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June 2016 LCBA Newsletter

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Questions? Suggestions? Resources you'd like to share, stories you'd like to tell?
Please contact LCBA Secretary Susanne Weil: susanne.beekeeper@gmail.com or call 360 880 8130.

UPCOMING EVENTS:

Above left, Honey in comb ("Honigwabe") by Waugsberg –Own Work. Licensed under CC BY-SA 3.0 via Wikimedia Commons; right, LCBA's Honey Judging Entries at the 2015 Southwest Washington Fair.

June 9: LCBA Monthly Meeting: Honey Judging Criteria; Adulterated Honey & How to Avoid It; Tales from the International Honey Laundering Trade

When: 6 – 8:45 p.m.: Social Time, 6 to 6:30 p.m.; 6:30-7:30, presentation; 7:30, break; 7:45-8:45 business meeting & Beekeeping Q&A.

Where: 103 Washington Hall, Centralia College, 701 W. Walnut St., Centralia WA

Topic: Honey season is coming! Education Coordinator Peter Glover will explain how LCBA has adapted the Eastern Apiculture Association's honey judging criteria and give tips on how to prepare honey for entry in this August's Southwest Washington Fair. Journeyman candidate Terrie Phillips will explain how honey becomes adulterated and things you can do to avoid this, along with tales of the international honey laundering trade. **Also:** Flow Hive on Display.

Above left, "A photo of crystallized honey - you can see fractal structure," by Stevo-88, license, public domain via Wikimedia Commons; right, "Filtering of honey," by Luc Viatour / www.Lucnix.be, license, CC BY-SA 3.0.

Saturday, June 25: Workshop – Removing Honey Supers / Testing for Bee Parasites & Diseases

When & Where: 10 a.m. to noon – for location & directions, email susanne.beekeeper@gmail.com.

What: For those who are getting ready to remove supers for the first time – or who have done it before, but would like to see alternative methods – we'll demonstrate the fume board, bee escape board, blower, & "brush & run" methods. Tips on honey storage, too. Also: how to test for mites using not just the slider board, but the sugar shake and alcohol methods. General bee Q&A & refreshments to follow.

Above right, Lintott Alexander Park in Chehalis (photo, City of Chehalis Parks & Recreation); right, LCBA members at our 2015 Summer Potluck.

Saturday, July 9: Mark Your Calendars for LCBA's 8th Annual Summer Potluck!

Come enjoy good food, good fellowship, & talk bees. Honey recipes always welcome!

When & Where: 4-8 p.m., Lintott Alexander Park, Shelter #1; 1101 Riverside Dr, Chehalis

Facilities: We'll have 10 large picnic tables & benches (altogether, the facility can accommodate 100), wood-burning stove, electrical outlets, outdoor faucet, garbage cans/liners.

Please bring: A dish to share, plate, cutlery – and family! LCBA will provide water, pop, napkins. Park management requests no alcohol at this event.

Drawing for 2017 Youth Scholarship Program: Nuc boxes, gift certificates, & fun items will bee available for those who buy $1 drawing tickets. We'd like to branch out to middle schools next year & fund more young people to get started with bees. If you'd like to help, please consider bringing an item to donate!

August 11 Monthly Meeting: Lewis County & Honey Bee Health

Dr. Dewey Caron will share results from the Pacific Northwest Survey of Honey Bee Health & BeeInformed Partnership's national study – we'll hear where Lewis County fits in the regional & national picture, plus updates on how we can help our bees to thrive.

Above,2015 Fair volunteers with visitors to LCBA's exhibit & Observation Hive

Southwest Washington Fair: August 16-21

LCBA will have our exhibit in the Floral Building again – observation hive, honey contests, display items, & our great volunteers! More details will bee available at our June 9 meeting.

Notes from LCBA's May 12 Monthly Meeting

President Kevin Reichert began the meeting by introducing our youngest member, 20 week old Peter Stenzig, son of our Marcelle Stenzig and Mentorship Coordinator Martin Stenzig. Peter snoozed peacefully while Kevin outlined plans to start him working a rod & reel very soon.

Announcements: Member Tim Weible is donating a virgin queen for anyone who would bid for it at tonight's meeting, with the funds to be donated to LCBA'sYouth Scholarship program. Tim also had 30 cardboard nuc boxes – great for catching swarms – for $2 each, also donations to our Youth Scholarship program. Kevin thanked Tim for his support of our scholarship students (more news about this donation below, in our Business Meeting notes).

Above left, our May 12 speaker, Blake Westman; right, "Honey bees and Mushrooms"

Speaker, Blake Westman: Mushrooms & Bee Health

Kevin introduced Blake Westman, production manager at Fungi Perfecti, Paul Stamets' research and development company in Shelton that is collaborating with Steve Sheppard at WSU

on mycological (mushroom-related) methods to reduce mite loads and viral burdens in honey bees. Blake explained that among other things, Fungi Perfecti produces spawn for those raising mushrooms, along with other products like dietary supplements. For 30 years, Paul has been putting company profits back into research.

