



## July 2018 NEWSLETTER

LANE COUNTY BEEKEEPERS ASSOCIATION

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### President's Message

**Pam Leavitt, LCBA President**

Judy Scher will share her expertise about Fall and Winter Management at our general meeting beginning at 7:30pm. The early session, 6:15pm, will be Jeff Green presenting the requirements for labeling any honey you are planning to sell. This is important information to meet the state regulations for what information must be on your label.

The Lane County Fair will be July 18-22. Our club is hoping for a good turnout of honey and wax entries. See last month's newsletter for the details regarding the rules and how to prepare to submit an entry. Francis Rothauge has offered to deliver honey for members who may find the date of July 16 from noon to 7pm difficult. Please bring your entry form and honey to the Leavitt's at 1325 Brickley Road in Eugene if you are interested in having Francis take it to the fairgrounds for you.

The Oregon State Fair will be August 24 through September 3. Please see the information in the box elsewhere in this newsletter. We hope to have some entries from our club at this state event to share the wonders of our pollinators with the public.

In addition, the Oregon State Beekeepers Association is sponsoring a booth at the fair. They are looking for beekeepers to help staff the booth. Bonnie King is the coordinator and has developed a calendar of 6 hours shifts from 10am to 4pm and 4pm to 10pm. If you are interested in volunteering, contact Bonnie at: [bonjking@gmail.com](mailto:bonjking@gmail.com). They will give you a free pass to the fair and a pass for free parking if you are able to assist in the booth.

We held our Pollinator Week event on June 23 at the Science Center. Andony Melathopoulos from the Oregon Bee Project joined us with a display of pinned native bees. He used the opportunity to use his net to catch some interesting specimens along the waterway that runs along the grounds. Visitors had a great time holding some of these tiny insects and noticing some specific differences species to species. The North American Butterfly Association were there with some kid's projects and beautiful tee shirts to sell. Nancy Ograin supplied us with an observation hive, which always draws attention. The stenciled hive became colorful, as participants used the markers to color in the stenciled designs.

*continued on page 2*

### NEXT MEETING:

**July 17, 2018**

**Come early to socialize and share your questions with experienced beekeepers.**

#### Early Educational Class!

**Topic: "Honey Labeling Laws"**

**Speaker: Jeff Green,**

**Dept. of Agriculture**

Door opens at 6:00 pm

Presentation starts at 6:15 Pm

"Fireside Room"

#### General Meeting

Hall opens at 7:00 pm

Program 7:30 pm

**Topic: "Fall Management"**

**Speaker: Judy Scher**

Trinity United

Methodist Church

440 Maxwell Road

Turn West off River Road  
in Eugene (South of Beltline)

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*President's message continued* The major nectar flow is over in my area. The blackberry brambles have green berries and only scattered blossoms. Now I am seeing the ladies visit the floral offerings in my garden. Remember to provide a continual water supply to your bees. They need to maintain a stable temperature in the hive and use water to cool the developing eggs, larvae and pupae. The process of drawing air into the hive via fanning is another fascinating function of the house bees.

I hope your bees have supplied you with generous surplus honey to harvest, but also remember to leave plenty for them, or you will be feeding them for a long time if they are to survive. Take care of these amazing ladies and of course, of yourself during this very busy season.

**July Early Educational Class -** Jeff Green, Food Safety Inspector with the Oregon Department of Agriculture, will give an early educational talk on the regulations of selling and labeling honey. If you sell, or are ever planning to sell honey this talk is extremely important. Even if you don't plan on selling honey you should know the rules and regulations.

Jeff will cover the various ways and venues of selling honey depending on the number of hives from which you extract, as well as what information you must include on your label. He will also explain and address Farm Direct Marketing for beekeepers extracting from over 20 hives, who do not wish to be licensed or inspected.

LCBA Pollinator Day



Looking at the bees in the Observation hive.



