



## June 2023 NEWSLETTER

### LANE COUNTY BEEKEEPERS ASSOCIATION

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### President's Message by Fonta Molyneaux

June is here and with it summer solstice and peak nectar flow in the Pacific Northwest! The blackberry flow is the most abundant flow we have in the Willamette Valley and the west coast in general. With this less than ideal spring we need all the nectar abundance we can get!

The bloom is often fast and fickle leaving beekeepers mystified when they either miss it or bring in the mother lode of nectar in a matter of days. As always, 'bee' ready is the motto!

Drawn comb is everything and having an abundance of it to offer overwintered built up colonies is what makes it possible to bring in a lot of resources. During this time I'll weave in empty frames. I am looking to mix them with drawn frames by [checkerboarding](#) the supers. I like to keep all my same age colonies even because comb is so energy expensive for bees to make. A colony with lots of empty frames will be behind another colony with all drawn frames. Using the nectar flow peak we reach for the height of their expansive ability.

New colonies will fill out their brood boxes and mature colonies will reach for the zenith of available nectar for the year. I stay vigilant ready to add supers when the old rule applies of adding a box when seven out of ten frames have bees on the tops. It's now or never!

After summer solstice we really don't have another pronounced flow of nectar and our bees will begin to decrease the brood nest and won't draw new wax as much. We beekeepers will be focused on pulling supers and mite treatments which our June Meeting is focused on. We will have longtime member and past president, Pam Leavitt, who will share information about varroa mites and how to navigate their impact on honeybee health. Mike France and Lynn Hellwege will be discussing honey extraction at the early meeting.

Join us as we prepare you for the seasons next phase in the beekeepers year!

### GENERAL MEETING

June 20, 2023

In-Person Meeting

Come early to socialize and share your  
Questions with experienced beekeepers.

Social 7:00pm-7:30pm

Early Session

Doors open at 6:00pm

Session Starts at 6:15pm

Topic: "Honey Extraction"

Speakers: Mike France &  
Lynn Hellwege

Fireside Room

General Meeting

Topic: Varroa Mites

Speaker: Pam Leavitt

Program begins at 7:30pm

Trinity United Methodist Church  
440 Maxwell Road, Eugene

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## Upcoming Events & Announcements

### June 20th - LCBA Pollination Day Presentation

Pollinators in My Garden and Mason Bees

Location: Eugene Downtown Library, 11:00am

### June 22nd - 9th Annual Bee Jazzy Celebration

A benefit to [Save Oregon's Bees](#)

Location: Silvan Ridge Winery, Eugene 5:30pm

Live music, food, wine, silent auction

[9th Annual Bee Jazzy | Beyond Toxics](#)

### June 25th - LBBA/LCBA Field Day

Location: OSU Bee Apiary, Corvallis

(Field Day is full)

### July 7th-9th - Oregon Country Fair

Location: Veneta, OR

### July 16th - 70th Annual Barnyard Jamboree

Location: Dorris Ranch, Springfield

See Page 13.

### July 19th-23rd - Lane County Fair

LCBA will have a display booth.

Enter your honey products. See page 7.

## Extractor Information

The club has five, three-frame extractors with hot knives for use by its current members. These are on a reserved use basis. Please limit your use to no more than three days and always clean the extractor before returning to host. Extractors clean very easily if cleaned with warm soapy water and flushed out with a garden hose after you finish for the day. If you wait until the next day cleaning is more difficult. These units are easy to use and transport.

Eugene, North River Road Area -Katie James 541-688-4111

Eugene, Cal Young Area - Pam Leavitt 541-344-4228 \*\*

Pleasant Hill - Tina & John Franklin 541-953-2028

Creswell - Amy Sierzega 541-505-4033

Elmira - Ken Ograin 541-935-7065

**\*\*NOTE: The Cal Young Area extractor will NOT be available June 12th-July 15th.**

**Remember--return it on time, and return it clean!**

**For current member use only.**

## Volunteers Needed Lane County Fair Set Up/Take Down

LCBA is looking for a couple of volunteers to help set up and take down the Lane County Fair booth. A truck or trailer is needed as there many big pieces.

Set up Date:

Take Down Date: Monday, July 24th

If you have questions or can help contact Nancy at [nancy.ograin@gmail.com](mailto:nancy.ograin@gmail.com) or 541-935-7065.



## LCBA Pollinator Day Celebration

**Date: June 20th, 11:00 am**

**Location: Eugene Downtown Library**

This year the National Pollinator Week will be emphasizing the connections between climate and pollinators. Pollinator populations are decreasing because their habitats are disappearing, diseases have increased, and rising temperatures and natural disasters are affecting their ability to survive.