Mushrooms - & Bees? One question that Blake has gotten used to answering is: What do mushrooms have to do with honey bees? We know from medical research that fungi help regulate immune responses. Some time ago, Paul noticed that bees were visiting one specific garden giant mushroom. He saw bees actively collecting mycelia, which are the masses of hyphae, or filaments that branch out and make up the vegetative part of a fungus. Paul wondered why bees would bother with mushrooms, which have neither nectar nor pollen. However, mushrooms do have polysaccharides with immune functions, as well as other compounds which are anti-tumor and anti-viral. This got Paul thinking. Wood rotting fungi, parasitic to trees, also work to rot out heartwood of the trees – which creates cavities that bees can move into. In Europe, bees likely coexisted with these fungal species and benefited from their immune qualities. Also, fungi break down dead tissue in plants. More of those compounds produced by saphorophytic fungi are attractive to bees.

~~FYI: To view Paul Stamets' "TED Talk" on mushrooms & bees, visit~~
http://www.ted.com/talks/paul_stamets_on_6_ways_mushrooms_can_save_the_world

Above, left, Paul Stamets, from WSU's website; right, the "Bee Friendly" logo, from Blake's slideshow.

These observations led to Paul's submitting a patent application; he then worked with WSU and got USDA grant funding to investigate how fungal extracts affect viral loading in bees. The focus of the project has been control of Varroa mites. They have looked at metarizium, a parasite of varroa mites. They also looked into benefits of feeding bees extracts from mushrooms. Metazarium is also a parasite of other hard bodied insects – such as ants. It comes in spore-forming and non-spore-forming types.

What They Are Testing: Fungi Perfecti and WSU are feeding extracts of fungi to bees to determine both the fungi's effect on captive longevity and on viruses. They are using *metarhizium anisopliae*, the parasite noted above, to control Varroa mites. One theory which Steve Sheppard has brought forward is that one effect of CCD and viral loading issues is that the longevity of worker bees is decreasing over time. This reduces the vitality of a colony, and worker bees are asked to forage earlier and earlier. Will the fungal extract, fed to bees, increase survival and decrease viral load? They took samples of bees and ran tests to see what viruses were present in the dead bees.

How They Are Testing: The bees are not being force fed, but rather, offered extracts diluted in sugar water. The bees wouldn't take the extract in plain water, so they shifted to the sugar water mix. To see a video, visit: https://youtu.be/NtfHU_JlLow.

What Have They Learned? The project's preliminary results are exciting. Blake noted that some of the data was redacted from the slideshow because it is being submitted for publication. However, in brief, they found that four different formulations of the metazarium extract significantly reduced the varroa mite burden in colonies tested. Further, it is increasing the longevity of bees by an average of 12 days, and up to as much as 28 days, in some cases.

Feeding fungal extract to bees: photo from Blake's slideshow.

Varroa control: Using *Metarhizium anisopliae* to control Varroa mites is yielding cautious optimism, too. So far, they have found that about 18 percent of mites in control group (bees not fed the extract) died in a two-week caged experiment. However, in the conidial condition, where there were spores being produced, the mites died at about a 38 percent rate; in the pre-conidial (non-spore forming) condition, the mites' death rate was about 42 percent. These results came from using 1% metazarium in the solution – interestingly, the higher levels of metazarium concentration didn't have this strong effect, pointing to introducing metazarium in its non-spore producing stage to control mites.

The Outlook: Fungi Perfecti is continuing research with WSU and creating a strategy for starting field testing of preliminary products in summer 2016. Also, they are bringing in other mushroom species. Further, they are looking at mycelium grown on different substrates, *e.g.*, alder and birch trees. They will grow all promising species on those two trees, then make extracts, repeat feeding trials, and Steve Sheppard is planning for field trials in 2017, feeding bees in wild, not just in managed, hives. They will be feeding both the extract alone and the extract via a sugar syrup feed. However, they are dealing with some regulatory issues because metazarium is parasitizing some insects, unlike mites, that are beneficial. Blake emphasized that Fungi Perfecti wants their customers of their other products to know that profits earned are going in part back to this bee friendly project.

Questions & Answers: One member asked what mushroom species they are making their extract from. Blake answered that they are using the Oregon [red belted] polyphor, a common conch species. These are the mushrooms that one often sees in the woods, growing on the sides of trees in layers (see photo above of Paul Stamets with the mushroom growing out of

the tree bark). They tried an array of different wood decaying fungi, but there were three species where they saw the most effect. Blake noted that the white outside of the mushroom is its active, growing part. The extraction process is a little different because they are working with things humans consume – such as brown rice, which gives a consistent profile to work with as they make the extract. Another member asked whether they have combined extracts from the three mushrooms. Blake answered that they may in the future: right now, they are looking for specifics within the species. They are not yet sure if compounds that are effective for humans are also effective for bees.

Left, bee & mushroom, from Blake's slideshow;right, Paul Stamets' book "Mycelium Running" – photo by Brewbooks via Flickr.com.

