



# CENTRAL COAST BEEKEEPERS NEWSLETTER

MAY 2017

ISSUE NUMBER 14

NEXT MEETING MAY 24, 2017

## PRESIDENT'S MESSAGE

**Rick Olson, Club President**

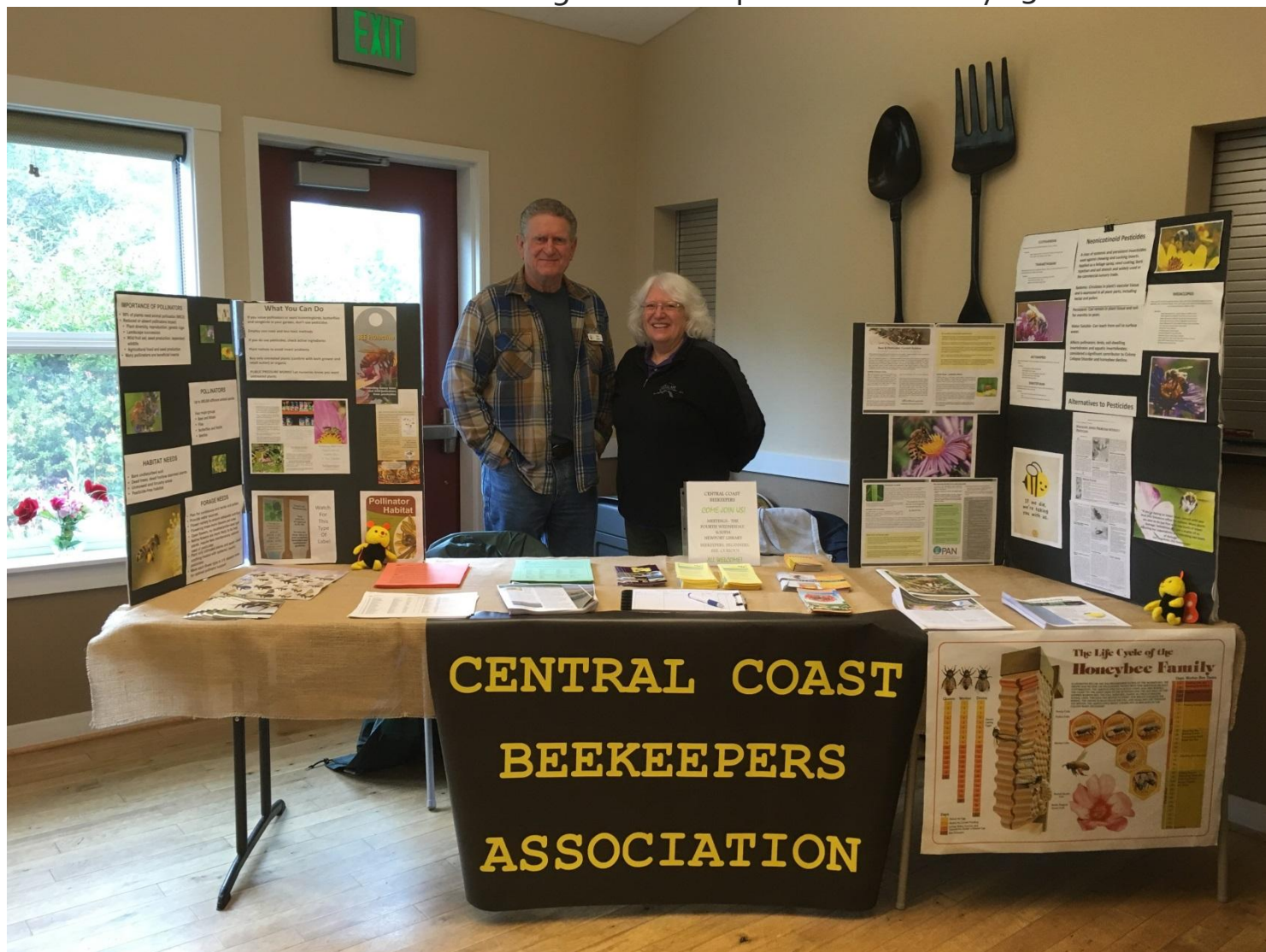
### **Greetings Central Coast Beekeepers--**

Well, we finally had a few days of sun and took the opportunity to do a full check of the hives. There were some strong ones and others needing some TLC. They're taking syrup and pollen substitute. Becca's NUC is really strong--thanks, Stan. We checked the package after 10 days and got scared--couldn't see any brood. We let it sit for four more days on Max's suggestion and low and behold eggs, larva and capped brood. Patience is the key sometimes.