LCBA will have two short programs, 'Pollinators in My Garden' and 'Mason Bees'.

## Upcoming Tentative Meeting Topics

### General Meeting

**July 18** Unsung Bee Diseases, Andony Melathopoulos (EFB, Chalkbrood, Nosema and Sacbrood)

**Aug 15** Early Fall Preparation, TBD

**Sept 19** Pheromones, Judy Scher

**Oct 17** Native Bees, August Jackson

**Nov 21** Honey Tasting

### Early Session

Treatment Options - Fonta Molyneaux & Brian Jackson

Prep for Fall Q&A Discussion

Winterization Q&A, Polly Habliston

Bee Stings & Allergies, Dr. Jason Friesen, MD

No early meeting



## Keeping Bees in June

Jan Lohman

*Excerpt from the Oregon State Beekeepers June 2023 Newsletter  
The Beeline*

June AGAIN . . . a very important beekeeping month.

To follow up on my 2021 “Keeping Bees in June” article, I can now confirm that every year is indeed an exception and we can throw out all previous assumptions. Yes, 2021 was cold and windy in spring, 2022 was even colder, wetter, and windier, and 2023 was a record breaker for hail and snow and rain in the almonds in California and Hermiston. Virgin queens must be totally frustrated!

June is the time to evaluate your hives. Check out the queen’s pattern and while you are at it look at the pollen and nectar stores to be sure that your hives are set up for summer work. Commercial beekeepers find the time to requeen whenever it works into their schedule each year, but for hobby beekeepers it is important to evaluate your queen each time that you check your hives and when you notice supersedure cells, damaged queens (queens with a bad leg), or spotty brood or poor performance, it is time to retire that queen and get some fresh energy into the hive.

If your hive has swarm cells, there are a few things that you can do to mitigate the colony’s behavior. It does not always work, but worth the time. If the queen is still laying eggs, but also throwing swarm cells, you can knock off the cells that are found, usually on the bottom of your frames in the top box, and pull out a few frames of brood (without pulling the queen) to give her more room. You can use that brood to build a nuc to have available when needed, with either a purchased queen or let the bees build their own queen by having young eggs on the frames of brood that you pull, or pull a frame with queen cells already on the frame. While you are knocking off swarm cells, you can also reverse the two boxes so that she is less crowded or add a honey super.

Remember, if your hive has swarmed, it is important to give the hive enough time to replace the queen. If you add a mated queen, leave the hive alone for 10 days before checking to be sure she has taken. If you are letting the hive do their own replacement, you should wait 30 days before checking for eggs.

In parts of Oregon there will be honey flows beginning. Do you plan to use an excluder? Do you see white wax on your hive’s top bars? If so, the hive is telling you that it is show time! For bee hives to make excess honey they need robust populations of bees. You should be working to create these robust colonies from early spring to get them prepared.

Record keeping is so important, but so often missed . . . you can write on your hive with a lumber crayon, you can use a computer program or your cell phone or use a regular notebook. Important information to gather includes temperatures when you work your bees, bloom phenology, queen observed, eggs observed, feeding needed, and what to do on your next visit.

Finally you need to always be prepared for varroa. It is critical that you know your Varroa levels, especially in the summer, and have a plan in place for how to treat when it is time. Be proactive about selecting an approved treatment that you and your bees can live with. For treatment information, please check out Varroa Management Decision Tool at: <http://honeybeehealthcoalition.org/varroatool/>.

I forgot to say that summer is near . . . queens will be mated . . . and I hope that you have an amazing beekeeping year.



The start of the honey flow. The first blackberry flower seen at the end of May in the River Road area in Katharine’s yard.

*Submitted by Katharine Hunt*

### Welcome New Members

Steven Braun  
Heather Kent

Springfield  
Elmira

## The Simple Truth About your Empty Honey Supers

Excerpt from [Honey Bee Suite](#)  
by Rusty Burlew



It happens. You expect to find supers full of honey, but instead they are empty. If your bees didn't fill them, the conditions were not right.

Help! My honey supers are still empty! Many beekeepers are dismayed to find their supers are empty at the end of the honey season. They want to know what they did wrong and how to encourage the bees to get to work. In the past I've shared ideas that I've heard about or tried myself. Now I'm going to tell you what I really think.

### The bees are not ready

I think your bees haven't moved into your new super because they are not ready. When they are ready—if ever—then they will work on them. In the meantime, they have their own agenda.

[Honey bees are genetically programmed to store](#) more honey than they need. It is one of the characteristics that make them so alluring and so useful to humans. We can harvest their surplus honey and the bees will (usually) still have enough food to get them through the winter.