Should Beekeepers Grow Mushrooms? Sarah Roebas asked if, as beekeepers, we could help our bees by growing mushrooms near our hives? Blake answered that it is too early to tell. However, if anyone wishes to try, he noted that Garden Giant mushrooms grow well and are easy to grow on wood chips: bees will go to Garden Giants consistently. So far, though, this, doesn't seem to show an antiviral effect. Most of the mushrooms they are working with are medicinal, not standard edible mushrooms.

Does the WSU/Fungi Perfecti Project Use a Specific Type of Bee? Bob Harris asked if are they using any particular bee race: Blake answered that they are are using Italians, which were WSU's choice. Bob asked who is doing most of research: Fungi Perfecti, or Steve Sheppard at WSU? Blake said that Steve in Pullman is doing the bee work, whereas Fungi Perfecti is working on the extract: "we are really good at growing mushrooms," Blake said. Kevin quipped, "So they keep you in the dark?"

European collaborations? Rich Carlson asked whether they have tried any collaboration with European scientists and their mushrooms, where our European bees originated. Blake said not yet: so far, they are just working with WSU. However, they do cultivate many European fungi, so this could be a good future direction.

Where Do Bees Put the Extract? Dan Maughan asked where the bees are putting the fungi extract: in propolis, or in pollen? In other words, in their antiseptics, or in their protein? Blake was not sure, but speculated that he would expect it to go into their protein source, though the bees may well be mixing it in with propolis. Terrie Phillips followed up, asking what exactly the bees are collecting from the mushrooms: Blake said that it may be mycelium, but they are trying to reduce what they get in the experimental condition to know more precisely. It is probably the sugar that the bees are gleaning.

What Is Actually Causing the Greater Bee Longevity? Peggy Hammer observed that it sounds like two things are going on: a beneficial effect of reducing viral load on bees, but also the benefit to bees of mites being killed. She asked how they know what to attribute increased bee longevity to – fewer mites or fewer viruses? Blake said that they started with mite-free bees, then introduced viruses to the mites, then mites to the bees. Now they are looking at whether there may possibly be an additive effect.

Shade & Bees? Pat Swinth noted that bees are not shade creatures, but mushrooms favor shade – how, then, can wild bees be encouraged to forage on mushrooms? Blake said that they hope to create a delivery system to get this to bees. Extraction is key because that doesn't rely on a living organism – with an extract, they can deliver the active compound to the bees. Extraction is different pathway than metazarium, which might be delivered via pipe cleaners at the hive entrance for bees to walk through, so that the parasitic fungi would get caught on mites. Ed asked if they can grow the metazarium: Blake said yes, on a couple of different substrates. They have used corncobs and compressed newspaper, but rice and corn work best.

Blake concluded his talk by noting that we can visit fungi.com to see updates on their site and newsletter. He also shared his email address for members to contact him with questions that might come up after this meeting: Blake.w@fungi.com Kevin thanked Blake for his informative talk.

Virgin Queen for Sale: Before we took our break, we watched the video that Shelby Albert recorded of Tim Weible's new queen hatching out – very interesting to watch. Susanne will try to embed it on our website. Kevin reminded those present that if they want to bid for Tim's queen and/or buy the cardboard nuc boxes, they should talk to Tim during the break: "if you want this queen, lay down some green," Kevin quipped.

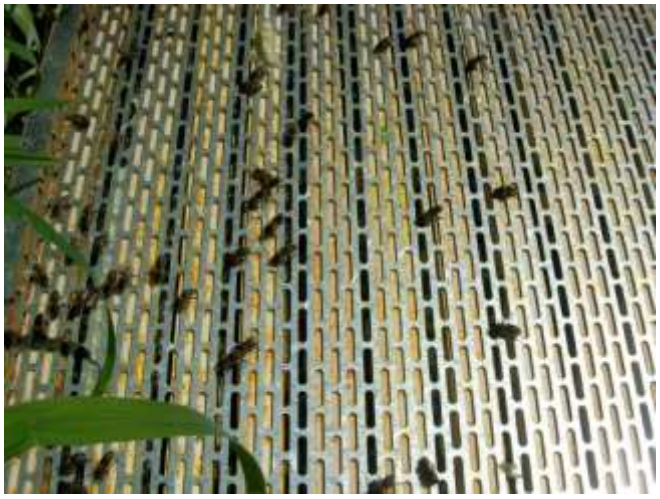
Above, Steve Howard's strongest hive with multiple supers, next to his new top bar hive.

Honey Supering ~ Steve Howard

Kevin introduced LCBA mentor & Journeyman beekeeper Steve Howard. Several years ago, when Steve was going through the Journeyman class, he had the first of two knee replacements. Kevin, Grant, and Norm were helping him manage his 18 colonies as time allowed, yet about six of his colonies swarmed, starting in mid-April. That summer, when Charles Bennett from WSBA came to inspect his hive for his Journeyman certification, Steve

noted what a huge swarm year it had been; but Charles said he had not had a swarm in years. Charles recommended that if you keep frames 3 5 and 7 open all the time, then bees won't swarm. So Steve got to thinking: why DO they swarm? One reason is genetics: the Lord said go out and populate the Earth, and the honey bee took this as gospel. The 2nd reason is congestion.

