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September 2015 LCBA Newsletter

In This Edition:

- **Upcoming Events (2 -4)**
 - LCBA September 9 Monthly Meeting: Fall Management Issues
 - Sept 12 Fall Management Workshop – Hands-on Fall Bee Preps
 - Gardening for Everyone, Sept 26 – Two LCBA talks
 - LCBA October 14 Monthly Meeting: Rendering Beeswax
- **Notes from LCBA’s August 12 Monthly Meeting: Varroa Mites & Other Killers of Pacific Northwest Bees: Management Philosophies & Practices (5 – 10)**
 - August 12 Business Meeting Notes (10 - 13)
- **LCBA at the Southwest Washington Fair - Highlights (13 - 20)**
 - Thanks To Our Volunteers!
 - Honey Judging Contest – How the Judging Worked
 - Winners of the Official Fair & People’s Choice Tasting Contests
- **Local Lewis County Honey Is (Still) Available for Sale! (20)**
- **Want to Enter Your Honey in the Washington State Fair? Here’s How (21)**
- **BeeInformed Invites You to Join Hive Check Partnership – Free! (22)**
- **Bees in the News (23 - 28)**
 - “Mite Resistance Not Only Possible, It’s Already Happened”
 - RFID Trackers Show How Illness Affects Bees’ Foraging
 - “Bees Naturally Vaccinate Their Babies, Scientists Find”
 - Flowers Can Be Parasite-Dispersing Hubs for Pollinators
 - Study Identifies Plant Chemical that Determines a Honey Bee's Caste
 - How Sub-lethal Pesticide Exposure Affects Bee Foraging Behaviors
 - Low Doses of Neonicotinoids Found in Over Half of Streams Sampled
 - WSBA & Others Urge EPA to Re-examine Pesticide Effects on Bees
 - 2008 Italian Ban on Neonicotinoids Did Not Affect Agricultural Yield
 - Entomologist Dr. Eric Mussen Warns of Need to Scale Back Pesticide Use
- **Announcements (28 - 29)**

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:

Wednesday, September 9: LCBA Monthly Meeting

Topics: Fall Management Issues: Moisture Control methods; Fall / winter feeding; candy boards, pollen patties; Beekeeping Q&A

When: 6 – 8:45 p.m.: Social Time 6 to 6:30 p.m.

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

What: LCBA Vice President Kevin Reichert will present approaches to moisture control, one of our PNW bees' biggest winter survival challenges. What did you try last winter to help your bees? What are you planning to try this winter? Bring your strategies, experiences, questions! Short business meeting to follow.



Above, hard candy on frames below a moisture control board – both covered at our Sept 9 meeting.

Saturday, September 12: Fall Management Workshop

When: 1 to 3 p.m.; **Where:** Adna (please RSVP to susanne.beekeeper for directions)

Topics: **What should you look for during fall inspections?** Testing for mites, treatment pros, cons, & methods, when to / how to combine colonies, consolidating boxes, fall feeding, & more. Discussion after.



Above left, LCBA members at our 2014 fall management workshop assessing colony condition; right, host Rick Battin discussing his use of Hop Guard & his unique propolis stain for his hive boxes

Saturday, September 26

2 Bee Talks at “Gardening for Everyone” – free & open to the public

Where: 103 Washington Hall, Centralia College, 701 W. Walnut Street, Centralia, WA 98531

#1, 12:45 - 2 pm: "Inviting Honey Bees to Your Garden": Ways to make your garden bee-friendly; controlling weeds in a bee-friendly garden; identifying honey bees v. mason bees v. yellowjackets v. hornets . . . & how to remove them from your structures. Facilitators: Master Gardener & LCBA Education Coordinator Peter Glover and LCBA Secretary Susanne Weil.

#2, 2:15 to 3:30 p.m.: "How to Get Started in Beekeeping": LCBA members, if you have family or friends interested in getting into beekeeping, please let them know about this free overview of what’s involved – time, equipment, set-up, costs, rewards, “bee bio 101,” a year in the life of a beekeeper, harvesting honey, & more, including a preview of our spring LCBA/WSBA Apprentice beekeeping class. Questions? Email susanne.beekeeper@gmail.com or call 360 880 8130360 880 8130.



Above left, “[Honey bee on Camas flower](#),” by Victorberthelsdorf – own work. Licensed by [CC BY-SA 4.0](#); right, “[Seven spiral-shaped beeswax candles](#),” by Jonathunder – Own work. Licensed under [CC BY-SA 3.0](#).

Wednesday, October 14: LCBA Monthly Meeting

Topics: Rendering Beeswax for Candles & More; Beekeeping Q&A

When: 6 – 8:45 p.m.: Social Time 6 to 6:30 p.m.

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

What: LCBA member Sharette Giese of the “Woogie Bee” will show how to melt down wax from cappings & cover what you can make from it.

Looking for some holiday gift ideas? You might find some here! Also: short business meeting & beekeeping Q&A.

SPECIAL NOTE – LCBA’S NOVEMBER MONTHLY MEETING WILL BE THE FIRST WEDNESDAY OF NOVEMBER ~ NOV. 4TH

On November 11, Centralia College is closed for Veteran’s Day.

November meeting topic TBA.



Wednesday, December 9: LCBA’s 7th Annual Holiday Potluck

Please mark your calendars & get ready to share good food, good fellowship, door prizes, & after dinner, a brief monthly meeting with board elections, fundraising drawing for our 2015 Youth Scholarship Program, our traditional Beekeeping Q&A, suggestions for 2016 speaker topics, and more.

When: 6 – 9 p.m.: Social Time 6 to 7; Dinner 7 to 8; Brief Business Meeting, including Elections & Youth Scholarship Program Drawing, 8 to 9.

Where: Newaukum Grange (directions in December newsletter)

Please Bring: A dish of food to share & a plate, cutlery, & cup to eat/drink from. The Grange has tables & chairs, 3 ranges, a refrigerator, & plug-ins for hot pots. LCBA will provide coffee, tea, hot chocolate, & napkins.

Food Drive: If you’d like to bring canned food or dry goods for the Greater Chehalis Area Food Bank, please do – we’ll have a donation box.

Drawing to support 2016 Youth Scholarships: Featured items will be noted in the December newsletter. If you have an item to donate, please bring it!

Questions? Contact Susanne.beekeeper@gmail.com or call 360 880 8130.

Notes from LCBA's August 12 Monthly Meeting

Topic: What kills our bees in Lewis County?

Discussion of Varroa control v.s. eradication. Q&A on fall management.

What: LCBA President Norm Switzler was out with back trouble, so Vice President Kevin Reichert led the meeting. Community Outreach Coordinator Dan Maughan presented a Powerpoint – available on our website under the Monthly Meetings link - focusing on what kills our bees and how we can help them. Dan noted that moisture plus chill form public enemy number one for our bees in winter, and that this issue will be the focus of LCBA's September 9 monthly meeting and September 12 workshop on fall management.



Above left, "Yellow jacket eating honey bee" from Honey Bee Suite; right, wasp trap in Dan's bee yard.

Yellowjackets and other predators: Dan showed photos of traps in his bee yard. Before this meeting, he checked those traps and saw that one had an inch of yellowjackets and the next was full. "Yellowjackets make their living off honey bees," eating brood and honey. Yellowjackets don't give up and know what colonies are vulnerable; Gottfried Fritz noted that the same is true of bald faced hornets. Dan commented that the only good thing about bald faced hornets is that they eat yellowjackets. This year has been particularly bad, so Dan uses robbing screens over his hive entrances – he brought in one to demonstrate how the tiny bee-sized opening works – and finds that these help. One member asked how close to bee colonies to place yellowjacket traps: Dan answered that he has his three to four feet from his bees, and it's very rare to see a honey bee in a yellow jacket trap. Another member noted that putting traps out in spring will capture some of the queen yellow jackets, thus limiting their population in advance.