### A low population means a small workforce

Sometimes a colony can appear healthy but have a smaller than normal workforce for collecting nectar. A small number of foragers can result from a lack of pollen for raising young bees or a colony run-in with environmental hazards such as storms or pesticides. It can even occur because of excessive predation by birds or other insects.

It takes a large number of bees and a seemingly endless number of foraging trips to store excess honey. The key to large honey crops is keeping your colony as populous as possible without too much swarming or bee loss.

### Bees store the food where it's needed

If your kitchen and dining room are on the first floor, you probably do not store food on the second or third floor. You want it easy to reach and quick to retrieve. Bees are no different. Why would they store food three floors up if they still have room around the brood nest?

So until all the convenient nooks and crannies are full, they continue to store honey just outside the brood nest. After the summer solstice, the brood nest is shrinking, giving them more and more room in and around the brood nest for storage.

### Forcing the issue by manipulating frames can backfire

Although you can sometimes coax [bees into building comb](#) in the supers by baiting them, this really doesn't help you in the long run. You can end up with a sort of chimney effect where the bees are building up and not out. For example, frames 1 and 10—or even 1, 2, 9 and 10—in the brood nest may not be totally filled because the bees were baited into the honey supers.

Later, you [harvest that honey thinking it's surplus](#). But then, about January or February, you discover that the bees don't have enough food to make it till spring. Instead of you tricking them, they tricked you: they stored honey in the supers but didn't finish the job they should have done first. If you are lucky enough to catch the error, you end up feeding and feeding and feeding. No fun at all.

### Be patient with your bees: they know how to survive

So be patient. When the brood boxes are full the bees will start building in the supers. If the whole summer goes by and they never put anything in the supers, it's because there wasn't enough surplus nectar or not enough bees to do the work. The amount of honey they store has everything to do with how much nectar is collected, and very little to do with how you arrange their honey supers.

And remember this: Never harvest honey from the upper boxes until you've checked the lower ones. You need to leave plenty of honey for the bees, and you can't assume the lower boxes are full just because some honey got stored in the supers.

## When should you add honey supers to your hive?

Adding honey supers to a beehive at the right time is crucial for successful beekeeping and harvesting honey. Knowing when to add honey supers can vary depending on factors such as the strength of the colony, the availability of nectar, and the local climate. Beekeepers should regularly monitor their hives and be prepared to add supers when the honey flow begins as the bees will need more space. Use the 70% rule. Add a honey super when seven out of ten frames on top brood box are covered with bees..



Too early to add a box.



Late -Should have added a box before this happens.



Just right - Looking down between the frames you want to see 6 full slots of bees where bees are covering 7 frames on top.

### 2022/2023 Pacific NW Survey Results

Dewey Carron is currently preparing report on the recent Pacific NW survey. By the time you read this the results should be posted on our website, [lcbaor@pacinfo.com](mailto:lcbaor@pacinfo.com), on the home page and at [www.pnwhoneybeesurvey.com/survey-results/](http://www.pnwhoneybeesurvey.com/survey-results/).

Pam Leavitt will discuss the results at our June meeting.

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## Busy Bee

### Bees & Kids

Lynn Hellwege, gave a presentation on June 1st to the pre-school and pre-Kindergarten kiddos at O'Hara Catholic School. The kids learned about the inner workings of a hive and colony, and how honey is made. Lynn took his observation hive and a complete hive with two brood boxes, queen excluder, and two supers. All the kids got to hold frames, feel the wax, find the queen. Lynn said It was a great day and all the kids loved it!

**Thanks Lynn!**



Lynn Hellwege



### Wild Flower Festival

This May, LCBA had a booth at Mount Pisgah's Wildflower Festival. The event is well attended by nature enthusiasts from the area and includes tables of identified native flower species. There were many other local nonprofits represented, as well as beautifully curated craft booths, live music, and food. The LCBA booth was staffed by club officers and director Fonta Molyneaux, Paula Sablosky, and Ariel Schulze along with helpful LCBA member volunteers Miguel Cervera, Ros Goodwin and Larry See.

We enjoyed many engaging conversations about bees with interested visitors and met several enthusiastic new beekeepers who had been previously unaware of our group. With an example of a real hive, drawn comb, preserved samples of each type of honeybee found in the hive, and lots of informative posters, our booth was a busy focal point throughout the day.



Larry, Ros, Paula, Ariel, Fonta (Miguel not shown)  
**Thanks for Volunteering!**



Mt. Pisgah Arboretum  
Native Flowers

### LCBA Saves the Day at Babe Ruth Baseball Park!

Brian McGinley removed a swarm at the baseball park on June 6th. There was a game going on next to the tree with bees and the swarm was hanging above the walkway to the field. Trash cans and flagging were used to keep folks away. Brian had to climb the tree as his ladder wasn't tall enough. He slowly cut the 15 ft swarm branch to get it to droop down to the ground, then simply cut the 3 ft section with the swarm. Needless to say, the neighbors and players were happy to have him save their day!