What can beekeepers do to minimize or even eliminate swarming? First, some old time beekeepers used to clip the wings of the queen, but this is not recommended, as it does nothing to reduce congestion and risks damaging the queen, besides. Second, select races of bees less prone to swarming. For example, Carniolans are reputed to be more swarm-y than Italians. Third, make hive splits early in the spring: this gives bees plenty of room for expansion while there is plenty of forage to fuel the process. Fourth, examine and reverse the brood boxes early in the spring and make sure that those center frames are open for the queen to lay; move fuller frames to the outside, and also, you can move fuller frames to bolster your weaker hives. Fifth, you can go through all the frames and cutting off all the queen swarm cells. However, this is not a foolproof approach: it still does not reduce congestion, and one can easily miss a swarm cell, in which case you'll have a swarm on your hands. Sixth – the method Steve is going to discuss now - super from the bottom up without using a queen excluder.



Queen excluder – or Bee excluder? Above, "Queen excluder," by richardoyork via Flickr.com

Normally, beekeepers put on a queen excluder when they super; however, Steve believes excluders impede movement of the workers, and Kevin agrees. So instead, Steve puts on a super with no excluder, then another on top of that. The queen is still relegated to the brood boxes; queens usually won't cross the honey barrier. Even so, Steve thought, why not allow the queen to go up there if she needs to? If she lays eggs in that super, then she needed that space, and the colony doesn't swarm; 21 days later, those new bees will hatch out, and the worker bees will go back in and fill empty cells with honey. Last year, when Steve tried this approach, the queen laid eggs in about 4 frames in the super, so he kept the frames together, put it on his weakest hives as a shot in the arm, and freed room for honey storage. You can put the new, empty super on top of the brood box and put the heavier one on top of that. That way there will always be an open space for her to lay eggs, so there is less incentive to swarm.

Supering from the bottom up has many advantages. For one thing, the workers do not have to travel as far to deposit/exchange the nectar as if the empty super was on the top (though

one can have an upper entrance, too, to mitigate the wear and tear on bees working their way up through the frames). The drawback is that some of those supers can weigh over 50 frames, so for a small person, it could be hard to work the hive. You might need a helper. However, in the end, when you go to rob your hives, you can do it more than once. Steve took honey in both July and August last year. He hardly had to mess with the bees at all, used a fume board, and then took those heavy top supers off. Since Steve has been doing this, he had no swarms at all in 2015, and so far none in 2016, fingers crossed!

Steve also announced that he had brought plants from his garden, including tomato plants, to give away to interested members, who could check with him after this meeting. Kevin thanked him for the talk and the plants offer.

Beekeeping Q&A

Above, "Three bees with typical CBPV 'shiny appearance;"; photo, Beebase.com

Chronic Bee Paralysis Virus: Kevin and Steve commented on the prevalence of one of the viruses discovered in recent years: chronic bee paralysis virus. Bees crawl on the ground in front of the hive, and the look of their wings resembles the K-wing condition seen when bees have tracheal mites, though not so pronounced. In the hive entrance, you can see bees look a little bit shiny, almost greasy, with no fur left. There is no known cure. Kevin is assuming it is Varroa-transmitted, but is not sure. (*For a good article about CBPV, visit: https://microbewiki.kenyon.edu/index.php/Chronic_Bee_Paralysis_Virus . The article notes that CBPV is highly infectious – bees can get it from the feces left behind by infected bees, so the virus can be transmitted until the colony dies out. This suggests that if recycling woodenware to house new bees after a CBPV infestation, thorough cleaning is essential – [and is always a good idea]. To send a sample of bees to WSU for testing, visit: http://apis.wsu.edu/ .)*

Early Blooms, Few Swarms: Terrie Phillips commented that plants are blooming really early this year. Peter Glover noted that trailing blackberries are in full bloom and that Himalayan blackberries are approaching their bloom. We may be looking at another year with early forage dearth, meaning that beekeepers will have to feed bees and/or leave more honey on the hives as honey harvest time approaches.

John Stucky asked how long swarms will be happening. Kevin and others noted that the swarm and colony removers are receiving fewer calls – with the fluctuating weather, the season may not be advanced enough. Kevin thinks we will see more action later in May and into June. Phil Wilson reported that the Olympia Beekeepers' swarm line has had almost nothing, also.

Martin Stenzig noted that Khalen Dunn, who manages one of the major swarm call lists on the Internet, posted in the West Coast Beekeepers Facebook page that the relatively low numbers of swarm calls are widespread – and may be in part attributable to the 44% die-off rate of colonies in the 2015-16 winter (the BeeInformed report notes that the deaths span summer 2015 through early spring 2016). Khalen Dunn had reports of bee trees with dead colonies. Kevin noted that it's early days yet, but bears watching.

Package Bees: Kevin asked whether any members had had any issues with their package queens. Martin said that his are already into their 2nd medium box and laying a great pattern. There was broad satisfaction with both the 3 and 4 pound packages. Kevin noted the issue with the nucs, which had caged queens and in many cases were more like splits. Harold Weaver, of Beeline, our vendor, worked proactively to improve the situation, giving those who had nucs the option to have a frame of bees and brood from Harold's own hives, helping establish the colony better. Kevin thanked Harold for his immediate attention to the problem.