Ramesh Sagili spoke at our April meeting. He covered the major challenges of beekeepers--pest/parasites/pathogens, poor nutrition, pesticides, genetic diversity and transportation stress. We're lucky to have such knowledgeable educators just up the road in Corvallis. Speakers for the rest of the year will cover all aspects of beekeeping. Some of the topics include nutrition, varroa and integrated pest management, swarming, reading frames and "natural" beekeeping. Toward the end of the year we will be doing a hands on demonstration and actually make some "Products of the Hive". Carolyn Breece from OSU will be talking on integrated pest

management (IPM) at our May meeting. This is the perfect time to start watching your hives and becoming familiar with these invaders--bees are building up and of course, Varroa will be showing. Even if you don't treat you should monitor these pesky mites. Carolyn will be covering all aspects of keeping your bees healthy.

We manned a booth at the Florence garden club plant sale on May 13th.



Thanks Becca, Anne and Max.

We also had a booth at the master gardener plant sale in Newport on May 20<sup>th</sup>. Thanks Kathy, Anne, Pat, Gaelyn, Marion, Becca, Adam and Patti who fielded questions and promoted the club throughout the day. I really big shout out to Adam, as seen in the picture below, who manned the Observation Hive all day and did a stellar job of interpreting beekeeping and bees to the tons of folks who stopped by to view the inside of a hive!



These 2 events garnered the club a list of 25 folks who were interested in finding out more about us and about beekeeping. We'll also be working the Connie Hanson Garden Festival in Lincoln City on June 17<sup>th</sup> from 10:00-2:00 and hope to see some of you there.

Kathy, Patti and Jon have put together a basics introduction to beekeeping class that will be held on June 21<sup>st</sup> from 6-8 pm at the Newport Library. See the information for the presentation below and please share it with any of your friends, family or associates who have asked you about becoming Beekeepers. This should be very helpful in determining if Beekeeping is the right fit for them.

**NEXT MEETING –May 24, 2017**

**6:30 pm at the Newport Library**

**PROGRAM**

Carolyn Breece from OSU will be talking on integrated pest management (IPM)

**6:30pm – 8 pm**



# TO BEE OR NOT TO BEE

Are you thinking about raising honey bees?

Does the thought of 🐝 communing on 🐝 a daily basis with thousands of stinging insects 🐝 just 🐝🐝 make 🐝🐝 you quivery all over? 🐝

Does your mouth start watering at the thought of all those jars of golden honey lining your shelves? 😊

Then we have a class for 🐝YOU🐝 !

Come learn about the things no one ever tells you when they talk about getting into beekeeping... followed by the ever popular

## Dumpster Divers' Guide to Beekeeping

From an experienced beekeeper and avid DIYer, learn how to cut costs by making 📦, trading and 💰 scrounging your equipment. 💰

**WHEN: June 21, 2017, 6:00-8:00 pm**

**WHERE: Newport Public Library**

**All for the low, low price of absolutely nothing.**

Sponsored by the Central Coast Beekeepers Association.

## Keeping Bees in May

*By Lynn Royce*

Beekeeping in the Pacific Northwest during the month of May has a lot to do with what happens in April. When colonies swarm in April, they have time (May and early June) to rebuild their workforce and be prepared to glean the best nectar flow to make stores for winter. There are swarms in May, and if April is too cold and wet, May can be a major swarm month.

The old ditty—a swarm of bees in May is worth a load of hay, a swarm of bees in June is worth a silver spoon, a swarm of bees in July is not worth a fly--somehow does not and never did work for Oregon. If a colony swarms here in June, it is less likely to survive winter without help. May is still a month where it is critical to support your colonies and prevent swarming. If the colony does not swarm, it may be strong enough to not only get through winter but also make a surplus of

honey for the beekeeper.