Katie Seaver (Pam's granddaughter), Pam Leavitt, Polly Habliston



Stenciling hive boxes donated by GloryBee



Andony Melathopoulos Oregon Bee Project



Paula Mance

Thank You Volunteers!  
Pam & Les Leavitt      Polly Habliston  
Paula Mance              Nancy Ograin  
Katie Seaver

## Upcoming Events & Announcements

**July 18th - Linn Benton Beekeeping Assoc. Meeting**  
Ellen Topitzhofer from Oregon State University, "The Attack of Varroa Mites and How Beekeepers Can Fight Back".  
**Location:** Corvallis Waldorf School, 3855 NE Hwy 20  
<http://ww.lbba.us>

**July 20th - Friday in the Apiary, "Bee Beard Day"**  
Learn about bee pheromones while having fun with bee beards!  
**Location:** Oak Creek Center (OSU Apiary) 3:00 -5:00 pm  
Sign up to receive notifications at:  
<http://extension.oregonstate.edu/mb/blog>.

**July 18th - Ohio State University Bee Lab Webinars**  
Alex Zomchek, "What and When you do (or don't do) Matters!" To Join a webinar, follow the link below and log in as a guest at about 8:55 EASTERN the day of the event:  
<http://go.osu.edu/theOSUbuzz>.

You can also review all webinars at a later date at  
<https://u.osu.edu/beelab/courses/>.

**July 25th - Central Coast Beekeepers Assoc.**  
Nick Van Calcar, Van Calcar Apiaries Inc, will discuss sanitation and nutrition for your bees from the commercial side.  
**Location:** OSU Ext, 1211 SE Bay Blvd, Newport  
<http://www.ccbaor.org/>

**Aug 5th-8th - Western Apicultural Society Conference & Annual Meeting**  
**Location:** Boise, Idaho  
For more information:  
<https://www.westernapiculturalsociety.org/>

**Aug 18th - Oregon Honey Festival**  
**Location:** Ashland, Oregon  
For more information:  
<https://www.oregonhoneyfestival.com/>

**Sept 15th - Tom Seeley Event**  
**Location:** TBD somewhere in the Portland area  
**Cost:** Early Bird by Aug. 15th \$40, after the 15th \$50  
**Sponsored by:** Portland Urban Beekeepers Assoc.  
For more information:  
<https://portlandurbanbeekeepers.org/seeley2018/>

**Kelly's Beekeeping Website: "Lane County Hiveways"**  
Follow Kelly as she does her inspections, observations, and other beekeeping activities.  
<http://lanecountyhiveways.com/>

**Florence Garden Club**—visit their Facebook page at  
[www.facebook.com/FGCOR](http://www.facebook.com/FGCOR).

## Upcoming Free Webinar Why Care About Propolis? July 19, 2018 3:00 pm to 4:00 pm PDT

Every beekeeper at one point has dealt with propolis. Whether you have had it stuck to your gloves, suit, or clumped on your hive tool, propolis can be a nuisance. Where does it come from? Why do bees produce so much? Why should beekeepers care?

Our expert guest panelist, Marla Spivak, will enlighten us on where bees collect this resin, how it benefits our colonies, and how beekeepers can encourage the production of propolis in their bee hives. Marla's research and focus on propolis through the Bee Lab at the University of Minnesota is helping beekeepers understand the health and immunity system of honey bees.

After registering you will receive a confirmation email containing information about joining the webinar.  
[Click here](#) to register.

Sponsored by: Bushy Mountain Bee Farm

## Volunteers Needed – Lane County Fair Sunday July 22nd

Looking for two volunteers to help with hosting/security on Sunday, July 22nd from 5:00 pm to 8:00 pm. LCBA will have a display booth with the grange displays located in the Wheeler Pavilion at the fair grounds. All participating granges and LCBA provide hosting/security during the fair. By helping out you will receive a free pass to the fair. Attend the fair then be a host.

If you would like to volunteer contact Ken Ograin at 541-935-7065, [woodrt@pacinfo.com](mailto:woodrt@pacinfo.com).