Checkerboarding to encourage bees to build out all frames: Peggy Hammer noted that she had found that her new bees tended to cross-combing and leaving much extra space on the outside frames. Kevin and Martin recommended the "checkerboarding" method, which means swapping empty outer frames with inner frames that have been built out – not brood frames, however, since the brood chamber needs to be kept intact with bees keeping the brood warm. Peggy put in a green drone comb, but her bees built it out and packed it with honey and no drones! Dan said that for his honey supers, if he has drawn comb, he keeps the number of frames to 9; he only puts in 10 when the frames are brand new. He finds that bees "respect the bee space more" with drawn comb present. John Stucky also asked what to do if they attach the inner cover to the frames by drawing comb: one has to cut that cross comb out to make inspections manageable. Bees do this to stabilize the box. If there is extra space – more than 3/8 inch between frames in a new box – it's best to group the frames with the 3/8 between them and let there be extra space between the outer frames and the hive box.

New Solar Heat Treatment to Combat Varroa Mites: Kevin noted that the Thermosolar Hive, a new solar heat treatment to eradicate Varroa mites, is crowd-funding on the Internet: the idea is that the hive is heated to between 104 and 116 degrees Farenheit, which bees can tolerate: the temperature killls mites, but not bees. *(To read more about the Thermosolar Hive, visit: http://thermosolarhive.com/en/homepage/ For a news story, visit: https://www.yahoo.com/tech/brilliant-beehive-harnesses-solar-energy-213255133.html .)*

May 12 LCBA Business Meeting

Treasurer's Report: Rick Battin reported that the club now has $6,729.12 in our checking account and $1,295.11 in the Youth Scholarship account: this did not include the $49 donation by Tim Weible for his queen bee and cardboard nuc box sales (see below). Rick also reported that he had filed LCBA's Form 990N with the IRS, required for our 501(c)3 status, after many trials and tribulations navigating the wilderness of the IRS website (entertainingly recounted by Rick at this meeting). Tim Weible donated the sale of his newly hatched queen to LCBA's Youth Scholarship account: this was a $15 donation. Walt Wilson was the successful bidder after we had watched Shelby Albert's video of the queen hatching out. Also, Tim donated $34 from his sale of cardboard nuc boxes during the break to the scholarship fund. Rick and Kevin thanked Tim for his donations.

LCBA's Meeting Room: President Kevin Reichert reported that Centralia College, which has hosted LCBA's monthly meetings free of charge since 2012, must now charge us for the use of the meeting room: this is state ethics board policy. Fortunately, since we're now a 501c3 organization, the rate is $15/hour, not $75/hour. Kevin noted that this added expense, along with the expense for the club's liability insurance, will likely require a raise in dues in 2017.

Education Program Update: Education Coordinator Peter Glover announced that we have diplomas for the 36 of 54 students in our Apprentice Beekeeping course who completed the Washington State Beekeepers' Association's Apprentice tests. Secretary Susanne Weil distributed diplomas before the meeting & during the break; diplomas will also be available at the May 14 hive inspection workshop and June 9 monthly meeting. Our Journeyman class will hold its final meeting later this month: once they complete their final WSBA tests, they can register their service points, submit their year in beekeeping journals, and have Peter and Susanne conduct hive inspections at their apiaries to complete their Journeyman certifications.

Congratulations to LCBA's 2016 Apprentice Beekeeping Graduates:

Leah Adangfry
Bill Barr
Grant Canfield
Vahn Chamberlain
Tracy Chilelli
Gary Dancer
Mendi Dancer
Karen Erdie
Richard Erdie
Scott Fugate
Genevieve Greiter
James Gutierrez
Peggy Hammer
Dawn Hanson
Larry Kershner
David Layden
Heather Layden
Don Marshall

And Our Youth Scholars:

Josiah Cowin

Samuel Mittge

Bill McRary
Cyndi Huson McRary
Courtney Miller
Emily Morgan
Kimberly Nelson
Randy Newman
Evan Olsen
Brian Reiton
Jenny Salzer
Reena Schiele
Michael Scoblete
John Stevenson
John Stucky
Mary Ellen Wilson
Phil Wilson
Grant Wiltbank
Silvia Wolff
Chris Wright

Youth Scholarship Update: Peter reported that we now have the last Apprentice tests for our Youth Scholarship students Josiah and Sam, so we can submit their progress reports and get their certifications, as well. Both completed the program with 90% of course points. Susanne reported that both Josiah and Sam had hived their bees successfully and conducted their first inspections. Josiah has made the rounds with his mentor Gottfried Fritz and visited Gottfried's assorted hives around the county, gaining experience. Sam's dad Brian bought a package of Carniolans, and the father/son team are comparing their progress with Sam's Italian bees. Sam has weathered his first sting, which has not soured him on beekeeping. In fact, on the morning that Brian and Sam were going to remove the empty package and hive box housings and check on whether their

queens had been released, Brian reported that Sam had his bee suit on and was out by the hives: he loves his bees!