**Thanks Brian!**





## June Beekeeping Tips by Chuck Hunt, LCBA Member

1. The first blackberry blossom this year (in Eugene) was on May 27. This slowed hive development as well as foliage. The honey flow will occur mostly in June although the temperatures will determine how late it continues.
2. Make sure to put supers on your hives as June progresses. Look into the hives to see if there is whitening on the top bars of the frames.
3. It does not harm the hive to super a little ahead during the early part of the honey flow. In other words, you can put on two supers instead of just one even though you think that one super might do for the time being. Get your equipment ready for extracting.
4. Watch for outbreaks of foulbrood. Make sure that you know the difference between American Foulbrood (the most dangerous) and European Foulbrood. American Foulbrood can be diagnosed using the "ropiness" test. Outbreaks of American Foulbrood require treatment immediately.
5. Mites can be observed in the drone pupa cells that are revealed when you break the two brood chambers apart. Look for varroa mites on the white drone pupa where they are readily visible at this time. If you see varroa, be aware that the hive is in trouble. Use a sticky board and other monitoring devices to assess the varroa infestation. In serious cases, honey supers may have to be removed and treatment started in order to save the hive.



## Lane County Fair Honey Entries



The Lane County Fair is July 19h - July 23rd. LCBA will have one pound queen line jars available to members who are entering honey in the fair at the June meeting or you may contact Nancy Ograin at [nancy.ograin@gmail.com](mailto:nancy.ograin@gmail.com). Anything harvested after July 23rd of last year can be entered. We would like to see a good turnout of honey & wax entries this year.

The club is hopeful that our membership will take advantage of the opportunity to advertise the products of our hives.

**Honey Categories**—Honey is Division 1125 in the Land Products Division

**Honey must be strained in one-pound jars for Class 02, 03, 04, & 05. Submit two jars for these four categories.**

- |  |   |
|--|---|
| Class 01 - Honey in comb (one container) (Ross Rounds) | Class 06 - Beeswax, approx. 1 lb. blocks                              |
| Class 02 - Water White Honey                           | Class 07 - Honey in Frame Capped                                      |
| Class 03 - Light Honey                                 | Class 08 - Cut Comb Honey (comb cut in squares out of a capped frame) |
| Class 04 - Medium honey                                | Class 09 - Chunk Honey  |
| Class 05 - Dark Honey                                  |   |

**Deadlines:** Online registration Monday, July 5th.

**Entry Drop Off:** Monday, July 17th, noon to 7:00pm, Wheeler Pavilion. You can also register when you drop off your entry. For more information: <http://atthefair.com/exhibits-creatives> (click on 'Creatives Fair Book' for all the information)

**Register online** at [Welcome to ShoWorks! \(fairwire.com\)](http://Welcome to ShoWorks! (fairwire.com))

**Entry Form** in pdf format: [fc9c58\\_291d632aee934c2b9989855fe034c716.pdf \(atthefair.com\)](http://fc9c58_291d632aee934c2b9989855fe034c716.pdf(atthefair.com))

For those who do not have internet service you can contact the fair at 541-682-4292.

**Fair Prizes** - 1st Place \$5, 2nd place \$4, 3rd place \$3 for each category

**LCBA Prizes** - First Place winners \$10 premium (for each category except Class 01 & 08 will be combined)

Last year

Last year's winner Nancy Ograin won 1st place in 4 categories! Let's give her some competition this year! Enter your honey products!





## May General Meeting Highlights, by *Matt Stouder, LCBA Secretary*

### Brood Nest Dynamics, presented by Fonta Molyneaux

Fonta Molyneaux discussed brood nest dynamics and explained that the better we interact with the brood nest the better we can collaborate with the bees for better expected outcomes. When inspecting your hive, it is important to understand that the brood nest is a vulnerable space for the bees. You want to remain calm, stay grounded with your breath, movements and energy, and not be “Godzilla in Tokyo.”

The art of beekeeping is a shared language between bee and beekeeper.

As beekeepers, we gain fluency through intimate knowledge of all aspects of bee biology and climate, and it is important to recognize that climate impacts all aspects of beekeeping. The beekeeper should understand the brood nest dynamics within the hive and how the hive expands and contracts throughout the year in our region of the Willamette Valley.