Swarming is the reproductive event for honey bees. Like any reproductive event, there is a lot of uncertainty. When a colony of bees swarm, the bees that stay in their old home must raise a queen and she must successfully mate and return to lay fertile eggs for that colony to continue. Raising a queen from an egg to a laying queen is a time-consuming event. There must also be time for the new queen to produce enough progeny so that there will be the foragers to collect winter stores and raise the bees to become the overwintering workforce that will keep the queen warm and fed until flowers return in spring. The swarm must find a new home, find food in the new location, and construct comb, so that their queen can restart her egg laying that will produce the workforce to collect winter stores and raise the progeny that will be the winter bees. It is easy to imagine how one or both of these colonies might fail. Swarming becomes an issue because it increases the likelihood of losing the colony. Swarm prevention requires an understanding of honey bee biology, especially their individual life cycle and their colony life cycle. Remember, swarming is a strong instinct and to be late with any preventive manipulation will probably result in swarming and perhaps loss of the colony left behind.

The queen in May is laying 1-2,000 eggs every day averaging 200,000 fertilized eggs plus a few unfertilized eggs during the laying season: March through October or November. The most-intense egg production occurs over spring and early summer. She is fat and heavy, and cannot fly.

Because the bees maintain a constant temperature within the brood nest, development is very constant. When a colony is raising lots of drones, the colony is thinking of queen mating and swarming. Lots of drones can also be the result of a laying worker. Look at the brood. There should be eggs, larvae, and pupae; drone brood should be separate, usually in the corners and top of the comb. Old frames can cause confusion, having larger cells or drone brood more randomly distributed over the frame if bees had to repair the comb. Laying workers often lay several (3 or more) eggs per cell and their abdomens are short, so most eggs are on the sides of a cell. This problem can only be turned around near the beginning of laying by a worker, and the only remedy that I have seen that works is the introduction of 1-2 brood frames with eggs and young larvae from a queen-right colony.

Back to the swarm event. If the queen is to fly off with a swarm, she must first lose weight. So, when the colony decides that the time to swarm is near, they stop the queen from egg laying a week or so before they expect to depart. This means that in 3 days there will be no more eggs in the colony and in 6 days all the larvae will be 3 days old or older. A larva at 3 days old can no longer become a queen. Before the queen is stopped from laying, the workers have been busy making queen cells (called swarm cells). The cells are usually placed along the lower edges of combs; for beekeepers, this is the bottom bar of a frame in standard Langstroth equipment. Eggs are laid in these queen cells over several days, so the larvae in these cells differ in age. There can be only a few of these cells or many. I have counted as many 50 in a single colony. The first queen to emerge from one of these cells will begin to kill the other queen pupae. Usually some are missed so multiple virgins may exist in a colony during this time. Some are killed during battles between virgin queens, but in my experience never all.

Just before these queens begin to emerge, the colony will produce a "prime" swarm including

about 20-30% of the workers. When conditions are right, the workers coax the old queen out of the colony. The colony is now left with mature queen cells, some older larvae, and capped worker and drone brood. When virgin queens emerge, they need 3-4 days development time (cuticle hardening and muscle development) to be able to make mating flights. A virgin queen may make 1-2 flights to mate. After mating, she needs another 5-7 days to get the sperm into her spermatheca and develop her ovaries. When she does start to lay, she will begin slowly. Her first laying pattern will only be a small areas of eggs. This colony, even with the newly mated queen, will not make excess honey and may need to be fed to have enough stores for winter.

"After swarms" may occur when several virgin queens have emerged a few days before the prime swarm leaves. When the prime swarm has left, one or two of the virgin queens can leave the colony with a small number of workers. The function of after swarms has never become clear to me. Sometimes when more than one colony swarms at the same time in the same apiary, the swarms merge into a larger entity and will contain more than one queen.

After the colony swarms, a virgin queen must go on mating flights and return. Mating flights are hazardous for these small insects. Weather in spring is unpredictable and many predators (birds and other insects) are also flying, searching for prey. If the virgin is killed by bad weather or eaten, her colony will be queen-less and without the resources (young open brood) to rear another queen. If the beekeeper has only the one colony, they are faced with starting over next year. Queens can be mail ordered. But it takes time and an already queen-less, broodless colony does not have time. Currently, there are more local queen rearers, so the possibility may exist to get a mated queen quickly; generally though it can take at least a week or more for an ordered queen to arrive. Re-queening in this situation is difficult since the colony has few young bees and no brood. Older worker bees are not likely to accept the new queen. Timing is also critical. A new queen needs 4-6 days in her introduction cage before she can be released. Longer is better because these are older bees and the probability of acceptance is already low.