## Master Gardener Fall Festival Volunteers Needed

**Date:** Saturday, Sept. 22th, 10:00am-4:00pm  
**Location:** Emerald Park Recreation Center, River Road Park, 1400 Lake Drive, Eugene

Looking for volunteers to help out at the LCBA booth. This is a fun event and we are indoors. If you can help out please let me know.

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

## Lane County Fair

The Lane County Fair is July 18th - 22nd. It's not too late to enter your honey or wax into the fair. Complete the entry form and drop it off with your entries on Monday, July 16th, noon to 7:00 pm at the Wheeler Pavilion. There will also be forms available at the pavilion if you cannot print out the form.

Francis Rothauge has volunteered to take entries to the Fair for members wishing to participate (see Pam's president's message) .

[Click here](#) for entry form.

### LCBA to Award Fair Entries

LCBA will be awarding the first place winners a premium of \$10 for each category, except Class 01 and 08 will be combined.

## Oregon Master Beekeeper Scholarships

The deadline to turn in scholarship application is July 23, 2018 for the Oregon Master Beekeeper Apprenticeship 2019 Program.

To be considered for a scholarship, you must be accepted into the program and complete the LCBA scholarship form. To learn more about the program visit their website:

<http://extension.oregonstate.edu/mb/>.

If you would like more information or to apply for a club scholarship please contact one of the committee members.

Scholarship Committee:

Katharine Hunt 541-607-0106 [keehunt@gmail.com](mailto:keehunt@gmail.com)

Pam Leavitt 541-344-4228 [pamseaver2000@yahoo.com](mailto:pamseaver2000@yahoo.com)

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

## Oregon State Fair

**Date:** Aug. 24th-Sept 3rd

**Location:** Oregon State Fairgrounds, Salem

Think about entering your honey and wax products into the state fair. The following link is to the honey handbook that has all the information on entering products of the hive. Three one pound queenline glass or plastic jars are required. LCBC would like to see our members enter their products.

Honey & Products of the Hive Competition Handbook:

[https://oregonstatefair.org/wp-content/uploads/2018/05/2018-Honey\\_Products-of-the-Hive-v0514.pdf](https://oregonstatefair.org/wp-content/uploads/2018/05/2018-Honey_Products-of-the-Hive-v0514.pdf)

### Welcome New Members

Carl Chieffo Junction City

Erik Groomer Eugene

## Extractor Information

Extracting time is here. The club has seven extractors with hot knives for use by its members. Six are manual and one is electric. These are on a reserved use basis. Please limit your use to no more than three days, and always clean the extractor before returning or passing along to the next member. 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. The manual, three-frame units are the easiest to use and to transport.

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

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

Springfield - Justin Boe 541-214-2614

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

Elmira - Ken Ograin 541-935-7065

Creswell - Amy Sierzega 541-505-4033

The only electric unit is located in Springfield and is a four frame. It is heavy and you will need a truck to transport it. Call Kaylene Stewart 541-743-3925.

