific Northwest our native asters are not abundant but beekeepers can use asters in their landscaping and try to introduce natives to their property. Depending on the species, asters can be annual, biennial, or wood species. Most that are cultivated are herbaceous perennials ranging in height from 1 to 6 feet tall. Flowers can be solitary or clustered, color can be white, blue, magenta, purple, and pink. The plants bloom for many weeks and there are species that bloom early and late during the season. They attract many different species of bees and other beneficial insects and are larval food plant for a number of species of butterflies and moths. Generally, asters grow best in moist, well-draining soil with plenty of sunlight. The plants form clumps or spread via underground stems. Disadvantages of using asters in landscaping include: some are aggressive spreaders, some require dividing clumps every few years to reinvigorate the plant, tall types may require staking, and during bloom lower foliage may die back.



Research by Dr. E. Jay Holcomb and Connie Schmotzer at Penn State Extension looked at pollinator visits between the species plant and developed cultivars. Species New England aster was superior to its cultivar 'Purple Dome' with a score of 341 to 66. Two winning cultivars were Smooth aster 'Bluebird' and Aromatic aster 'Raydon's Favorite'. These results were not based on honey bee visits but they show how the selection of cultivar plants for honey bees may be hit or miss.

Potential Asters to try:

- New England Aster (*Symphyotrichum novae-angliae*): maturing to 5' tall. they like moisture-retentive soil and thrives in full sun or light shade in all but the driest soils.
- Smooth Aster (*Symphyotrichum laeve*): 18" - 3', likes full sun, but tolerates part shade.
- Woodland Asters (*Eurybia divaricate*): are an edge of forest plant, they don't like to grow in direct sun and are inconspicuous before they bloom.
- Aromatic aster (*Symphyotrichum oblongifolius*): one of the last asters to bloom in the late fall This species grows about 2 feet tall and thrives in sunny areas.

Sources:

Dr. E. Jay Holcomb and Connie Schmotzer

<http://www.greenhouse.cornell.edu/handouts/bees-bugs-blooms.pdf>

Richard G. Hawke, Plant Evaluation Manager, Chicago Botanical Gardens

A Comparative Study of Cultivated Asters

https://www.chicagobotanic.org/downloads/planteval_notes/no36_asters.pdf

PNW native asters

<https://www.pnwflowers.com/browse/genus/aster>



Zoom Meeting Recordings

Most of our meetings have been recorded and loaded to our website. I frequently forget to start the recording at the beginning so it's like you came to the meeting late. Look for "Bee Information" then video.

<https://cowlitzbeekeeping.wixsite.com/website>