If you have more than one colony, you can use open brood from a queen-right colony to maintain the colony that swarmed. They can rear a queen from young brood if there are larvae less than 3 days old; however, time is against this being successful. So, how does one prevent swarming?

Swarm preparation begins when space in the colony is reduced and bees are crowded. Adding space can reduce the urge to swarm. One way to start before every cell is full of brood, honey, and pollen is a technique called checker boarding. This is taking empty frames and placing them between frames of honey and pollen. Start with empty frames on the outside edge of the box or super. If you remove frames, you will need a place to store these honey and pollen frames. Freezer space would be my recommended option. A second colony in need is another good option. It is a good idea to leave the brood nest alone. If the queen has no place to lay, an empty frame can be put into the brood nest for her to lay in. Another tactic to add space is to place a super with empty frames above the brood nest.

This is a good month to make new colonies or splits, basically artificial swarms, where frames of bees are transferred from a strong colony to another box making sure each box has some open brood. For the colony that bees and brood are transferred from, this would take the place of a swarm. The difference is you supply the newly mated queen for the split. Splits start by ordering or raising new queens. Two days before you expect new queens to arrive, make your split. You can use a nuc box (five deep frames is a standard nuc) or a single regular box. For a nuc, include two brood frames with lots of young bees if possible, an empty frame for the new queen to lay

eggs in, and two food frames with both pollen and honey. Brood frames should be centrally placed together so you can place your caged queen between these two frames, empty frame next, and food on the outside. These bees should be held queen-less for at least two days before introducing the caged queen. I have found the best success with queen acceptance happens if it takes the bees at least four days to release her. Make sure the candy plug is available to the bees in the nuc or single. Queen rearers generally put the correct amount of candy for a 4-day release. Even though you expect the queen to be released after four days, leave the unit alone for at least six days, then just check by pulling up the cage to see if she is released. If she is not, check the plug making sure it is open or nearly open, then gently put the cage back. If she is released and cage is empty (sometimes a worker or two may be inside), remove the cage but leave the colony alone. Bees are very nervous when they are queen-less even after a new queen is placed into the colony. Too much disturbance at this stage may cause the workers to kill her. Give them another week, and then check for eggs and young larvae, by now these will belong to the new queen. When you are checking for eggs, you can reverse one of the frames that held the queen cage so the bees will correct the devits left by the cage. Sometimes if the devits are together the bees will build a bridge of comb between them connecting the frames.

You can also cage the queen to stop her laying and thus reduce population build up. I have never done this, as I do not like to cage a laying queen that is producing 1000 plus eggs each day. I expect this tactic to be rather hard on the queen. I would never hold a laying queen longer than a few days.

May is a good time to re-queen. Have your new queens ordered before you start this process. A new queen is less likely to swarm. Most seasoned beekeepers will say, find the old queen (that you are replacing) and kill her. However, I would use a nuc and hold the old queen until the colony has accepted the new queen. In my early days of beekeeping, my re-queening acceptance rate was not 100%. If you only have one or two colonies and a new queen is not accepted but you have killed the old queen, do you have a backup plan?

As in April, feeding may be critical in May. The weather is still unpredictable, so watch your colonies closely. The bees are building population rapidly, and the colony may only be able to bring in just enough food to last a few days; if the weather prevents foraging, the colony will starve. It is always the biggest and best colonies that are lost when this happens. May is the time of year that can be good for collecting swarms. So, if you have nuc boxes, have them handy. The first person to the swarm usually gets the swarm. Keep in mind, early swarms will need full-size boxes soon. You must have equipment ready to transfer the swarm into, unless you want give the swarm away or sell the bees. Don't forget to feed the swarm.

May is the time of year when queen rearing in the Pacific Northwest can happen successfully. But it can also be cold, so I prefer to raise queens in a nuc box (5 frame) to be sure there are enough bees to keep a new queen or queen cell warm.