When making manipulations with respect to the layout of the brood nest, we need to understand the connection points and work to ensure the minimization of defensive behavior. Fonta suggests researching, reviewing, revising and recording your practices constantly as you explore beekeeping, with the goal of creating sustainability in your apiary so that it can withstand the effects of stressors in the environment and cope with losses.

All beekeeping is local, so balancing biology, bioregion and skill, along with knowledge of year-to-year conditions, real-time weather, environmental and nutritional stressors and strengths will directly inform the manipulations you make along with collaborative actions taken.

When beekeepers are inspecting their hives, it is important to align the hive manipulations with the seasons. Bees expand and contract the brood nest in alignment with nectar flows and dearths. A flow occurs when flowering plants are providing a consistent nectar flow for the bees to bring nectar back to the hive. A dearth is a period of time when nectar isn't readily available in the environment and thus there is no incoming nectar to the hive.

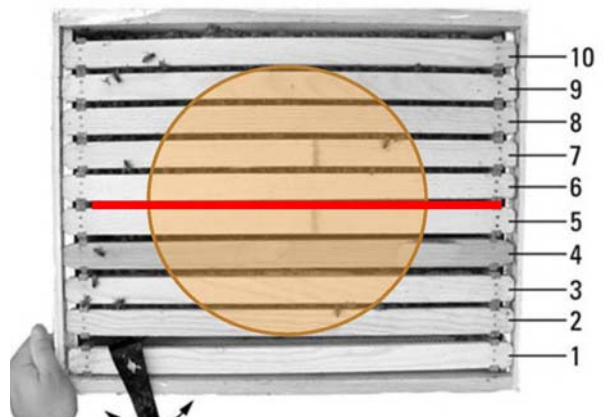
In the Willamette Valley, the increase phase starts on March 21<sup>st</sup> and ends on summer solstice on June 21<sup>st</sup>. This period of time coincides with expansion of brood nest, the building and expansion of comb, and a significant population increase. The decrease phase occurs from June 21<sup>st</sup> until winter solstice December 21<sup>st</sup>.

It is important that you make the manipulations necessary prior to the winter solstice to prepare the bees for winter. You will want to ensure that the supers are removed in an appropriate amount of time so that the bees can put honey around the brood nest. You do not want the bees counting on the honey in the supers as their winter honey, which can happen if you wait too long to remove it.

Additionally, you will need to ensure that you are getting your mite treatments on in August and September due to a number of factors. The winter “fat” bees are being born during this time and will be the bees that bring the colonies through winter. It is critically important that they be in good health and undamaged so they can help the colony survive the winter.

Here is Fonta's slide showing that the brood nest is a ball in a box. The frames dissect the ball into viewable sections. Notice that frames 1-5 are exactly the same as frames 6-10. Normally we only have to inspect one half of the hive to see the entire hive.

To view the YouTube presentation contact Nancy,  
[nancy.ograin@gmail.com](mailto:nancy.ograin@gmail.com).



## May Early Session: “All Things Comb” by Matt Stouder

LCBA’s early talk was on “All Things Comb” by Matt Stouder. Matt started out discussing that besides the bees themselves, comb is probably the most valuable resource that a beekeeper will have. Comb is where everything happens – it’s where the bees store nectar and pollen, raise their brood, communicate with each other, and cool the hive.

Honeybees build comb using four pairs of wax glands that are located underneath their abdomen. The wax is secreted as a liquid and solidifies when it comes into contact with the air. Each bee produces wax scales that are then passed to their mandibles and mixed with a mandibular secretion. After this process, the wax is ready to build with. The bees are festooning (daisy-chaining together) while this occurs and warm the wax to 109 degrees F to build the comb. In the absence of foundation, bees will build comb from the top down in their hive or on a frame.

Building comb and drawing foundation comes at a cost for the bees. It takes approximately six pounds of honey to make one pound of wax. Honeybees do best at drawing foundation into comb in the spring and summer when there is a nectar flow. The beekeeper can help the bees draw foundation by simulating a nectar flow and providing 1:1 sugar water. There are different types of foundation to choose from, although beeswax and plastic (coated with beeswax) are most typically used.

If you are starting out with a package of bees and bare foundation, the best thing you can do to help your bees draw out the foundation is to provide 1:1 sugar water and monitor the sugar syrup. You want the bees to have a continual supply and not to run out. As the colony starts to draw out the frames, you want to be ready to add a second box when seven to ten frames have been drawn out. To entice the bees to draw out the second box, you may need to give them a reason to move up. Ways to do this include moving a frame of drawn comb to the top box. As long as the temperature is mild (late spring or early summer), you can move a frame of larva up to the top box and the nurse bees will move up to care for them. Place the frame in the center of the box surrounded by foundation. If trying to get the bees to draw foundation in the supers, make sure you do not use a queen excluder. Once the bees have drawn the foundations, you may put the queen excluder in to keep the queen from laying in the super. Of final note, one of the best ways to draw comb from foundation is to catch a swarm! Swarms are primed for comb building and will draw out foundation quickly.