Above left, 5th grader Sam getting ready to remove the bucket feeder & hive boxes to see if his queen had been released (the lower boxes housed the by-then empty package box, also to be removed); right, Josiah looking pretty happy to be picking up his package bees on pickup day, pictured with mentor Gottfried.

Hold Harmless Update: Kevin reported that his attorney has completed the revision of our hold harmless agreement, which we will attach to membership forms. Mentorship Coordinator Martin Stenzig commented that the club needs everyone to sign the hold harmless agreement, whether they participate in workshops or not – any LCBA activity is affected, including attending meetings: this is simply the world we live in. So far, 42% of members have signed.

Membership & Mentorship Report: Martin reported that we have 128 memberships registered, many couples/families: a total of 217 active individual members. We have 910 contacts in our database who receive our newsletter electronically! In our mentorship program, currently 22 mentors are working with 31 mentees. Some mentors have 3 or 4 mentees; others have none – a matter of geographical location, as we try to match mentees with mentors who are relatively near them. Martin also reported 33 members are listed on our swarm and colony removal list; the "Bee Team," members who don't wish to lead swarm captures or carveouts of colonies, but wish to go along and learn, is now 15 strong. Martin has made an email list that can be used by the team leaders to contact all Bee Team members simultaneously as we enter active swarm season.

Upcoming Events: Susanne announced our first mentor-led hive inspection workshop for 2016, to be hosted by Community Outreach Coordinator Dan Maughan on Saturday, May 14, at his apiary in Adna. See the feature below for highlights and pictures! Our June 9 meeting will feature Peter's presentation on how honey judging works at the Fair and how to prepare your honey for entry, as well as Journeyman candidate Terrie Phillips's presentation on what adulterated honey is, how to avoid yours getting that way, and an overview of the wild world of the international honey laundering underworld. Finally, Susanne asked everyone to mark their calendars for LCBA's 8th Annual Summer Potluck, which will bee Saturday, July 9, 4 to 8 pm at Alexander Lintott Park, Shelter #1. More details at our June 9 meeting!

LCBA May 14 Hive Inspection Workshop Highlights

Above left, Community Outreach Coordinator Dan Maughan, our host, let members smell fermented sugar syrup in a top feeder – Youth Scholars Sam is in the foreground. Right, Dan holds up a frame with freshly drawn comb as new beekeepers learn to recognize what that looks like.

LCBA's first hive inspection workshop for 2016 was a lot of fun! About 25 attendees, including our Youth Scholarship students, & 6 mentors examined hives at various stages of development in small groups; we also watched a demo of how to treat a hive for Varroa mites with an oxalic acid fume vaporizer, plus an up-close demonstration of how to split a colony by Dan and Kevin. Great day at Community Outreach Coordinator Dan Maughan 's apiary! Thanks to all our mentors – Dan, Kevin Reichert, Rick Battin , Gottfried Fritz, Chris Weedon & Susanne Weil. Special thanks to Phil Wilson for wrangling gear & helping attendees clean hive tools, & Cody Warren for videotaping the workshop!

Above left, Gottfried Fritz, flanked by his mentee, Youth Scholar Josiah, watching the splits demo; right, Dan & Kevin assess frames for inclusion in the split as attendees & Journeyman candidats Kaylene & Pamela look on.

Above left, one of Dan's colonies undergoing oxalic acid fume vaporizing treatment. This nuc box has a solid bottom board; for his standard Langstroths, Dan just slides in the mite board to block ventilation & keep fumes in the hive, while blocking the entrance with a cloth. Some bees boil out, but overall, the treatment seems to work, with many dead mites spotted on bottom boards. Dan passed around a bottom board with dead mites so that new beekeepers could see what to look for when they sample for mites.

Above right: sharp-eyed mentor Gottfried Fritz spotted a worker bee extruding wax flakes from her abdomen during the splits demonstration: "six pack abs," as he described it. Thanks to Phil Wilson for this great close-up photo capture.

Below left: mentor Rick Battin conducting a hive inspection and taking questions; right, youth scholar Josiah Cowin was an attentive student. Right, new-minted apprentice beekeeper Reena Schiele inspects a frame in Susanne's group. We went over how to gently move bees out of the way to view brood patterns.

BEES IN THE NEWS

Thanks to Fran Bach, Steve Norton, Kevin Reichert, Phil Wilson, and the good folks at Bee Culture & American Bee Journal. There was an unusually high number of news stories this month, so some stories are being held over for our June and July newsletters. Please keep those stories coming!

"Nation's Beekeepers Lost 44 Percent of Bees in 2015-16": ***BeeInformed Blog*****, 10 May 2016**

The BeeInformed Partnership's survey of over 5,700 commercial and hobbyist beekeepers from 48 states shows 44% colony loss between April 2015 and April 2016, 3.5% more than the previous year's survey. The survey also revealed that for the second year in a row, summer loss rates (28.1%, up from 25.3%) were almost as serious as winter loss rates (28.1%, up from 22.3%). Project director Dennis vanEngelsdorp said, "We're now in the second year of high rates of summer loss, which is cause for serious concern. Some winter losses are normal and expected. But the fact that beekeepers are losing bees in the summer, when bees should be at their healthiest, is quite alarming."