May is a good time to start checking for Varroa mites. There are several options for checking for mites and estimating their population. Probably the most common technique is the sugar shake. Use a pint jar with a screw-on ring and instead of solid top have a fitted screen (hardware cloth) with 8 squares per inch. Roll a sample of bees off the comb into the jar by placing the jar upright near the top bar and pressing the lip of the jar gently against the bees and move the jar in this position down the comb. The bees will roll into the jar. Be sure you find your queen and remove

her on the frame and set aside, preferably in a nuc box, before you take your sample. When you feel you have collected about 300 bees ( $1/2$ - $3/4$  cup of bees), place the screened lid on the jar. Add about a tablespoon of powdered sugar through the screen and shake the jar to coat the bees with the sugar. Then hold the jar upside down over a white or light colored tray or plastic container and shake to separate the mites from the bees through the screen. Water can be poured into the container to make the mites easier to see. If you have 3-6 mites in spring, the recommendation is to treat for mites; in fall, treatment is recommended if you count 6 or more for a 300-bee sample. There are several websites that will provide pictures and/or other methods of sampling. It is a good idea to follow your mite loads through the season whether or not you treat for mites. It is one more thing we need to understand our bee colonies better.

## **OREGON MASTER BEEKEEPER PROGRAM**

The Oregon Master Beekeeper Program is preparing for the 2018 apprentice class which will begin in January. If you are interested be sure to put your name on the waiting list at [www.oregonmasterbeekeeper.org](http://www.oregonmasterbeekeeper.org). The date a person's name is placed on this list helps determine whether or not they are accepted into the program.

CCBA is supportive of the program and will again offer scholarships for the 2018 class. Scholarships pay half of the registration fee upfront with the balance being paid to the recipient upon receiving their "Apprentice Certification" or finishing their Journey level. To learn more about the program visit their website: <http://extension.oregonstate.edu/mb/>

## **IMPORTANT NOTICE - Beltsville Bee Lab Has Staffing Shortage, Diagnostic Service on Hiatus**

Due to a staffing crisis, the USDA-ARS Bee Disease Diagnostic Service in Beltsville, MD will be on hiatus, effective immediately. The University of Maryland Bee Lab has graciously supported Mr. Samuel Abban as he leads this 100-year old program, but Samuel is now needed fulltime for a critical University project.

Every effort is being made to finalize the hiring of Samuel as a USDA employee so that he can continue this program. Please do not submit new samples until further notice. Samples in hand will be held in cold storage pending our ability to staff this program. In the meantime, the Bee Informed Partnership offers a paid service for analyzing colony loss samples, <https://beeinformed.org/programs/emergency-response-kits-2/>.

We are extremely sorry for this disruption and look forward to continuing this program as part of USDA-ARS efforts to help beekeepers. Please contact us regarding urgent needs. Jay Evans, Research Leader, USDA-ARS Bee Research Laboratory, Beltsville, MD 20705  
[jay.evans@ars.usda.gov](mailto:jay.evans@ars.usda.gov), 301-504-5143.



# Notes from Randy Oliver's Workshops in Hood River and Ruhl Bee May 20 & 21

by Rick Olson



Randy is the author of [ScientificBeekeeping.com](http://ScientificBeekeeping.com) and has 40 years of beekeeping experience as well as years of doing research on honey bees.

His perspective is that beekeeping is basic animal husbandry. Be attuned to your bees and they will tell you what to do--read the comb. His five maxims for working with bees:

- Keep your bees young and vigorous.
- Provide good nutrition
- Parasites and disease
- Minimize toxins
- Be proactive

Ninety percent of keeping your hives strong involves nutrition and managing parasites--primarily Varroa. The best way to monitor mites is the alcohol wash. Though it kills 300 bees this is insignificant as a thousand bees are dying every day in a healthy hive. Varroa levels above 5% usually succumb to viruses so treatment is critical. Phoretic Varroa mites generally prefer nurse bees but when their population gets high they will change their behavior and attach to forager bees. Mites from collapsing hives will show up in hives up to two miles away. If you see mites on your bees it's too late to save them so it's vital to monitor your mite levels. Randy also indicated that it appears that Varroa mite behavior is evolving so that there may be two mother mites in each cell. This is good for their survival but deadly for bees.

Pay attention to the band between the brood and capped honey. During the nectar flow bees may consume all the protein (bee bread) in this area. Bees prefer fresh pollen over stored pollen. Only nurse bees digest pollen which they convert to "jelly", the protein currency of the hive. Jelly is shared by

all bees in the hive from larva to foragers. Fresh pollen stimulates bees to produce jelly and the young brood pheromone stimulates foraging. Note that the colony population is a response to pollen availability rather than calendar dates or the solstice. Plants produce pollen when the temperature is greater than 50 degrees which is exactly the temperature when bees become active. Behavior evolved over 100 million years by the mutualistic partnership of plants and bees.