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



## July Beekeeping Tips by Chuck Hunt

1. The honey flow has ended and the blackberries are in the berry stage. Make sure that any remaining honey flow from other sources has room. Put supers on as necessary, but it is late so you need not have lots of empty supers on your hive now.
2. Make sure that the bees have a supply of water nearby for the hot weather days when they need to cool their hives. Bees transport a considerable amount of water to cool their hives and it needs to be clean and from a nearby source.
3. Also, the hives need some ventilation in order to cope with hot weather. Small openings, even as small as a toothpick under the hive lid and perhaps a crack or two between boxes will help the bees keep their hive cool and productive. As long as a honey flow is on and there are not too many yellow jackets around, small ventilation openings in the hive are helpful, not harmful, during warm weather.
4. It is time to begin to prepare for honey extraction. Get your extractor clean and uncapping knife ready. Honey that is mostly capped and is at least 18.2% moisture level is ready to extract. Most early honey is easily within this range now even if it is not capped over. Make sure that all of your super removal is done before you need to put on medications (by August 15).
5. Pick out a method of pulling the honey off your hives that is appropriate for the number of hives you keep. Smoking and brushing bees off combs works for beekeepers with one to five hives. If you choose this method, work slowly and be gentle with the bees. They will usually react well, especially if you brush them off in front of the hive.
6. If you have more than five hives, you may want to think about escape boards or fume boards as a removal method. Make sure that, whatever method you use, the equipment needed is in good shape and ready when you need it. Use caution when removing honey. Cover honey supers that have been removed to avoid robbing.
7. Honey supers may become the object of attention from wax moths. Be careful about storing supers for over a few days in the warm weather of late summer. This weather will allow wax moths to attack your combs. Combs can be placed in a freezer to kill wax moth eggs and eliminate the danger.
8. Taking honey off the hives and extracting is hard work. Make sure to take care when lifting boxes of honey that you do not injure your back. Also, watch yourself for signs of overheating and dehydration when you take honey off the hives. Drink lots of water and give yourself time to cool off.

### Avoid Heat Exhaustion While Working Your Bees By Judy Scher

With the hot weather already upon us this month it's time for a reminder about avoiding heat exhaustion. Here are things every beekeeper needs to know and have on hand in the hot weather:

Always stay hydrated before and while working bees in the hot weather. If you do not replace fluids in hot weather heat exhaustion may easily occur. If this happens, you need to take it seriously to avoid heat stroke. Your summer inspection tools should contain the following:

- A container with ice
- 1 gallon of water (yes, a GALLON!)
- Sports drinks and/or electrolyte tablets (you can purchase these at REI or at a drug store)
- A cool wet cloth to wrap around your neck while working hives
- Your cell phone in your pocket

If you get flushed in the face and your heart rate increases, you feel dizzy or weak, close up the bees, drink ice water with electrolytes (or a sports drink with ice) while sitting in the shade for 15 – 30 minutes. The shade of your car will work, or your car air conditioner. If your symptoms don't decrease in 15 minutes pack up and go home. Do not continue to work the hives. Heat exhaustion, which may lead to heat stroke, isn't worth it. You can always work the bees the next day!

## June Meeting Highlights

### Announcements:

- LCBA extractor list is in the newsletter.
- Barbara Elliott thanked LCBA for their support during her time of need.
- Scholarships available for the Oregon Master Beekeeper program for the 2019 year.
- Pam encourage members to enter their honey and wax products in the Lane County Fair.

### Presentation: “What’s Bugging My Bees”, Speaker: Pam Leavitt

Pam started out by talking about what is contributing to the decline of the honey bee population. The major culprits are pests and diseases, lack of forage with diverse plant life for good nutrition and indiscriminate use of pesticides. Bees are under attack from varroa mites, tracheal mites, viruses, bacterial and fungal infections and pesticides.

The major threat is the varroa mite. Pam explained the varroa life cycle and how they multiply in the hive. One of the problems with large mite infestations is that it creates a hive with learning disabilities. The impaired bees will exhibit a reduced return rate to the hive, which will impact honey yield. In addition, the viruses that are vectored by varroa cause major issues for the bees. One of the best-known viruses is Deformed Wing Virus. These bees have crippled wings and can not fly and they have shortened abdomens. They demonstrate a loss of their normal social behavior, such as grooming, queen attendance and cell cleaning. Parasitic Mite Syndrome occurs when the hive has a major varroa infestation. Inspection will reveal spotty brood pattern and dead larvae which will not rope out when stirred with a matchstick/toothpick. The dead larvae may be discolored due age, decomposition or secondary bacterial infection.

Beekeepers must monitor their varroa levels and keep the hive below the economic threshold. Pam suggested all members log onto the club website, [www.lcbaor.org](http://www.lcbaor.org) to read the “Tools for Varroa Management” and to view the supporting videos to determine the best product to use to treat their hives.