Above left, the only place you want to see yellowjackets in your bee yard: inside your traps (photo by Dan Maughan). Right, the middle hive has a robbing screen attached to the front to help the colony defend itself.

Feeding during the nectar dearth: Bees are hungry during this nectar dearth, so feeding one's bees is a good way to support those who need it. Dan suggested not feeding unless you have to: see what is around by way of floral bloom. Remember that bees you see bringing in pollen may not have access to nectar now, so check. Feeding if there is no nectar can help keep colonies strong enough to defend against predators and prevent their eating through their winter stores prematurely. Kevin noted that you can leave honey supers on the bees to let them eat the surplus now. He's feeding about a third of his bees. Kevin asked Tim Giese what he does: Tim said that they have their bees feeding in a rotational crop situation, so they are ok. It was noted that looking at 2016, it's a good idea to plan planting for bees such that something will be in bloom for them all through the season.



Above, bee feeding modes – photo by Dan Maughan from his PowerPoint.

Feeding methods: To feed his bees, Dan uses a top feeder with a 1/8 inch mesh hardware wire screen that covers the bee entry into the feeder and allows half an inch space for bees to feed. They can cling to the mesh and not drown. Dan prefers this to inserting floats into the syrup – he finds that the bees get under those floats and drown. Gottfried said he favors Norm's "baggie method" – fill a baggie with syrup, place it on top of the frames, and cut some slits in the top – a cheap way to help bees access syrup in the hive and avoid robbing.

Some supplement with essential oils, such as the lemon grass in Honey B Healthy. It was noted that Pro Health has lemon grass and spearmint essential oils. For pros and cons of other feeding delivery methods, see the Mentors/Classes link on LCBA's website and click on "feeding bees."

Varroa Mites: Dan reminded us of Dewey Caron's warning that September is too late to address Varroa mites – by then, the mites' numbers are up, but the bee numbers are collapsing as the queen winds down laying at the end of the season. This is when bee colonies are most vulnerable to these parasites. Dan summarized how mites breed in brood, feed on hemolymph, weakening the bee and creating vectors for viruses in the incisions they make in the bees' exoskeletons.



Above left, image of Varroa Mite on honeybee pupa supplied by Kirk De La Garza Subtropical Agricultural Research Center Weslaco, Texas, USA: Originally from the Agricultural Research Service and in public domain; above right, "[Honey bee with Deformed Wing Virus and Varroa destructor on her torso](#)" by Stefan de Konink, License [CC0 1.0](#), public domain.

Treatment methods? Dan commented that it is just about impossible to “eradicate” mites; controlling them is a more realistic goal. Also, we need to realize that there are pros and cons to every treatment method for Varroa. Susanne and Dan noted that the Honey Bee Health Coalition, a partner of Bee Informed Partnership, has just published its **Guide to Varroa Control**, available free online at <http://honeybeehealthcoalition.org/Varroa>. The guide covers chemical and non-chemical methods for treating mites and breaks down active ingredients, treatment methods, and results by season. Dan also reminded us that at our June meeting, Dewey emphasized that there are, as Dan summarized, “dumb ways to treat for mites and smart ways. Dumb would be treating exclusively and often with a hard chemical, such as Amitraz [so that mites can develop resistance]. Smart would be using an integrated pest management system that uses organic acids.”

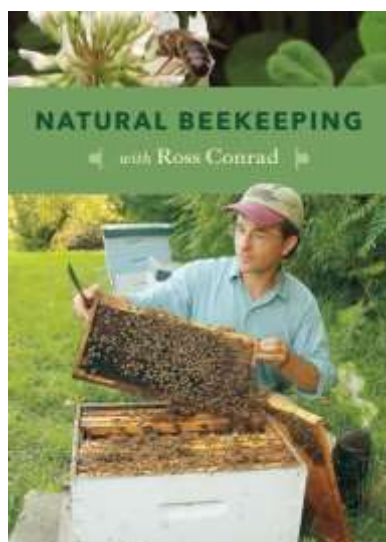
Dan has been impressed by Vermont beekeeper Ross Conrad’s “Natural Beekeeping” approach (this DVD is available from Timberland libraries). Ross states that Varroa mites don’t necessarily kill a hive, but weaken it so that other stress factors and diseases, such as viruses, kill the hive. Ross also states that starvation is often a result of a hive overwhelmed with mites. He uses a six step method to control the mites in his hives:

Step 1: Buy queens that are less susceptible to mites. Russian, Minnesota Hygienic, Varroa Sensitive Hygiene, and Survivor Hives. Dan has tried these queens and found that they do display hygienic behavior, uncapping infected brood and removing it from the colony.

Step 2: Make Nuc colonies in the spring to break the brood cycle. Since mites can only reproduce by laying eggs in bee brood, splitting a colony can help if you make sure not to move any capped brood to the nuc, just eggs and perhaps uncapped, uninfected brood. You can use the powdered sugar method to help shake down mites parasitizing bees you move into the nuc.

Step 3: Use screened bottom boards. In conjunction with powdered sugar and garlic powder methods. These methods only affects mites on bees, not in the brood. Dan had not heard of the garlic approach; Mel Grigorich quipped that Italian bees would love it! The powdered sugar approach makes the bees’ bodies slippery, making it harder for mites to hang on, and the bees like to eat the sugar and will groom it off each other. The powdered sugar is scattered from above using a sifter. Cody Warren noted that Kitchen Collection has a battery operated device

for this that makes sugaring the bees easy and quick. It is a good idea NOT to scatter much sugar over the central area of the hive where the brood chamber is located, though, since it can get into the uncapped larvae and choke them.



Ross Conrad's DVD explaining and illustrating the six steps outlined here is available at the Timberland Libraries.

Step 4: Trap mites with drone comb or sticky paper. This can be used with pheromone traps using methypalmitate.

Step 5: Organic Miteacides. Use Sucroside, Oxalic acid, Formic acid, Essential oils and Thyme, and Hop Beta acid to kill and control mites. He also noted that thyme works well: it comes in a patty / wafer. However, it will flavor your honey. This again reminds us that treatment while honey supers are on the bees can affect honey pulled later.

Step 6: Change to a smaller comb size, and regularly pull out old comb. Mites favor laying eggs in drone brood because it is larger. Plastic foundation has slightly larger cells for bees to build on and some think this contributes to varroa infestations. Old comb is good to rotate, Varroa or no, because eventually residues will coat the cells and reduce space, so that queens can't lay in them.

Non-organic methods: MAQs: Dan showed a slide covering Mite Away Quick Strips, whose active ingredient is formic acid. Recommendations are to treat with two pads per box, one time, though Dan treated once in May, once in July, using a single pad per hive and had good effects. Dan noted that there is a temperature zone within which MAQS are effective. It's important to follow directions to avoid having the chemicals damage your hive. Dan reminded us of Dewey's point that the difference between food, medication, and poison is the amount, not necessarily the chemical itself.

Integrative Pest Management (IPM): It's also important to rotate treatment methods to prevent the mites' developing resistance to any one chemical. Another advantage: if one treatment method doesn't work, another may.