Next, Matt discussed drone comb, which is easy to identify by its larger size relative to regular brood cells. Drone comb is often found in-between boxes or where comb has been damaged. Bees will also build it on about 20% of comb in a natural hive, and will do the same on comb built from starter strips. Many beekeepers use commercially available “green foundation” in their hive as a form of varroa control. Green foundations allow the bees to build drone comb because the size of the starting cells are drone sized. Varroa management by drone brood removal can significantly impact varroa populations at the beginning of the season.

Other types of comb a beekeeper may encounter in the hive include burr comb, brace comb and bridge comb. These are all essentially the same thing, and occur when bees find any space that is greater than 3/8 inch and fill it with comb. This comb can be found between boxes, under the inner cover, in a shim that has been left on the colony for too long, or anytime the principle of bee space is violated. If found, it is best to scrape it off with your hive tool so that future inspections are easier, and to fix the underlying cause if possible.

As comb ages, it should be replaced on a periodic basis. Dark comb is very normal and occurs during the brood rearing process. Bees track debris into the hive which dirties the comb (just like your floor at home). Nurse bees also visit larva, which have a high demand for food. Each larva is visited thousands of times to be fed and cared for. When the larva is ready to pupate, the nurse bees cap its cell. The larva then excretes waste from its intestines, which it uses to spin a cocoon. This process darkens the wax. The larva will clean its cell upon emergence, but it cannot remove the cocoon layer. Over the course of several brood cycles the brood comb becomes quite dark.

There are several reasons why brood comb should be replaced, including pesticide buildup in the wax which can impact bee health over time, miticide buildup from treating for varroa, various diseases impacting honeybees and because the cells become smaller over time from brood rearing. Excess drone comb and/or uneven comb may be an additional reason. Consider replacing comb on a rotational basis every five to six years. One strategy is to rotate 20% each year over a five-year cycle to reduce replacing comb all at once. A dead out provides a good opportunity to cull old comb, as does early spring when the bees are likely in the top box, leaving the lower box empty.

*continued on page 10*

comb continued

Finally, consider repurposing old comb. A great use for old comb is in a swarm trap. Other ideas include rendering the wax and using it for candles, waterproofing for leather or fire starter.

Matt's slide show is posted on our website under talks, [http://www.lcbaor.org/lcba\\_talks.htm](http://www.lcbaor.org/lcba_talks.htm)



Drone Comb



Comb Building





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## “Do Bees Like it Hot?” by Dewey M. Caron

Do you remember last summer’s heat dome? Or the record number of days above 90 degrees in May this year? It was the second hottest May for Oregon records. Is this the heating part of what we might “expect” with climate change? Speaking of heat, have you ever wondered how your bees are doing?

On one of those sweltering days of 90 plus temperatures, the headline read, ‘Rising Temps Put Foraging Bees at Risk of Overheating’ caught my eye. It was an account by Malia Naumchik of a paper she recently published on an undergraduate study conducted while she was a student at North Carolina State University. The paper ‘**Larger pollen loads increase risk of heat stress in foraging bumble bees**’ was published in the journal *Biology Letters* 17\_May 2023 <https://doi.org/10.1098/rsbl.2022.0581>.

Like honey bees, bumble bee spring colony development depends on the quantity and quality of pollen. It has been known that carrying a pollen or nectar load increases metabolism in honey bees and bumble bees.<sup>1</sup> Pollen transport may be even more energetically costly than nectar transport because pollen is carried with a lower center of gravity, creates drag and does not contribute to evaporative cooling. In honey bees, workers with full pollen loads had hotter body temperatures than those with full nectar crops.<sup>2</sup>

Malia’s research project sought to find out if foraging for pollen might put pollinating bees at risk of overheating with warming temperatures. The study was conducted on the common eastern bumble bee *Bombus impatiens*. Honey bees were not included in this study. In all, 91 *B. impatiens* workers ranging in size from 68.51 to 295.17 mg, carrying pollen loads of 0.28 to 32.18 mg were included in the study. The hottest recorded bee temperature was 44.1° C (111° F).