It was interesting to hear him say that bees immediately stop producing jelly when it rains. Here on the Oregon coast that is critical information and why we have to pay close attention to nutrition. He also mentioned that in California honey bees have been avoiding blackberries for the last few years. Our bees in Florence mysteriously avoided Himalayan blackberries last year though they have been hitting the trailing blackberries whenever the sun shines.

The spring "turnover" is the most difficult time for honeybees. This is the time in early spring when the winter bees die and they are replaced by the next generation. But remember as the brood builds up so does the Varroa population. When the brood nest becomes packed, nectar back filled to capped brood, brood pheromone will diminish and swarming will result. You should break the honey band at the top of the brood nest and add drawn comb so the queen has room to continue laying. An uncaught successful swarm may become a mite bomb the following year.

Watch for hive nutrition by inspecting the uncapped brood. Wet brood swimming in jelly indicates a good pollen supply. Dry brood indicates poor nutrition.

White comb on top of frames indicates nectar flow is on and it's time to add supers. This may also indicate that they are thinking of swarming.

Interestingly, Randy has observed very successful apiaries in the mid-west that are surrounded by thousands of acres of neonic treated gmo crops.

The bee population diminishes in the fall. There will be no brood pheromone so they begin to produce survivor bees (fat or winter bees). This usually starts just before the first frost. Now it's time to feed them. The gut of survivor bees is packed with pollen. They will typically consume about a pound of pollen substitute per week. The honey bee is the only insect that maintains a constant temperature of their nest all year round.

Some of Randy's words of wisdom:

On internet author's, "The more adamant their opinion, the less you should pay attention to them."

First year beekeepers: "It's bad to be successful the first year of beekeeping."

Successful beekeepers: "Successful beekeepers are not the ones talking about how good they are, but the ones that have too many bees every year."

## ***Do you own 5 or more colonies? Its renewal time for 5 or more colonies. New apiary registration guidelines are now in place. Register now to avoid a late fee!***

The following annual apiary registration fees are established by authority provided in ORS 602.090: Every person who owns or is in charge of five or more colonies of bees located within this state must register the colonies with the Department of Agriculture. Each registration shall be accompanied by a fee, which shall cover each colony of bees owned by the registrant.

1. For registrations made before June 1 of each year, the annual registration fee shall be \$10 per registration and \$0.50

per colony.

2. The number of colonies that must be registered shall be based on the high number of full strength colonies managed

within the state of Oregon at any time during the previous year.

3. For registrations made after July 1 of each year, the annual registration fee shall be \$20 per registration and \$0.50 per

colony.

All moneys collected pursuant to ORS 602.090 shall be spent on pollinator research that is predominately focused on honeybees.

**For registration information go to**

<https://apps.oregon.gov/SOS/LicenseDirectory/LicenseDetail/606> .

## **Death of Senate Bill 929 by Dr. Dewey M. Caron**

Oregon Senate Bill 929, introduced by Senator Floyd Prozanski (Senate District 4 South Lane and North Douglas) would have made neonicotinoids less available to homeowners by having them labeled as restricted-use pesticides. It was subsequently modified to restrict sales in general consumer stores. It additionally called for strengthening the message on how neonicotinoids are harming pollinators in pesticide use training. It was modeled after a bill that recently passed in Maryland, the first state to ban consumer use of the neonicotinoid pesticides. California and Colorado are considering similar bills. There are seven chemicals with different names in the neonicotinoid class. These seven are found in dozens of pesticides sold for homeowner use, including many popular Bayer and Ortho products. They are: Imidacloprid, Clothianidin,

Acetamiprid, Thiamethoxam, Dinotefuran, Nitenpyram and Thiacloprid. “The label on the home use product allows greater application rates for home use than for professional use,” said Lisa Arkin, executive director of Beyond Toxics in Eugene. Her organization was behind the bills aimed at regulating neonicotinoids in Oregon: One aimed at changing labeling requirements was shelved after its first hearing, but 929 had a public hearing and appeared to have a fighting chance.