Researchers attribute losses to "many factors," including Varroa mites, pesticides, and malnutrition "caused by changing land use patterns . . . especially among commercial beekeepers." Varroa mites – and the viruses they bring with them – are an increasing concern. A study published in Apidologie on April 20 found that mites are much more prevalent than previously thought. A spokesman for the UMD Department of Entomology noted that "Many backyard beekeepers don't have any varroa control strategies in place. We think this results in colonies collapsing and spreading mites to neighboring colonies that are otherwise well-managed for mites . . . We are seeing more evidence to suggest that good beekeepers who take the right steps to control mites are losing colonies in this way, through no fault of their own."

The survey, now in its 10th year, sampled "15 percent of the nation's estimated 2.66 million managed honey bee colonies." To see the full study, visit: https://beeinformed.org/2016/05/10/nations-beekeepers-lost-44-percent-of-bees-in-2015-16/ Dr. Dewey Caron of BeeInformed will be LCBA's August speaker, and he will put our Lewis County results in context of our region.

"Secrets of Resistant Varroa Revealed": ***American Bee Journal*****, 22 May 2016**

A new study has shown that "the genetic mutations that have enabled varroa mites to become resistant to acaricides, including pyrethroids (such as the active ingredients of Apistan and Bayvarol)" are different in mites from European, British, and American bee colonies. "Differing patterns of resistance across the world" complicate efforts to control the mites. For beekeepers, the take-home message is "that resistance evolves only when mites are exposed to a single treatment type over many years. Therefore, by alternating treatments and using Integrated Pest Management techniques . . . the evolution of resistance can be delayed or even prevented, enabling the first generation varroa-control products like Apistan using tau-fluvalinate to continue to be effective."

To read more about the specific mechanisms of genetic resistance, visit: http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=74a441a4aa&e=e9ff21e0bb

"Neonics Killing Bees from Wildflowers": *Bee Culture*, 11 May 2016

Though many have assumed that most of bees' neonicotinoid exposure comes from commercial crops treated with these pesticides, British scientists have discovered that "97% of the neonicotinoids brought back to honeybee hives in pollen could come from wildflowers – not oilseed rape." Professors at the University of Sussex "found that when neonicotinoids are applied to seeds, low concentrations are found in the nectar and pollen of the crop, which are then collected and consumed by bees." However, during the active foraging months of spring through summer, "mixtures of neonicotinoids and other pesticides are also found in the pollen and the nectar of wildflowers growing in arable field margins and hedgerow flowers such as hawthorn, wild rose, blackberries and honeysuckle at concentrations that are sometimes much higher than those found in the crop."

These findings signify that bees' exposure to these chemicals "is likely to be higher and more prolonged than currently recognized because of widespread contamination of wild plants growing near treated crops . . . This shocking new research shows that the very wildflowers that were designed to protect bees are actually killing them."

According to Soil Association policy director Peter Melchett, "We cannot save bees while we continue any use of neonicotinoids – the current ban should be extended to all crops. The routine, regular use of any toxic chemical or drug is now seen as bad practice and seed coatings like neonicotinoids are just that – used routinely, and long before any problem emerges," Melchett said. To read more, visit: http://www.beeculture.com/catch-buzz-neonics-killing-bees-wildflowers/?utm_source=Catch+The+Buzz&utm_campaign=f0ce916eea-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-f0ce916eea-256261065

"Close up of Sunflower Pollen and Bee,"by Cybertarge via Wikimedia Commons; License, CC BY-SA 3.0

"UK Govt. Ministers reject plan for 'emergency' use of banned bee-harming pesticides": *Bee Culture*, 23 May 2016

Britain's Farming minister has rejected an application by the National Farming Union to resume using neonicotinoids on oilseed rape crops. This is the first time that a specific application for use of neonics has been denied in the U.K. In 2013, the EU temporarily banned neonics; the UK did not support the move, but went along with it until 2015, when the ban was lifted temporarily "after the NFU argued it was needed to fight the cabbage stem flea beetle (CSFB)."

In its recommendation to reject the NFU's application, the "Expert Committee on Pesticides (ECP) said the application contained 'insufficient information to ensure that use will be limited only to those areas where there is a danger or threat to plant protection and [did not] offer adequate assurance that the use will be controlled in an appropriate fashion'. Matt Shardlow, chief executive of Buglife, said: "Oilseed rape yields went up by 7% last year – this is not an 'emergency', the loss of bees and pollinating insects is the emergency."

Shardlow added, "It is disappointing that the reasoning of the ECP in refusing to support the applications focuses more on technical issues relating to targeting and control, rather than the more obvious point that the confirmed risks of using these agrotoxins clearly outweigh the elusive claimed benefits."