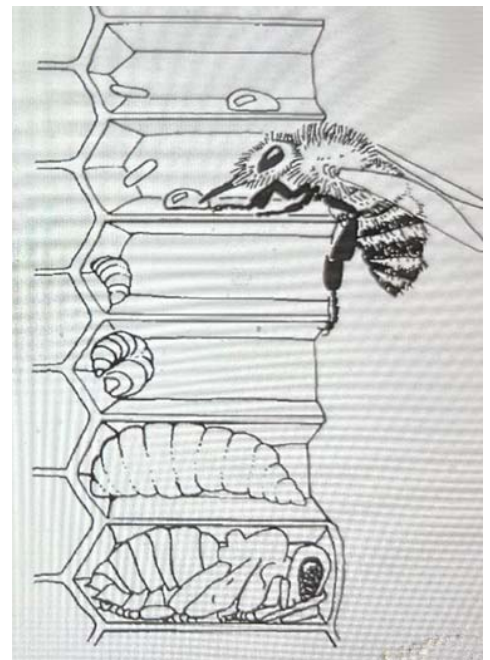
The protocol was straight forward. Bumble bees with a range of pollen-load sizes were trapped from flowers and their internal temperature recorded within 10 seconds using a thermocouple temperature probe. Next the bees were anesthetized with carbon dioxide and the pollen baskets removed from their corbiculae. These were weighed, as were the bees, and ambient body temperature of the bees recorded.

To determine what temperatures might be an upper limit, bumble bees were placed in vials in a dry bath set to 36° C. The temperature of the dry bath was then increased by 1° C every four minutes until onset of muscle spasms. These bees were sacrificed to be weighed after a set time so differences in body size could be computed relative to the maximum temperature reached in the experimental dry bath.

The results revealed that bumble bee workers carrying a full pollen load, which could be up to almost a third of their body weight, were about 2° C hotter than unloaded bees. The study conclusion was that on a moderately hot day, this increase in body temperature could potentially push the bee body temperature from a safe temperature to one within the range of their thermal limits.

It would be great to see this type of study repeated on honey bees to see if the same result might be found. Of course, we know honey bees reduce foraging on the hottest days, during the hottest time period. Nectar foragers switch to become water collectors. By creating an air current they can cool their hive with air movement over water droplets. This is similar to how they ripen the fresh nectar. Small droplets are placed in empty cells, partially filled cells, even in cells with brood (as shown in illustration). Worker bees additionally may abandon their hot hive to cluster on the outside of their hive and may stay outside their hive a good proportion of the night, bee bearding on their hive or under their entrance.

Bumble bees can adapt during extreme bouts of heat as well by shortening their foraging trip distances and/or durations, staying in their nest (ground temperatures will help keep them cooler) and we know bumble and honey bees are able to shunt excess heat from wing muscle activity to their head or abdomen and even regurgitate nectar onto themselves to cool down.



*continued on page 12*

The author discusses her research and speculates how bees may cope with consistently rising temperatures due to climate change and what the implications of these adaptations are for the health of both individual foragers and entire colonies.

<sup>1</sup> Heinrich B. 1975 Thermoregulation in bumblebees:II. Energetics of warm-up and free flight.J. Comp. Physiol. B96, 155–166.

<sup>2</sup> Feuerbacher E, et. al. 2003. Effects of load type and load mass on hovering metabolic rate and mechanical power output in the honey bee *Apis mellifera*. J. Exp. Biol.206, 1855–1865. (doi:10.1242/jeb.00347)



### Bee Crossword Puzzle Solution

H	E	N		B	E	E	R	E	S	E	A	R	C	H
D	R	O	N	E		S	U	P	E	R	H	E	R	O
T	R	O	U	B	L	E			A	H	I		O	N
V	A	R	R	O	A				A	L	U	M	N	A
	T		S				Q	C			I	C	K	Y
L	A	N	E			C	O	U	N	T	Y			S
A				B	E	E	K	E	E	P	E	R	S	
N			E				S				R			P
G		D	E	T	E	N	T	I	O	N				E
S				B	R	E	E	Z	Y		D	E	A	R
T	H	A	W			R	D				A		G	
R	O	T	A	T	E	D			S	A	T	I	R	E
O	N		R	W	C			R	E	Q	U	E	E	N
T	E	R	R	I	T	O	R	Y		U	M	P	E	D
H	Y	M	E	N	O	P	T	E	R	A		S	S	S

### Refractometer

LCBA has three refractometers to check the moisture content in your honey. Remember honey is not honey unless the moisture content is 18.2% or below. We will have it available at our monthly meetings to test your honey. If unable to attend call or email one of our members to schedule a time to check out your honey.