Mite Sampling Methods: Before you treat, it's important to know that you have a problem. Testing for mites can be done using a sticky board with a drop-down to a trap board. Also, you can use PAM or olive oil sprayed on the insert board. Between the distance to the drop board and the stickiness of the oil, there is little chance of mites climbing back up into your colony. Susanne noted that BeeInformed data suggests that the sugar shake or alcohol roll methods are

more accurate than sticky boards because of all the detritus that falls down onto the sticky boards along with the mites; Rick noted that he leaves his sticky boards in for only 12 hours to get a more accurate count (one mite per hour or more is considered trouble at this time of year).

Tim Giese noted that when you pull frames, if you see a shotgun pattern, you have strong evidence that the queen is failing or bees are getting rid of brood – either way, there’s a problem that you need to address to save the colony. Also, you can look for adult bees with deformed wings, as in the photo above from Dan’s Powerpoint.



Above left, mite drop board (photo, Dan Maughan); above right, President Norm grimaces at the smell of a MAQS at a 2013 workshop.

The No-Treatment Philosophy: In Norm’s absence, Susanne summarized how Varroa mites co-evolved with the Asian bee, *Apis cerana*, with whom the mite has a normal parasite-host relationship. Asian bees can tolerate infestation by mites without their population collapsing, but when mites entered Europe and the Americas in the 1970s, they caused disastrous population crashes and almost destroyed the feral bee population. However, the feral bees rebounded, and there is evidence that some bees have developed resistance to mites: the Varroa section of the “Bees in the News” page of our website lists numerous studies on this. Not only can resistance be inherited, but so can hygienic behavior: Norm has seen bees not only uncapping infested brood, but actively attacking phoretic (hitchhiker) mites on adult bees trying to enter hives.

Which is the better approach: to treat for mites, or to focus on cultivating the strongest, most resistant bees? Susanne noted that this is one of the most complicated debates in beekeeping. When we treat our bees for mites, some mites survive: are we then promoting the survival of the fittest mites, rather than the survival of the fittest bees? The non-treatment philosophy turns on this question and promotes breeding survivor bees. It is worth noting that beekeepers like Randy Oliver disagree, analogizing European honey bees in the Americas, with their genetic bottleneck, as akin to Guernsey cows that cannot be turned loose in wild conditions and survive. However, new studies documenting mite resistance emerge regularly: see the “Bees in the News” section of this newsletter for the most recent.

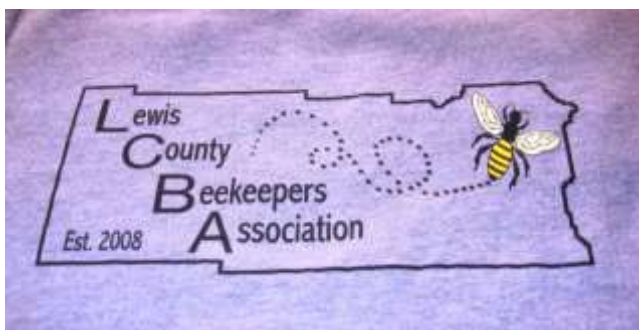
Keeping an open mind: Dan noted that there is no one right answer to mite control, and that as a club, we are here to share ideas and experiences. With that, we began discussion (much was said

and many points went too quickly for your scribe to write down, so if you have something to add, please email Susanne). Tim Giese asked who has treated. Cody has used powdered sugar. Susanne has used Hop Guard 2. Tim has used Apiguard, though it taints honey, creating a product that can't be used. Tim has found the new MAQS easy to use: these are a 7 day treatment, and bees may not like the odor, sometimes bearding on the front of the hive. However, Apistan and Amitraz are a 6 week treatment and do not penetrate the brood: the idea is that the chemical persists throughout the mites' breeding cycle and kills them. Also, Apistan and Amitraz's active ingredients are unstable chemicals that break up and do not remain in the hive.

Oxalic acid? Kevin noted that he does not treat for mites and uses solid bottom boards, and thinks his percentage of losses are no greater than those of larger scale beekeepers: he loses perhaps 4 or 5 colonies a year out of about 40. However, Kevin thinks that news about oxalic acid, recently legalized for use treating bees for mites, sounds promising. Oxalic acid does not affect brood, but attacks live mites on the bees. Kevin shared the URL on the Bee Informed site that gives details about oxalic acid and how to use it: <https://beeinformed.org/2015/03/oxalic-acid-registered-by-epa-for-use-against-varroa-mite-on-honey-bees/> .

When to stop testing, treating, & otherwise messing with bees for winter? – Walt Wilson asked. Dan recapped the bee/mite breeding cycle (noted above) and explained that now is the time to hit mites hard to help bees survive winter. Kevin noted that it's worth not messing too much with them, and that our September meeting will cover what to do in that month. By Columbus Day, Kevin noted, we should be done messing with our bees.

Kevin thanked Dan for his presentation & all present for a good discussion, and we took a break.



Above, LCBA iron-on transfers – see writeup of August 12 business meeting, bee-low.

August 12 Business Meeting:

Treasurer's Report: Rick Battin reported that our checking balance is \$3,976.08, and our Youth Scholarship Program fund is now \$1,255.62, with a little more to be spent this year.

LCBA Iron-on Patches & Transfers: Rick also summarized how you can get LCBA's iron-on patches and transfers that you can use on your bee suit, t-shirt, windbreaker, etc., at Alderson's / Awards West. First, you buy patches directly from Rick at our meetings for \$4 and/or a sheet of the 3 iron-on transfers designs for \$9: the sheet has the small bee, the small logo, & the large logo. Rick then emails Alderson's, and you bring your clothing item to their shop so they can use their special press to iron it on for you. They can also iron-on your patch. Please pay at an LCBA meeting first so that Rick can contact Aldersons, and they will have a record of your purchase and not be confused when you bring in your garment. FYI, Alderson's

charges and additional \$3.50 to iron transfers or patches onto a garment you bring, and \$2.50 for a garment you buy from them.

August 1 Honey Spinning Workshop: Susanne thanked member John Blacklaw for hosting us at his shop, where 21 LCBA members assisted by 4 mentors spun many gallons of honey. There is a photo gallery up on our website and Facebook page, so check it out!



Left, Steve & Laura Arnold & Steve Grega spinning honey in one of our club extractors; right, John & Violet Arnold tasting their first-ever spun honey!

Club uncapping tank, knife, & fork? Kevin noted that the club bought two extractors, but not uncapping tanks, knives, and forks; he asked whether members would support the board's using dues funds to buy these items to complete these supplies. This passed by a show of hands vote.

LCBA is now a 501(C)3 nonprofit organization: Education Coordinator Peter Glover explained the process. LCBA waited to apply for 501c3 status until the government unveiled its "EZ" online process. It cost \$400, and we received word that we had been granted the status three weeks after we submitted the application. Our articles of incorporation were originally written to pave the way for earning this nonprofit status. The 501C3 status means that we can approach vendors and organizations for donations that they can then write off; those so moved could remember LCBA in wills. Kevin noted that Peter had put in a great deal of work on the application, and all present thanked him.

Southwest Washington Fair Planning: Community Outreach Coordinator Dan Maughan summarized our progress organizing our Fair exhibit and invited anyone interested to pitch in. Susanne distributed complimentary admission and parking passes for our volunteers and explained our partnership with the Master Gardeners and Noxious Week Board to emphasize planting for pollinators. (See the Fair report, below, for details of how it all turned out!)

Youth Scholarship Program: Phil Wilson asked on behalf of new members how this program works. Peter explained that the club wants to encourage more young people to get into beekeeping, so LCBA started the scholarship program in 2014. We started small, going one school district at a time, which fit our available resources and mentors. In 2014, we situated the program at Toledo High School; this year, at Onalaska H.S. Next year we may branch out to middle schools. The students apply and must come from families new to beekeeping; the board reviews applications; the winners get a mentor and LCBA outfits them with bees and their first year of supplies. Susanne reported that this year's student, Jana Girt, her mentee, has pulled her

first honey and plans to enter the Fair contest; she'll also be volunteering at our exhibit on Children's Day.