Pam talked about nosema, both *Nosema Apis* and *Nosema Ceranae*. To determine if the hive is infected, it is necessary for the bees to be examined under a microscope to look at the midgut. OSU honey bee lab will provide the testing for these, but it is important to call 541-737-5440 to get instructions on how to prepare your bees prior to sending the sample to the lab.

Tracheal mites live within the trachea, or breathing tube, of the bee. Visualization of the trachea is necessary to determine the presence of this mite. K-wing is a symptom of this issue and the use of grease patties in the hive, all year, is a preventative measure beekeepers should employ. The recipe for making these patties is on the club website.

Additional pests are wax moths, yellow jackets and bears. Pam covered how to deal with each of these. The brood diseases that all beekeepers need to be aware of are American Foul Brood (AFB), European Foul Brood (EFB) and Chalkbrood. AFB is a bacterial disease that is highly contagious and smells foul. All equipment must be burned to destroy the spores that can remain active for 70 years. EFB is a bacterial disease that does not form spores. Colonies can recover by themselves and the disease may disappear with the nectar flow. Requeening may break the brood cycle and allow the colony to remove the infected larvae.

Chalkbrood is a fungal disease that is most often seen in spring. It is common, not serious and colonies will recover. It is recommended to remove the mummified carcasses from the entrance board and ground in front of the hive.

Healthy bees need fresh nectar, pollen and water for survival. Pollen is the major source of protein for the colony. A newly hatched adult worker bee will first eat nectar, then seek out pollen to begin the process of building up her body protein level. By day five, her brood food glands and fat body are fully developed and she can then produce royal jelly. She only then consumes pollen if needed for the brood rearing or to fatten up for winter. Fat bodies are needed for winter bees. Vitellogenin is a protein that is essential for producing fat winter bees.

In conclusion, Pam said: “My poor bees are under attack by bugs, fungus, viruses, diseases, and undernourished. Beekeepers must be attentive to what is occurring in the hive to help the bees fight off the attackers. Beekeepers must ensure adequate sources of nutrients in late summer as fat bees are essential to survive the winter. Please take care of your bees, they need our help.”

## Early Educational Meeting: Honey Extracting by Ken Ograin

### Getting Bees Out

Tools that can be used to get bees out of the honey supers are: a bee brush, bee escape (reduces number of bees in the air), fume board (to drive bees down), and a bee blower (not recommended by Ken.)

The bee brush method is the least expensive if you have one or two supers to extract. Give the frames a sharp jolt over the entrance and use the brush to get the rest off. The only problem with this method is having a lot of bees in the air, which can be troublesome with neighbors. Then place frame in an empty super and cover the honey frames with a damp towel.

There are a few different types of bee escape boards you can use; cone, triangle, and porter. The cone and triangle types work well. The porter method eliminates almost all of the ventilation into the honey supers, which will kill a lot of bees due to hot weather. If you do this method, put it on late in the day, and remove it early the next morning. Don't leave it on longer than 24 hours. The triangle board is like a racetrack or maze. The bee goes into the maze which leads to the brood chamber and can't make their way back up. In the cone method, the bees go through, but can't figure out how to go back. Leave the boards in at least 24 hours with these methods. You will not, however, be able to get the drones out.

If using the fume board method there are a few types of repellents you can use; Bee-Quick, Bee-Dun, and Bee-Gone that are good to use. There are two types of acids, Honey Robber and Bee-GO, which are not recommended (the acid smell can permeate your clothes, and if you use too much, it can affect the honey.) This method takes 20 minutes to one hour depending on temperature and works best during heat of the day.

After you get the bees out of the honey supers, the bottom brood chamber will be quite full, as you have removed a lot of their living space. You may notice the bees bearding on the front to get heat out of the hive, but reducing the hive space size will not hurt them.

The bee blower method uses a leaf-blower type machine to blow the bees off the super. Not recommended for urban beekeepers.

It is best to extract the honey on the same day that you remove the supers, but if you cannot, then store them in a bee tight warm area. The best thing to do is to store them in a freezer if you don't extract right away due to wax moths. If you store the supers in a cool area, and try to extract later, the honey will take forever to spin out.