Eugene - Judy Scher, 541-344-2144,  
[judyscher@gmail.com](mailto:judyscher@gmail.com)

Elmira - Ken Ograin 541-935-7065,  
[woodrt@pacinfo.com](mailto:woodrt@pacinfo.com)

Cottage Grove - Francis Rothauge 541-520-8391  
(no email)

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Best Practices Liaisons for Lane County - Mike France	541-232-1610	<a href="mailto:michaelj62@gmail.com">michaelj62@gmail.com</a>

## 70th Anniversary Barnyard Jamboree

**Date:** Sunday July 16, from 4 – 7PM

**Location:** Dorris Ranch, Springfield, OR

A fun event to benefit those in our community living with intellectual and developmental disabilities.

**For more information:** [Barnyard Jamboree \(pearlbuckcenter.com\)](http://BarnyardJamboree(pearlbuckcenter.com))

June 13, 2023

Fonta Molyneaux, President  
Richard Smith, Association Member  
Lane County Beekeepers Association  
130 Hansen Lane  
Eugene, OR 97404



Dear Richard, Fonta, and Association members,

April 1 marked Pearl Buck Center's 70th Anniversary of support to individuals, families and their children in our community living with intellectual and developmental disabilities. As we kick off the start to another 70 years of service, we are celebrating this historic benchmark with a special event this summer- a Barnyard Jamboree on Sunday July 16, from 4 - 7PM, at Dorris Ranch.

We invite Lane County Beekeepers Association to consider ***an in-kind donation of a beekeepers kit for our live auction.*** We already have the veil and jacket donated by GloryBee. Last year's kit, and Richard, your training, was a huge success for our live auction!

We are expecting up to 160 attendees this year at our Barnyard Jamboree that will raise critical funds to launch the agency toward achieving pre-Covid support and service levels to restore quality of life for the individuals, families and children served by our preschool.

The Barnyard Jamboree event will include (details still being finalized):

- Live music and dancing with our very own Vocational Academy students and DANCable, a local dance group that highlight the talent of individuals with disabilities
- BBQ, ice cream social, and treats made by our Vocational Academy students
- Wine, Beer and other beverages
- Live auction of client artwork, corn hole set, wine tastings, singular getaways & more!

Thanks in advance for your consideration! I can be reached at 541-501-1371 or [eileen.sigler@pearlbuckcenter.com](mailto:eileen.sigler@pearlbuckcenter.com)

Sincerely,

Eileen Sigler, CFRE  
Resource Development Director

Thank you for your  
consideration!  
- Eileen

**Classified Ads**

Bee-related classified ads cost \$5.00/month for non-members and are free to members. Classified ads run for three issues and may be renewed by contacting the editor. Bee-related business ads start at \$35. To place an ad, contact Nancy Ograin by the 1st of the month, 541-935-7065 or via e-mail [nancy.ograin@gmail.com](mailto:nancy.ograin@gmail.com).

**EQUIPMENT FOR SALE**

10 Frame equipment: Western, semi-deep and deep boxes with good comb. Few with plastic foundation. Also, the same variety of empty boxes, some with assembled frames.

Other miscellaneous equipment.  
All in good condition.

All priced to sell. Call for pricing.  
Visit to see the inventory (location just North of Junction City)

Contact Shepard: 541-231-3225

**“Bee Funny”  
T-Shirts**

100% of the proceeds to the OSU Bee Research Lab, Ramesh Sagili.

Support Bee Research!

<https://www.beetanical-apiary.com/bee-funny-shop>



Advertise Here

For discounts on American Bee Journal subscriptions contact Nancy Ograin for discount form.

**Support Dr. Sagili's OSU Bee Lab**

Oregon State Beekeepers Association has set up a fundraiser to help raise monies for Dr. Sagili's research and students. You can make a difference by donating today and help in raising research funds. Every little bit helps! Thank You!

[Donate Here](#)

[Fundraiser by Rebecca Fain : Help Us Save The Honey Bees](#)

**2023 LCBA New/Renewal Memberships**

\$25 per year per calendar year (Jan-Dec 2022) per household or family.

Please remit payment to:

LCBA Treasurer, Polly Habliston  
1258 Dalton Dr., Eugene, OR 97404  
[polly@uoregon.edu](mailto:polly@uoregon.edu)

Membership forms for new members and renewals are available on the LCBA website.  
[Click here](#) to access.

**NEWSLETTER CONTACT INFORMATION**

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Editor: Nancy Ograin 541-935-7065 [nancy.ograin@gmail.com](mailto:nancy.ograin@gmail.com)

## Links



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Coalition**

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**Best Management Practices for Bee Health**

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**Varroa Management Decision Tool**

<https://honeybeehealthcoalition.org/varroatool/>



<https://www.honey.com/>



**Honey Bee Health**

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videos

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[How To Send A Sample To Beltsville, MD for Diagnosis](#)

The go to for American foulbrood.

**Residential Beekeeping: Best Practices for Nuisance  
Free Beekeeping in Oregon**

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