The Bee Beard Experience: You may have seen photos of those who dare to wear eight pounds of bees on their bodies in the phenomenon known as "bee beards." Joining their number in July was LCBA's own Treasurer Rick Battin, whose slideshow of this experience at WSU's July 11 short course in beekeeping was a highlight of this meeting. Please see our August newsletter, where Rick's talk was previewed with photos & commentary. There's also a detailed slideshow with descriptions on both our Facebook page and on our website:

http://lewiscountybeekeepers.org/photo_gallery/bee_beards_at_wsu_july_11_2015 Your scribe urges you to view one or the other – the photos are truly amazing. At our meeting, Rick explained the process in detail. To prepare for this workshop, entomologist Dr. Tim Lawrence (Whidbey Island Extension director and LCBA's October 2014 speaker) had, for several days, attached queens in their cages to a wooden stand with a mesh screen. Repeatedly, Tim knocked bees clustering around these queens onto the ground, so that they got used to the experience of falling and regrouping before human beings arrived to take the place of the wooden stands.

When Rick decided to take the plunge, the first step was applying DEET insect repellent anyplace he *didn't* want bees: this included his face (sunglasses helped keep bees out so that he didn't have to put DEET too near his eyes) – and the LCBA logo on his shirt (see photos below). Rick rubbed his beard by accident, and you can see in the photos how the bees avoided that area. He kept his shirt well tucked in, and also his sleeves – to avoid potential stings to the armpit. Next, four queen cages were attached to his collar to attract eight pounds of nurse bees, who were clinging to the gentleman in line before Rick at the bee beard workshop. When the first gentleman jumped, the bees fell, and Rick quickly moved into his spot (taking care not to crush bees); the bees, scenting queens, flew up to join them . . . on Rick (see below):



Rick reported how Tim Lawrence and Sue Cobey (see right photo) walked him through the process; Sue is shown wielding the smoker, which was aimed anyplace anyone sustained a sting. He tried to stay calm and mainly succeeded, though at first he thought he was getting stung

when he felt sharp pricks on his arm – he then realized that those pricks were the tiny claws of bee feet clinging to him (in one photo on the website, you can see bees chaining from his arm to his body). The bees were nurse bees and relatively gentle: Rick sustained only one sting during the entire process. He reported that being covered in bees felt “warm and windy”: the bees were fanning on him! The experience lasted ten minutes, though Rick said it felt more like a day and a half. Rick particularly liked the “bee ‘fro” he got on his hair. Finally, when he felt “done with this experience,” he did the jump, and LCBA member and Journeyman candidate Nancy Toenyman stepped up for her own bee beard.

Rick also reported on the short course in beekeeping at WSU, which he has now taken three times, along with the queen rearing course also offered the same weekend. Among the topics covered are identifying bee diseases by examining frames, doing splits, visiting the APIS lab to see how they perform diagnostic tests, and more. WSU alternates beginner and more advanced modules by year, and though there is some repetition, each year has new features: for example, last year, they had a honey house module. There is so much to take in that even repeating a workshop is worthwhile. Rick also noted that WSU breeds their bees specifically for gentle demeanor; they require gloveless beekeeping to encourage those handling the bees to be gentle with the girls. They use smoke rather than sugar water to help keep bees calm during workshops. Rick and others recommended WSU’s short course highly.

LCBA at the 2015 Southwest Washington Fair - Highlights



Left, Cody Warren shows little visitors how to find the queen in the observation hive; right, LCBA's busy exhibit on the weekend of the Fair.

This year, LCBA partnered with our county Master Gardeners and Noxious Weed Control Board to share a special focus on “Planting for Pollinators.” We gave out 500 Burpee’s Bee and Butterfly Garden seed packets donated by the National Park Service, as well as the Weed Board’s “Bee-utify” seed mix. Over the course of the week, more than 40 LCBA volunteers pitched in to share our love of honey bees with Lewis County neighbors, answering questions about honey bee behavior in our observation hive (a magnet for kids of all ages), helping visitors get hands-on to learn how our (bee-less) Langstroth and top bar hives worked, and showing story-boards of swarm captures and carve-outs as we got the word out that a

homeowner's unwanted barn bees can become a new beekeeper's cared-for colony. We were struck by how concerned the public has become about honey bees, and quite a few signed up for our "how to get started in beekeeping" orientation this September. Some said that the Fair was less well-attended this year than in years past, but even on the Tuesday and Wednesday – with temperatures in the 90s – waves of curious visitors rolled in from the Fairway, drawn by the wild hive hanging over our display and the promise to "See the Bees" in the observation hive.



Above left, a visitor photographs the wild hive as Kevin Reichert & Phil Wilson answer questions at the observation hive; right, Peter Glover & Dan Maughan listen as Gottfried Fritz demonstrates features of his top bar hive.

A big THANK YOU goes out to our volunteers who loaned gear & volunteered in our booth:

- Dan Maughan shared the organizing work with Susanne this year. To help the public see where beekeepers keep bees, Dan loaned his hand-tooled Langstroth hive (screened bottom board, deep, super, inner cover, telescoping cover, plus sample frames with drawn comb), a well as a home-made nucleus hive box, bottom board, and migratory cover so that people could see the difference.
- Peter Glover loaned beekeeping tools (hive tools, hive brush, smoker, spray bottle, frame spacer, frame rack, bee suit & gloves).
- Gottfried Fritz loaned his top bar hive and wrote detailed explanations of how all its assorted parts worked; Gottfried also brought in a taster of cut-comb honey for visitors to enjoy.
- Mel Grigorich loaned his classic old hand-crank extractor and stand; Peter loaned a hot knife, uncapping fork, uncapping stand, and food grade bucket to round out the "extraction" part of our display.
- Nancy Toenyan made a special display board explaining the difference between normal and genuinely dangerous allergic sting reactions.
- Sharette and Tim Giese loaned their display boards of honey bee biology and behavior, as well as their display of actual "Gifts of the Hive" that includes not only honey, but beeswax and jars of pollen and royal jelly in various forms.



Above left, Linda Newton showing the “little queen” to visitors on Children’s Day; middle, the royal lady herself (photo, Richelle Johnson); right, Martin Stenzig explaining Langstroth hive components to a visitor.