### Ways to Get the Honey Out

The extractor is the best way to get liquid honey. You will need a hot knife and a bucket. A bucket with a pour gate at the bottom is best as it makes it easy to bottle the honey. Being a member of LCBA allows members to use the club extractor. This method also saves the comb for the next season. Other tools you may need are a tank for wax cappings, wet cloth (100% cotton) to wipe the hot knife off on, frame drip tank, knife and scratcher, and filters. A five gallon paint filter cloth works great and fits nicely in the bucket.

You can use a plastic rectangular tub for the wax capping. Line it with bridal veil material (very cheap), and place a piece of wood across it with a nail sticking up to balance the frame on for uncapping. Always lean the frame towards you as you uncap, so that the cappings fall in your bucket or tank and not back on the frame.

Strain your honey as you extract it - doing it later takes much more time. Get three round industrial bucket strainers; 600 micron, 400 micron, and 200 micron. Cut circular pieces from a 5 gallon bucket to use as spacers so that you are able to be stack the strainer on top of each other, from 200, -400, - 600. You can get them from an industrial supply store or Amazon has them. GloryBee sells stainless steel versions. The plastic ones are inexpensive, only \$5-\$6 each. Be sure to have a bucket of warm water to clean your hands nearby as you will have honey everywhere. Ken recommends wearing surgical gloves.

### Extracting Process

Extract all the full frames or mostly capped frames first. Use a new pail to extract the partially capped frames, and then check the moisture content with a refractometer. Dry the honey if it's above 18.2% water. This is because the late nectar may not be completely evaporated as the bees have not finished it yet. Any frames that are not capped at all should be

**Extracting continued**

fed back to the bees, or extracted in a separate pail to put in a feeder later. Do not store uncapped frames with nectar, as they will ferment and become toxic to the bees. You can freeze those frames.

As you extract balance the frames and keep the honey gate open. If using a tangential extractor spin first side at slow speed, then reverse, and then you can begin to speed it up. Then spin out the first side again. The club's extractors are the tangential type. Let your honey sit for at least 24 hours before bottling.

**After extracting**


If you want the bees to clean up the frames, put them back on the hive above an inner-cover and leave only for a couple days. The bees will go up and remove the honey. Don't put the frames out for bees to clean up, as this attracts yellow jackets and ants, and encourages robbing.

Store honey frames in tubs, plastic, or honey boxes. If you use tubs be sure to plug the holes in the handle areas. Freeze the frames for two days to kill wax moth eggs, or use para-moth. If para-moth is used, air out the frames for a couple days before putting them back in use.

If you freeze the frames, allow them to warm to room temperature before storing in bags or tubs, as the frames will sweat. Scrape any excess wax from the frames. Also scrape the boxes of wax, then wash with soap and a light bleach water solution, and store.

**Clean Up**

Extractor clean up is easy if you clean it right away. Remove the wing nuts on the lip to remove the lid and open up the gate. You can use a garden hose to rinse it out and let the extractor drain over night. If you are unable to clean up right away, you will need to remove the basket and cover the ball bearing. You can cut a finger off a rubber glove and place it over the spindle where the ball bearing is so it doesn't get wet. There is food grade grease on the bearing. If the bearing gets lost be sure to let your extractor host know so they can replace it.



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## Trifecta Event in Hood River by Rick Olson, LCBA Member

Hood River had their Trifecta Event back in May and Rebecca and myself were lucky enough to attend. Tom Seeley and Allison McAfee were the key note speakers.

Allison is doing some amazing research on honey bee hygienic behavior--a form of social immunity. Hygienic worker bees detect sick or dying brood and remove them from the hive, protecting the colony. A handful of genes involved in the sense of smell are tightly linked with this behavior and her thesis revolves around finding the functional relationship between these genes and the behavior.