To read more, visit: http://www.beeculture.com/catch-buzz-uk-govt-ministers-reject-plan-emergency-use-banned-bee-harming-pesticides/?utm_source=Catch+The+Buzz&utm_campaign=c0d101cc0b-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-c0d101cc0b-256261065

Pesticide Drift Publication Now Available from Purdue Extension

Bee Culture reports that Purdue Extension has released a new study focusing on "causes and effects of pesticide drift, including information on how to recognize and report a drift incident. The publication can be downloaded as a free PDF from Purdue's The Education Store at https://edustore.purdue.edu/item.asp?Item_Number=PPP-110 . You need to put PPP-110 in the search box on the top right to have it come up so it can be downloaded. Single printed copies are also available at no charge. For the original *Bee Culture* reference, visit: http://www.beeculture.com/catch-buzz-pesticide-drift-publication-now-available-purdue-extension

Above, "Illegally Imported Honey" from Department of Homeland Security News Release

"Chicago Homeland Security Investigators Seize Nearly 60 Tons of Honey Illegally Imported": *American Bee Journal*, 24 May 2016

60 tons is a lot of honey – and on April 28, that was the amount "seized" in Chicago by Homeland Security's Immigration and Customs Enforcement (ICE). The "illegally imported

Chinese honey valued at more than $200,000" was "smuggled" into the U.S. in 195 barrels that were labeled as having come from Vietnam, a method for "evad[ing] anti-dumping duties applicable to Chinese-origin honey."

A "domestic honey packer" tipped ICE off after examining lab reports that didn't look authentic. Samples were sent to Savannah's U.S. Customs and Border Protection (CBP) laboratory, where analysts assessed it at "a greater than 99 percent probability match with Chinese-origin honey."

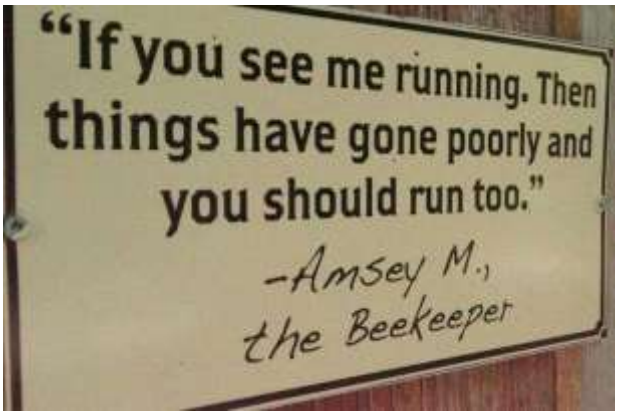
ICE has increased surveillance of illegal honey imports, which not only threaten health since they contain antibiotics that are not supposed to be in food products, but also harm "legitimate" U.S. honey businesses by effectively depressing prices. To read more about the complex world of international honey laundering, visit: http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=9aca9140dd&e=e9ff21e0bb

"USDA Honey Production Stats show declines in volume and price in 2015": ***Items for Beekeepers,*** **26 Mar 2016**

In 2015, U.S. honey production dropped 12% from 2014. The study showed that honey producers "with five or more colonies totaled 157 million pounds" from 2.66 million colonies. The "yield of honey harvested per colony averaged 58.9 pounds, down 10 percent from the 65.1 pounds in 2014." Honey prices also dropped to "209.0 cents per pound, down 4 percent from a record high of 217.3 cents per pound in 2014." To view more data, visit http://usda.mannlib.cornell.edu/usda/current/Hone/Hone-03-22-2016.pdf

"Nutrition Company Nu-Health Produces Fraudulent Royal Jelly": ***Items for Beekeepers*****, May 2016**

Not just honey, but royal jelly, is getting illegally imported from China. A Los Angeles couple who run the Nu-Health "nutritional supplement company were sentenced to home detention and probation," as well as fined, for their illegal royal jelly caper. The U.S. Attorney's Office reported that the "couple pleaded guilty to a wide variety of criminal activity, including falsely classifying goods to avoid import duties, and importing mislabeled food into the United States from China." For more, visit: http://www.beeculture.com/catch-buzz-nutrition-company-nu-health-products-fraudulent-royal-jelly



ANNOUNCEMENTS

Show Your Honey at the State Fair in Puyallup! Register entries online by 10 pm ON AUGUST 28th; Deliver your entries AUGUST 30th 10 am–8 pm or AUGUST 31st 8 am–8 pm. to the Washington State Fair Agriculture Department All winning entries will remain on display in the Pierce County Beekeepers Association booth for the duration of the fair. Questions? Call 253 841 5074 or email thefair.com.

Western Apicultural Society Newsletters: http://groups.ucanr.org/WAS/WAS_Journal. Click on the line in the paragraph on the right as directed. If you're still getting the old issue, click on "empty cache" in your browser or "refresh" or "reload" under VIEW in your menu bar.

WSBA Newsletter: Pick up your copy online at www.wasba.org: click on "Newsletters."

That's all for now ~ take care, & bee happy! **~~ Susanne Weil, LCBA Secretary (Susanne.beekeeper@gmail.com; 360 880 8130)**