- Art and Debra Sporseen loaned a beautiful sample of wild comb in a jar, along with raw honey from some of that wild comb.
- To help us explain how we remove bees from places where they're not wanted, Mel also loaned the vacuum box that his son made to help him do carve-outs; Dan loaned his swarm capture bucket and a sample of wild comb woven into a fir tree branch. . . .
- Kevin & Jeanne Reichert & Grant Inmon again loaned the amazing wild hive and paper wasp nest display that hangs over our exhibit and draws so many people into the Floral Building. Jeanne's story board that explained the process by which Kevin and Grant captured this hive helped volunteers explain it to visitors.
- Big thanks go to Norm Switzler, who loaned his bees in the observation hive, which each day fascinated literally hundreds of people who had never seen honey bees in a hive doing their daily jobs. Bob Harris loaned us a sturdy display table for the wild hive – as Dan noted, if the observation hive were knocked over, well, that would ruin everyone’s day. . . . Bob also loaned the LCBA banner that hangs in his Chehalis Farmer's Market display each week of the summer except Fair Week.
- It would be a shame not to thank the National Honey Board, who donated all those great honey brochures and recipe cards to give away.
- Thanks to everyone who entered honey in our Fair contests – more on that below!
- Finally, thanks to our LCBA members who helped set up & volunteered in the booth, sharing their knowledge of bees and passion for keeping them, made our exhibit a truly energetic draw: (in alphabetical order) Chuck Ament; Rick Battin; Gordon Bellevue; Ron Black; John Blacklaw; Ed Carter and Sue Allen; Debbi Cornell; Pamela Daudet; Gottfried Fritz; Jana and Janelle Girt; Peter Glover; Linda Gorremans; Mel Grigorich; Mike Helms; Steve Howard; Grant and Diane Inmon; Judy Kalich; Jason and Maria Key; Dan Maughan; Linda Newton; Ed Odell; Terrie and Michaela Phillips; Kyle Pratt; Kevin & Jeanne Reichert; Vicki Sloan; Martin Stenzig; Norm Switzler; Kimo Thielges; Jacob Thompson; Nancy Toenyan; Cody and Linnea Warren; Susanne Weil; Doug Williams; Phil Wilson; & Walt Wilson.

Finally, special thanks are due to Mary Jo Christiansen (Master Gardeners) and Bill Wamsley (Noxious Weed Control Board) for working with us on coordinating our displays, and to Sandy Grady for help handling logistics in the Floral Building.

Fair Honey Judging Contests – Judging Process & Winners

Contest #1: The Official Fair Honey Contest

Honey Judging Criteria:

In our June/July and August newsletters (and on our website), LCBA published the criteria for this year’s official Fair honey judging contest. This is the first year that our contest used a formal scale to assess different aspects of honey. In the past, the honey was measured with a refractometer for moisture content, tasted for possible scorching, and held up to the light to assess foreign objects, but no numerical scores were assigned. This year, the board tasked Education Coordinator Peter Glover with developing a judging process that would take our contest to the next level of professionalism. Here is the score sheet Peter developed to put numerical scores on our honey judging criteria, with point values drawn from Eastern Apicultural Society guidelines:

Point Scoring Sheet

PFUND # (Jack’s Scale color code):

Judge’s Remarks:

___ / 20 maximum

Density (measured by refractometer: over 18.6% moisture disqualified; under 15.5 docked points based on amount under)

15.5 – 17.0: 20 pts

17.1 – 18.0: 15 pts

18.1 – 18.6: 10 pts

___ / 10

Absence of Crystals

___ / 30

Cleanliness (absence of wax chunks, bee body parts, foam, lint, dirt, etc.)

___ / 20

Flavor – points reduced for honey that has been adversely affected by processing / scorching

___ / 10

Container appearance (cleanness, neatness)

___ / 10

Accuracy of filling (Precise jar filling: head room between 3/8 inch & half an inch with no visible gap between honey level & cap

___ / 100

TOTAL



Above left, Susanne Weil & Peter Glover at the honey judging table; right, 29 jars of scored honey.

The Judging: Judging 29 jars of honey turned out to be quite a process and took three hours! It was a fascinating challenge. Each honey was anonymous until the cards were opened after the judging. Peter judged the honey and Susanne assisted as clerk, writing down scores and working the refractometer. We collaborated where there were knotty questions about degrees of crystallization, bubbling, foam, or just exactly what number on Jack’s Scale a particular honey fit. Here’s how it worked

First step, color categorizing: Each honey was measured on the PFUND Scale – the “Jack’s Scale” that codes honey colors – and to our surprise, many honeys that most would assume are “dark” turned out to be “dark amber” or even plain amber. At the other end of the spectrum, several honeys were in the white and even “extra white” categories. By far the most honeys – 12 – fell into the “light amber” category. 6 were extra light amber, 5 were amber, 2 were extra white, 3 were white, and only one was dark amber.

Next: the crystallization test: We used Dave Gaston’s “light box” that allowed us to view the honey through a polarized sheet, helping us see crystals where they were present in an entry (a magnifying glass came in handy here, too). It’s important to distinguish between the cloudiness of pollen – which is not only fine, but desirable in raw honey – and the presence of crystals, which can lead to the honey crystallizing altogether later on.

Next: the refractometer test: A dab of honey was placed on the club’s new refractometer, which measured its moisture content. Not a single entry was over the 18.6% moisture maximum – a tribute to our entrants’ care in selecting frames for spinning that were fully or mostly capped. After each measurement, the refractometer had to be cleaned, then re-calibrated using distilled water (not just filtered water – not having minerals in the cleansing water is key to the scale’s accuracy). Whenever we encountered a honey that was under the 15.5% minimum – something honey professionals see as a problem because it affects the spreadability of the honey – we measured its moisture content three times to be sure. We did the same for honeys in the 17.1 to 18 and 18 to 18.6% categories that lost points.



Above left, foam & wax chunks on top lost points; right, incomplete fill, too, is a problem.

Next: assessing assorted “presentation” issues: Was the jar clean? Was it filled fully? Some entries lost points for having a “visible gap” between the jar and lid – the Eastern Apicultural Society sees this as “shorting the customer” since as much as an ounce of honey could be missing from such a jar. How about foam, bubbles, bee bits, or other foreign objects in

the honey? These also lost points: we strove to be consistent in how much, say, foam, equaled how many points off. One thing beekeepers need to be aware of is that once bottled, honey takes about a day or two for foam and wax bits to rise, and longer for bubbles to dissipate. It's important to bottle honey at least a week prior to entering it in a competition so that it will look its best – and the beekeeper can carefully scrape risen foam or wax bits off the top, then add honey to complete the fill before entering it.

Awarding the ribbons: It seemed most fair to award ribbons by each honey entry's numerical score, rather than within each color category (should a honey that scored 92% get a blue ribbon because it was the highest in that color range – color being something the beekeeper has little control over – while a honey that scored 95% in another color range gets a red?).

The Winners: 23 of the entries scored between 90 and 100% on this scale and earned ribbons; honeys below 90% did not earn a ribbon, but none scored under 80% - which just goes to show what a good job our beekeepers did processing their honey this year.



Blue Ribbons (97-100%)

100% score & Best in Show: Steve Howard for his Light Amber honey

Sharette Giese for her Amber honey

Dan Maughan for his Extra Light Amber honey

Ed Carter & Sue Allen for their Light Amber honey

Steve Howard for his Extra Light Amber honey

Steve Howard for his Extra White honey

Red Ribbons (93-96%)

Ed Carter for his Extra Light Amber honey

Patricia Ermert for her Amber honey

Sharette Giese for her Light Amber honey

Jana Girt for her Extra Light Amber honey

Jennifer Reiman for her Light Amber honey

Kevin Reichert for his Dark Amber honey
Kevin Reichert for his Light Amber honey

White Ribbons (90-92%)

Ed Carter & Sue Allen for their Extra Light Amber honey
Ed Carter & Sue Allen for their Light Amber honey
Dan Maughan for his White Honey
Terrie Phillips for her Extra Light Amber honey
Pamela Daudet for her White honey
Lori Eades for her Light Amber honey
Michaela Phillips for her Light Amber honey
Kevin Reichert for his Light Amber honey
Art Sporseen for his Extra White honey
Kevin Reichert for his Amber honey



Above left, defending champion Kevin Reichert wins the People's Choice again; right, our busy tasting station.