Bees use their sense of smell to determine the health of a cell. Infected brood releases unique pheromones that can induce hygienic behavior for AFB, EFB, chalkbrood, varroa, etc. Allison calls these necromones. She's found that beta-ocimene indicates a pupa needs food (so is starving in capped cell), oleic acid indicates pupal death and a mixture of these two induces the strongest hygienic behavior from nurse bees. Odorant binding proteins on bee antennae are stronger on hygienic bees implying that there are molecular mechanisms for these complex behaviors. She and her team have measured antennae proteins to determine mite resistance. They have analyzed 72,000 antennae and found 9 proteins that indicate hygienic behavior and 4 proteins for grooming behavior. Varroa sensitive hygiene and grooming are better for fighting mites than placing chemicals in the colony. The presence of these biomarkers can be used for breeding healthier bees. Bees can be tested for these proteins giving hygienic indication immediately.

Her research has also found that autodopamine stimulates the sense of smell in honey bees and make them more hygienic.

Allison also gave us a class on testing hygienic behavior using liquid nitrogen to freeze-kill brood. After freezing a two inch section of capped brood the area is checked 24 hours later to see how many cells have been cleaned out. A 90-95% score indicates that these bees are hygienic.

Tom Seeley gave us an overview of the complex feedback mechanism when you consider the colony as a honey factory. Colonies are made up of three age groups of bees: nurse bees, food storers and foragers. Various "dances" are used as the communication between them. Foragers and storers coordinate between each other with waggle dances, shaking signals ("shake to wake"), tremble dances and "beeps".

Foragers sleep at night and in poor weather. Some foragers go out on their own without being motivated by a dance. Early waking foragers return and wake other foragers with the shake to wake dance. After that the waggle dance is used to communicate direction and distance to honey and pollen sources. Each waggle dance recruits more foragers.

Another dance that was first observed in 1920 is the tremble dance. It remained a mystery till 1990 when it was determined that it is used to recruit more storers as more and more nectar is brought into the hive. When the hive has reached its requirement of nectar tremble dancers will "beep" when they run into a waggle dancer. After 10-20 beeps waggle dancers will stop their dancing. This completes the feedback loop that controls the forager/storer interactions of the hive.

Some other interesting facts that Tom mentioned:

- Scout bees will make a beeping sound for ~30 minutes before swarming.
- In experiments when robot bees are used to determine if bees can be artificially induced to forage a particular site they will be attacked.
- 1600m (~1 mile) is the median flight range of foragers (50% of foraging area).
- 6000m (~3.75 miles) total range.
- Beekeepers are promoting the spread of viruses like an Ebola epidemic due to the closeness of hives and concentrating hives in central locations like the almond orchards of California.
- Typical drone comb will be ~18% of brood.
- A swarm box should be at least 300' from swarming hive.

*Tri fecta Event continued***Creating an Environment of Evolutionary Adaptedness (EEA) - Tom Seeley**

Characteristics of wild colonies:

- Under current circumstances colonies are not genetically adapted (queens come from Hawaii, GA, CA, etc), but with an environment of evolutionary adaptedness they are.
- Wild colonies ~1km apart.
- Wild colonies have small nest cavity equal to about the size of one deep.
- They swarm freely.
- Nest cavities in the wild are coated with propolis.
- Wild bees draw drone comb freely.
- Nest entrances in wild ~25' above ground--apparently to prevent bear predation.
- They have diverse sources of pollen.
- Colonies not treated.

These bees make less honey but survive.

**Darwinian Beekeeping**

From Tom Seeley's studies in the Arnot Forest he has come up with a theory of Darwinian beekeeping (evolution by natural selection survival of the fittest).

- Unmanaged bees are the best beekeepers--everything they do is to the best interest of the hive.
- These colonies in the Arnot Forest are infested with Varroa but they are survivor bees.
- These queens have different genetics than the queens that commercial beekeepers have developed.
- Darwinian beekeeping is an option for small scale rural beekeepers.