Farming and nursery lobbies opposed the bill, arguing that the science is not conclusive that these pesticides harm honey bees or pollinators and that because there are many complex causes of bee decline, neonicotinoids should not be singled out. A broad coalition of Democratic senators and representatives co-sponsored the bill and there was a long list of endorsers of the bill, including GloryBee of Eugene, Oregon Bee Store (White City) and Bee Thinking (Portland).

At a late March hearing, I, Pat Morris a commercial beekeeper from Southern Oregon, Christine Lefever of the Rogue Valley Pollinator Project, the Oregon Audubon Society, Brian Lacy of Urban Bee and Gardens in Portland and numerous others presented a three minute testimony in support of the legislation. Some 15 individuals dressed as bees and butterflies bused up from the Medford area to join the public testimony. The individuals included persons who helped enlist Talent and Ashland as Bee Cities and Southern Oregon, Portland State and Portland Community College as Bee Campuses USA.

The bill failed to be endorsed by the five-person Environment and Natural Resources senate committee and the legislation effort is dead for this year. The third senator reported that he heard the ‘Bees are coming back’ so he did not support moving the bill from the committee to the full senate.

While it is well documented that the neonicotinoids are highly toxic to honey bees and other bees and pollinators, it is not clear how much homeowner use of neonicotinoids negatively impacts overall bee health. However passage of legislation by Oregon would have sent a clear message that our honey bees and pollinators have individuals willing to speak up for them. The Oregon State Beekeepers Association neither endorsed nor was in opposition to the bill. Several local organizations encouraged members to send the committee senators messages asking for their support.

For a good obituary of the bill view “Buzzworthy: the widely used pesticide that’s killing Oregon Bees” by Emily Green (17 April).

<http://news.streetroots.org/2017/04/17/buzzworthy-widely-used-pesticide-thats-killing-oregon-bees>. Planning will begin for what can be done next time- stay tuned in to Beyond Toxics [www.beyondtoxics.org](http://www.beyondtoxics.org) for further developments.



## UPCOMING EVENTS & ANNOUNCEMENTS

**Saturday, June 17<sup>th</sup> – Connie Hanson Garden Festival in Lincoln City** – See the beautiful gardens and stop by our booth there. 10 am to 2 pm

**Wednesday, June 21<sup>st</sup> – To Bee or Not To Bee class at the Newport Library.** Class to help folks determine if Beekeeping is for them. Runs from 6 pm to 8 pm

**Saturday, June 24 – Ruhl Bee Supply in Wilsonville Field Day.** This is an annual event and this year they have 2 folks leading the field day – Dr. Juliana Rangel from Texas A&M University, a noted educator and researcher in the Department of Entomology and George Hansen a well-known commercial beekeeper here in Oregon. It runs from 9 am to 5 pm and costs \$40 which includes lunch. Bring your bee suit as hives will be opened and assessed. Go to [www.BrushyMountainBeeFarm.com](http://www.BrushyMountainBeeFarm.com) to register.

**Wednesday, June 28 - Central Coast Beekeepers** at Newport Library from 6:30 pm to 8pm. Ken Ograin, long time beekeeper and Board member of the Oregon Master Beekeepers will join us to discuss “Reading Frames”. If you have a frame that you are concerned about or wonder what might be happening, Ken encourages you to bring the frame to the session for discussion.

### **Ohio State University Bee Lab Webinars**

The Ohio State bee webinars have begun. Sessions are the third Wednesday of the month, beginning at 9AM **EASTERN**. All webinars are free, and registration is not required.

#### **June 21st: A Lot About Drones**

You can view all webinars at a later date or on the day of the event. Click on link below for information and to sign up for notifications.

<https://u.osu.edu/beelab/courses/>

### **Kelly’s Beekeeping Website: “Lane County Hiveways”**

Follow Kelly as she does her inspections, observations, and other beekeeping activities.

<http://lanecountyhiveways.com/>

This is the official publication of the Central Coast Beekeepers Association (CCBA) for the purposes of informing and educating its membership. Any use of the materials included in this newsletter for other reasons must be approved by the board of CCBA. The information and opinions expressed by the authors in this newsletter are for informational purposes only and are not necessarily endorsed by the Central Coast Beekeepers Association.

To arrange for publication or distribution of this material, please contact the organization through their e-mail account at: [www.centralcoastbeekeepers@gmail.com](mailto:www.centralcoastbeekeepers@gmail.com)

Rebecca Fain – Newsletter Editor

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