Contest #2: The People's Choice Honey Tasting

The highlight of LCBA's weekend at the Fair was our People's Choice Honey Tasting: it drew over 500 visitors, who sampled 21 raw local honeys and marveled at the range of colors & flavors. Many had never tasted natural, raw maple, clover, blackberry, wildflower, or fireweed honeys. It's probably safe to say that NO ONE had ever tasted carrot blossom honey before: this entry by Dan Maughan was probably the most eye-widening flavor (it actually tied with the overall contest winner in Sunday votes and truly tastes like its floral origin). These honeys inspired many visitors to take the seed packets we'd placed at the end of the tasting line to plant in support of our Lewis County bees.

This contest really belongs to our Fair visitors. Our volunteers took care that only those who tasted all 21 honeys actually voted. There were 320 votes in total, but easily twice that many visitors tasted some honey – not everyone could get through that many without experiencing

“sweetness overload,” as one visitor put it. Without further ado, then, congratulations are due to our top vote-getter – and winner of the People’ Choice ribbon for the contest – longtime beekeeper & LCBA vice president Kevin Reicher. Kevin’s honey, pulled after his girls had worked marionberries, had a flavor which, many commented, had a wine-like note.

1st – and “People’s Choice” ribbon – Kevin Reichert’s marionberry honey

2nd – Steve Howard’s light clover honey

3rd – Sharette Giese’s wildflower honey

4th – Susanne Weil & Peter Glover’s blackberry/wildflower honey

5th – Dan Maughan’s carrot honey

6th – Linda Newton’s fireweed honey

7th – Mel Grigorich’s “whatever” honey

Tied for 8th – Barbara Cearley’s clover honey and Sharette Giese’s berry honey

10th – Mel Grigorich’s maple honey

Every one of the other 11 honeys got love in the form of votes from our visitors, which just goes to show that (a) honey tasting is subjective, and (b) bees are amazingly versatile in pleasing the human palate!



Above left, volunteer Mike Helms with visitors; right, even Miss Lewis County tasted LCBA honey!

Local Lewis County Honey Is (Still) Available for Sale!

LCBA members are selling their local, raw honey. To learn more, visit our website: http://lewiscountybeekeepers.org/honey/buy_local_honey. If you are an LCBA member selling honey & would like to be listed, please contact Susanne!

Washington State Fair Honey Show in Puyallup

If you'd like to enter your honey in Puyallup, here's how:

LCBA member Louis Matej, our May speaker on the chemistry of pollen, honey, and wax, is also Assistant Superintendent of Agriculture at the Washington State Fair in Puyallup. If you'd like to enter your honey or wax products in the Washington State Fair Honey Show, send your exhibit to Louis, and he'll make sure it is entered (address: Louis Matej, 445 S. 96th St., Tacoma, WA 98444; see below re: tips on mailing honey). He notes, "If we receive exhibits through the mail, we cannot send them back in the mail. The fair only sends out monetary awards."

The Washington State Fair Honey Show is statewide and open to all Novice and Open Class Exhibitors. They award "Best of Show", "Novice Best of Show", "Best in Honey, Wax, etc." Ribbons (see "Premium List" on their website, noted below).

To enter, you must register your entry online before sending it to Louis. Louis will save your exhibits after the Fair and return them when he can, probably at one of LCBA's monthly meetings, along with any ribbons your entry may win. (Prize money is sent by the Fair via mail.)

A big caution about mailing honey: Louis notes, "I would make sure the bottles have tops that are clean since there would be some turn over in shipping."

If you would rather visit Puyallup and submit your honey or wax products in person, you can bring in your entries to the Fair - entry days are Sept 8 and Sept 9 in the Puyallup State Fairgrounds Agriculture building.

The Honey Show Cabinets will be located outside the Pierce County Beekeepers' Association booth with an exhibit representing all beekeeping associations in the state who send materials (Louis will have LCBA brochures & cards.)

To enter your honey:

1. Go to the "thefair.com" website and click on Competitive Exhibit Entry and click on the Honey Show Premium List for all the rules and regulations.
2. Register online with your exhibits
3. Bring your exhibits to the fair on Tuesday, Sept 8 or Wednesday Sept 9.
4. You will receive free tickets to the fair for your entry.
5. Judging takes place on Thursday morning, Sept 10.
6. View the display cabinet and pick up your ribbons in the Ag Office.
7. You may pick up your exhibits after the fair on the Monday following the fair.

BEE INFORMED: Help Bee Research by Joining HiveCheck & Taking a Monthly Survey – Free, with access to HC Resources

From BIP: "The Bee Informed Partnership invites you to check out our latest program for backyard beekeepers, BIP's HiveCheck Program. Every two weeks we're sending hundreds of beekeepers across the country a short 10 question survey asking how they are managing their colonies to share management practices with each other. At the end of each week we send a

detailed report of all the responses to our participants including filters to see management trends by region and even by state for premium members! Join Us Today By Signing Up For A Free National Report Membership! If you like you can also sign up for our premium membership to Support Bee Informed's research and receive more detailed reports. We hope to see you sharing your management practices with us and the nation!" – The Bee Informed Team

To read more & sign up, visit: http://www.beeculture.com/catch-the-buzz-bips-new-hivecheck-2-0-regional-survey/?utm_source=Catch+The+Buzz&utm_campaign=8ad9dac5ac-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-8ad9dac5ac-256261065

TOOLS FOR VARROA MANAGEMENT ~ A NEW GUIDE, FREE ONLINE

From Dewey Caron via Fran Bach's "Notes for Beekeepers: "The Honey Bee Health Coalition has completed the first edition of 'Tools for Varroa Management, A Guide to Effective Sampling & Control.' The guide lays out an Integrated Pest Management (IPM) strategy for managing Varroa mite infestations; including how to monitor mite levels, chemical and non-chemical methods to control the mites, and methods to determine which treatment is appropriate for a beekeeper to use at different phases in a colony's life cycle. The guide can be found at <http://honeybeehealthcoalition.org/Varroa>"

BEES IN THE NEWS

Thanks to Fran Bach, Steve Norton, Martin Stenzig, Kimo Thielges, & the folks at Bee Culture, American Bee Journal, & WSBA for bee news stories. Please keep 'em coming!

Each month, many studies about honey bees are published, and this newsletter column condenses about 30 to 50 pages of new material each issue. This month featured promising research on mite resistance, how bees resist infection, how castes are chemically determined, and more – all fascinating and hopeful. Parallel to these, a whole series of news articles about neonicotinoid pesticides highlighted mounting evidence of how sub-lethal doses harm bees. I'm including U.C. Davis Emeritus Apiculturist Dr. Eric Mussen's editorial piece on this topic in its entirety as the final word in this month's column because he explains the arc of pesticide developments and impacts on honey bees from the perspective of his long career as an entomologist.

"Mite Resistance Not Only Possible, It's Already Happened": 24 Aug 2015, Bee Culture's Catch the Buzz

In upstate New York, entomologists found that after invasion by Varroa mites in the 1990s, wild bees had "[taken] a hit, but they recovered." The team of researchers from the Okinawa Institute of Science and Technology Graduate University (OIST) in Japan and Cornell University conclude: "The population appears to have developed genetic resistance."

Researchers compared DNA specimens from bees collected from the same forest in 1977 and 2010, using new techniques to get at genetic material, aided by Dr. Tom Seeley's dissertation samples. The study showed evolution taking place not on a millennial scale, but "from generation to generation. External forces cause certain traits to be selected and passed on to

offspring to enhance their chance of survival and reproduction. By comparing bees from the same colony only a few decades apart, the team was able to see this natural selection in action.”