Suggestions for Darwinian Beekeeping:

1. Keep bees adapted to location (rear own queens, capture swarms, buy local queens).
2. Use small hives. Start with 5 frame nucs.
3. Space colonies as wide as possible (less drift) or else they may become mite bombs.
4. Line hives with propolis screen. This acts as an antibacterial shroud.
5. Provide most resilient (lowest mite count) colonies with 10-20% drone comb.
6. Keep nest structure intact--no reversing of brood boxes.
7. Use small bottom entrances (~2") with 1/2" mesh to keep mice out. Don't use top entrances. Bees get H2O in winter from condensation.
8. Don't disturb in winter--no feeding, inspections, etc.
9. Refrain from treating for Varroa.
  - Requires super diligence, but you must monitor mite levels.
  - If mite levels get too high pour warm, soapy water into hive at dusk. This does two things: Eliminates non-resistant colonies and avoids mite bombs.



## The “Added Sugars” Issue of Honey Nutritional Labeling

by Dr. Dewey M. Caron

Do you know what is in the foods you eat? Most of us are only vaguely aware. Nutritional labeling, mandatory on many foods, can help lead to a better understanding. Do you find that nutrition labels on honey jars better inform you of your dietary choice?

Oregon, like many states, requires some specific wording on the label, including a nutrition label. Do you know the Oregon honey labeling requirements? Most do not. Thankfully, most backyard Oregon beekeepers are exempt from licensing and inspection, although honey labels are still subject to product labeling requirements. This exemption is courtesy of the Farm Direct Bill. It states if a honey producer has 20 or fewer colonies and only sells direct to the consumer or wholesale, his/her honey registration is not required. But beekeepers need an exemption from Oregon Department of Agriculture (ODA). This simple exemption form is on their website at:

<https://www.oregon.gov/ODA/shared/Documents/Publications/FoodSafety/HoneyProcessorsExemptionForm.pdf>

Honey labels may soon be subject to a significant change. Honey producers and maple sugar producers were surprised to learn that new proposed 2020 U.S. Food and Drug Administration (FDA) nutrition labeling would mean they would need to add the words “added sugar” to their honey nutrient label.

The FDA is now taking another look at proposed nutritional labeling rules after an uproar from the maple syrup and honey producers who say that the new labeling would mislead consumers into thinking sugar is added to the natural sugars in honey and maple syrup. The nutrition label changes are part of a 2016 campaign to educate consumers about excess sugar in our diet. Honey of course doesn’t have any “added sugar” so why would a honey label have to have “added sugar”? It turns out that in FDA ‘speak’, added sugar means *sugar added to our diet* in excess of what is nutritionally appropriate. They don’t mean that “added sugar” is *sugar that is added to food*. Does this sound strange? It turns out this language change would be necessary because the FDA deemed honey as not “nutrient rich,” like other naturally sugary foods, which do not need the wording “added sugar” on their package labels.

However, rather than change this unusual interpretation, FDA, in a draft guidance released this past February, proposed that pure, single-ingredient maple syrup and honey could have a footnote added to their labels that their sugars were naturally occurring. But the wording “added sugar” would still be required.

FDA advertised a six month comment period on the footnoted label proposal. The American Honey Producers and American Beekeeping Federation alerted members to provide comments. Oregon State Beekeepers Association did as well. By the mid-June deadline period over 3,000 comments were sent to FDA. Both beekeepers and maple syrup producers pointed out that their products were not like foods that added sugar for taste or consumer appeal. Many felt this compromise might be confusing and misleading and might erode consumer confidence in their pure, natural products.

According to a press release of June 19th the “FDA recognizes the complexity of this issue and is grateful for the feedback it has received. The agency plans to take these comments into consideration to swiftly formulate a revised approach that makes key information available to consumers in a workable way....The agency looks forward to working with stakeholders to devise a sensible solution.”

So dysfunctional as Washington is these days, we are left with only not much more than a promise of taking comments “into consideration”. The FDA gave no indication it intended to eliminate the requirement so “added sugar” might need to be included. We will have to wait and see....

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