Changes in mitochondrial DNA – which is only passed on by queens – were radical, suggesting that old queens died out. Despite this, the wild bees showed “a high level of genetic diversity throughout the rest of genome, which is stored in the cell nucleus” – and “high genetic diversity increases the chance for successful adaptation.” The key adaptation may have been changes “in a gene related to a dopamine receptor known to control aversion learning. Another study has suggested this receptor is involved with bees grooming themselves to get rid of the mites by chewing them up.” Other changes were noted in genes connected to larval development and size – “today’s bees are smaller than the older bees and their wing shape is different.”

Although “the timeframe is too long” to ascribe all changes to mites or any other single factor, the researchers say the changes are too significant to be random genetic blips. Best of all, “These findings identify candidate genes that could be used for breeding more resistant bees, such as the dopamine receptor gene,” Mikheyev said. “More importantly, it suggests the importance of maintaining high levels of genetic diversity in domestic bee stocks, which may help overcome future diseases.”

To read more, visit: http://www.bee-culture.com/catch-the-buzz-mite-resistance-not-only-possible-its-already-happened/?utm_source=Catch+The+Buzz&utm_campaign=8ff80e376d-Catch+The+Buzz+4+29+2015&utm_medium=email&utm_term=0_0272f190ab-8ff80e376d-256261065 . The study was also covered by *American Bee Journal* with more detail about Dr. Seeley’s work from 1977 forward: see <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=693b2f10c5&e=e9ff21e0bb> .

“Australian researchers combat bee decline with tiny trackers”: 25 August 2015, CNN;
“Sick Bees Work Less, Die Young”: 9 August 2015, *Bee Culture*

Scientists in Australia are tracking bee travels by gluing tiny radio-frequency identification chips onto their backs – “bee backpacks” just a quarter-centimeter long. They’re specifically looking for ways that bees change their normal, predictable routine – changes that suggest stressors like “disease, pesticides, air pollution, water contamination, diet and extreme weather on the movements of bees and their ability to pollinate.” Because Australia has so far avoided severe Varroa mite problems and other problems that American and European bees struggle with, Australian bees serve as controls for research on other continents.

According to lead researcher Dr. Lori Lach, “We just had to hold [the 960 bees] in our hands and hope the glue dried quickly. It was actually quite a process – they had to be individually painted, then individually fed, then the tag glued on. Then individually scanned so we knew which tag was on what color and treatment bee and which hive it was going into. It all had to happen within about eight hours of emergence because as the day goes on they start learning how to fly and they get better at stinging.”

Scientists then infected half the bees with nosema spores and used the RFID tags to help compare how much infected v. non-infected bees foraged and what they brought back. It turned out that “infected bees were 4.3 times less likely to be carrying pollen than uninfected bees, and carried less pollen when they did. Infected bees also started working later, stopped working sooner and died younger.”

To read more, visit: <http://www.cnn.com/2015/08/25/living/honeybees-backpack-trackers-feat/index.html> and http://www.beeulture.com/catch-the-buzz-sick-bees-work-less-die-young/?utm_source=Catch+The+Buzz&utm_campaign=af38252c73-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-af38252c73-256261065

“Bees naturally vaccinate their babies, scientists find”: 31 July 2015, *Washington Post*

A new study of bee blood proteins has shown that bees inoculate eggs laid by their queen against pathogens. The royal jelly that nurse bees feed the queen turns out to be blended with pathogens that the queen breaks down in her “fat body,” an organ similar to a liver, where they are packaged onto a protein called vitellogenin and delivered to eggs through the queen's blood stream. The result: newly hatched bee larvae that are already immune to the nasty germs that could have plagued the colony.” That vitellogenin is what carries “immune-priming signals” is new information that enables scientists to build on decades of work with the protein.

Although this doesn't protect bees from American Foulbrood, deformed wing virus, or nosema, this new understanding of how bees' natural immunizing works may help scientist create “edible vaccines” to support bees. Scientists are already working on a patentable process which may have relevance for any animals with vitellogenin protein – all egg laying animals, “including fish, poultry, reptiles, amphibians and other insects.”

To read more, visit: <http://www.washingtonpost.com/news/speaking-of-science/wp/2015/07/31/bees-naturally-vaccinate-their-babies-scientists-find/>

“Flowers Can Endanger Bees: Study by UC Riverside entomologist and colleagues shows flowers serve as parasite-dispersing hubs”: 5 August 2015, *American Bee Journal*

Flowers feed bees, but also can be “hotspots for parasite spread between and within pollinator populations,” according to a new study. “[H]eavily visited flowers may become more 'dirty' with bee parasites,” so to support bees, increased planting to provide widespread forage may lessen the spread of “four common honey bee and bumblebee parasites dispersed via flowers: *Nosema apis* (causes a honey bee disease), *Nosema ceranae* (causes an emergent disease in honey bees and bumblebees), *Crithidia bombi* (causes a bumblebee disease) and *Apicystis bombi* (mostly found in bumblebees). These parasites are known to cause, lethargy, dysentery, colony collapse, and queen death in heavily infected bees.”

Transportation of bees in commercial pollination aids the spread of disease. “Quarantine and parasite screening usually cover only the screening of host-specific diseases. But bumblebees can transport honey bee parasites, and vice versa, the research team has now shown, and proposes that increased screening protocols be employed to protect pollinator diversity.” International flower trade may also be affected.

The study was done by letting one species forage on one set of flowers for three hours. These bees were then taken away, a second flower group was added, and a different bee species turned loose on both. After this, all the flowers were examined. The result: “Parasites found in the original patch confirmed parasite dispersal by the original hosts. Parasites found in the new group of flowers confirmed the non-target bee was able to disperse the parasites.”

The silver lining, though, is that “flowers may also be hubs for transmitting not just parasites but also potentially beneficial microbes.” The study is continuing to look into how various flowers affect bee health.

To read more, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=bd132a83dd&e=e9ff21e0bb>

“Beyond Royal Jelly: Study Identifies Plant Chemical that Determines a Honey Bee's Caste”: 28 August 2015, *American Bee Journal*

P-coumaric acid, the same plant chemical that activates honey bees’ immune genes, has just been discovered as crucial to “how honey bee colonies determine which larvae will serve as workers and which will become queens.” Major “developmental changes occur when honey bee larvae - those destined to be workers - are switched from eating royal jelly (a glandular secretion) to a diet of jelly that includes honey and beebread (a type of processed pollen).” The queen’s exclusive diet of royal jelly lacks the p-coumaric acid that infuses bee bread and honey.

The study showed that “ingesting p-coumaric acid pushes the honey bee larvae down a different developmental pathway from those fed only royal jelly. Some genes, about a third of the honey bee genome, are upregulated and another third are downregulated, changing the landscape of proteins available to help fight disease or develop the bees’ reproductive parts,” according to May Berenbaum and colleagues. “For years, people have wondered what components in royal jelly lead to queen development, but what might be more important is what isn’t in royal jelly - plant chemicals that can interfere with development.”

To read more, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=2e5a7ac93d&e=e9ff21e0bb>

“The effect of sub-lethal pesticide exposure on pollination-relevant bee foraging behaviors across a species richness gradient”: 31 Aug 2015, *Bee Culture*

Previous studies have already shown how sub-lethal doses of neonicotinoid pesticides “may have negative impacts on worker lifespan, colony weight, and pollen collection,” but a new study has explored how sublethal doses “affect[] bee behaviors important for pollination at both individual and community levels. At the individual level, floral fidelity, where bees temporarily specialize on one flower species, is particularly important for plant reproduction since it allows for conspecific pollen transfer. At the community level, visitation evenness is important as it allows all plant species to receive pollination services.” The study examined not only honey bees, but species of bumblebees and mason bees through “laboratory foraging experiments in an automated chamber with artificial flowers and built-in RFID tag readers that allowed for exact tracking of bee movements.”

For all types of bees sampled in the study, floral fidelity dropped with sublethal neonicotinoid doses. Researchers also found that exposure to these chemicals lowered the evenness of pollinators’ visits to flowers. When pesticides were present, they “found that smaller-bodied solitary bees were disproportionately impacted by sub-lethal neonicotinoid exposure compared to larger-bodied bumble bees (*Bombus*), which disrupted competitive outcomes. This indicates that neonicotinoid pesticides may decrease the quality of pollinators in terms of plant pollination services.”

To read more, visit: http://www.beeculture.com/catch-the-buzz-abstracts-from-the-entomological-society-of-america-meeting/?utm_source=Catch+The+Buzz&utm_campaign=948c152ea3-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-948c152ea3-256261065

“Low Doses of Insecticides Similar to Nicotine Found in about Half of Sampled Streams across the United States”: 20 Aug 2015, *Bee Culture*; “Insecticide linked by some to honey bee die-offs found in U.S. stream samples”: 19 Aug 2015, *Reuters*

In a study run from 2011-14, neonicotinoids were found in 63% of streams examined by the U.S.G.S. in 24 U.S. states and Puerto Rico. 149 samples were taken from 48 streams, “include[ing] many waterways through the Midwest and Southeast.”

“In the study, neonicotinoids occurred throughout the year in urban streams while pulses of neonicotinoids were typical in agricultural streams during crop planting season,” said USGS research chemist Michelle Hladik, the report’s lead author. The study was a required first step “to set priorities for environmental exposure experiments and the potential for adverse impacts to terrestrial and aquatic organisms.”

“Detections of the six neonicotinoids varied: imidicloprid was found in 37 percent of the samples in the national study, clothianidin in 24 percent, thiamethoxam in 21 percent, dinotefuran in 13 percent, acetamiprid in 3 percent, and thiacloprid was not detected.”

To read more, visit: http://www.beeculture.com/catch-the-buzz-low-doses-of-insecticides-similar-to-nicotine-found-in-about-half-of-sampled-streams-across-the-united-states/?utm_source=Catch+The+Buzz&utm_campaign=6e17b1a811-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-6e17b1a811-256261065 and <http://in.reuters.com/article/2015/08/18/us-environment-insecticides-study-idINKCN0QN23H20150818>

“Food and Farming Groups Urge EPA to Refocus on Pesticide Problem Facing Bees”: 28 Aug, *WSBA Online*

Washington State Beekeepers Association and Olympia Beekeepers Association are among 11 food, beekeeping and farm groups that gave a joint letter to the EPA urging that the agency look differently at how pesticide seed coatings affect bees. EPA’s new proposed rules don’t take into account how most pollinators actually get into contact with pesticides – through sub-lethal exposure during foraging.

Other groups signing on were Hawai’i SEED, Kansas Rural Center, Kaua’i Beekeepers Association, National Family Farm Coalition, Pesticide Action Network North America, Pollinate Minnesota, Pollinator Friendly Alliance of Stillwater, San Diego Beekeeping Society, and Women, Food and Agriculture Network. EPA also received more than 115,000 comments from individuals through petitions submitted by PAN and partner organizations Beyond Pesticides, Friends of the Earth and TakePart “urging the agency to better protect bees from harmful pesticides — specifically, neonicotinoid-coated seeds.”

To read more, visit: <http://www.panna.org/food-and-farming-groups-urge-epa-refocus-pesticide-problem-facing-bees>

“Apicultural Conference Tackles Neonic Issue: Italy Banned the Seed Treatments in 2008”: 20 Aug 2015, *American Bee Journal*

At August’s Eastern Apicultural Society meeting, Italian researchers presented data showing that Italy’s ban on neonicotinoids did not lead to crop losses. Meanwhile, “Spring bee losses disappeared between March and June when corn is sown after the ban was enforced . . . Over the last three years our winter losses have been below 10 percent – a normal range,” according to lead scientist Franco Mutinelli, head of Italy’s National Reference Laboratory for beekeeping, the Experimental Veterinary Sciences Division, and Diagnostic Services for Histopathology and Parasitology.

Italy has roughly 50,000 beekeepers and 1.3 million honey bee colonies: by 2009 (when seeds coated with neonicotinoids in 2008 before the ban passed were planted), they were experiencing colony losses of 50-60%. “While the restrictions amount to a ban when it comes to seed treatments, the insecticides continue to be used as foliar sprays for such crops as fruit and in greenhouses,” though applications are made only after the bloom period is over.

The study also showed that in the U.S. and Canada, “trials show[ed] only a small yield benefit” for growers who planted coated corn and soybean seeds. The study examined many other factors, including honey production.

To read more, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=845254510e&e=e9ff21e0bb>

From Project Apis m. newsletter (link below) – Dr. Eric Mussen, Emeritus Extension Apiculturist and Professor of Entomology from U.C. Davis, warns against neonicotinoids’ impact on bees. I’m reproducing his entire column here:

“Not too long ago, our chief concerns about most insecticides and honey bees were acute poisoning with organophosphate and carbamate products. While many colonies died outright, many more survived with contaminated pollens that caused up-to-a-month mortality of newly emerged adult workers that consumed the pollen. The notable exception was PennCap-M, where stored contaminated pollen would kill bees up to a year later.

“The pyrethroids came next and were a bit more subtle. The quick-killing compounds eliminated foraging populations without leaving large numbers of dead bees in and around the hives. Pyrethroid-contaminated pollens appeared not to be much of a problem until cold weather arrived. When bees that ate the contaminated pollen moved to the outer layer of winter clusters their cooler body temperatures could not detoxify pyrethroid residues. This phenomenon led to significantly increased winter colony losses.

“With a few notable exceptions, the use of fungicides and insect growth regulators (IGRs) in commercial agriculture resulted in few detectable detrimental effects on foraging bees or colony populations. Pesticide applications containing adjuvants, such as emulsifiers, spreaders, stickers, etc. appeared to cause few problems for foraging bees and their colonies.

“Since crop pests tend to become selected for resistance over time, chemists continue to develop pesticides that use unique biochemistry disruptors to inhibit growth or kill target pests. Since it is difficult to find metabolic pathways that interfere only with the pest of interest, these chemistries can affect “non-targets.” This is particularly true when many pesticides and

adjuvants are tank-mixed together and applied to bee-attractive bloom. Many of these combinations have been shown to increase physiological effects of components (synergism) such that mixes, expected to be benign to bees, kill them.

“Additionally, while we used to worry about insecticide residues in the parts per million (PPM), newer chemicals produce negative effects at parts per billion (PPB), and recent research suggests that hormonal effects at parts per trillion (PPT) may be more common than anyone expected. Currently we are just beginning to develop ways to find such tiny quantities of these residues. It would be interesting to determine if honey bee's biological detoxification systems are activated by such low level concentrations in bee bodies, or the chemicals still can produce negative effects without being detected.

“Researchers and regulators have to adjust to new realities of toxic effects and synergisms of pesticides at mostly undetectable levels.

“Given all this, if we wish to protect honey bees and other pollinators, we should attempt not to apply ANY pesticide to bee-attractive bloom of any kind - commercial agriculture, backyard gardens, or pestiferous weeds.”

ANNOUNCEMENTS

Local Honey is Available Now: Visit our website, click on Honey, then on “Buy Local Honey.” If you're an LCBA member who is selling your honey, let Susanne know to be listed on the site.

2015 Vita International Honey Bee & Beekeeping Photo Competition: Entrants may submit up to 4 photos in Vita's competition. Winners will be featured in the 2016 Vita (Europe) Ltd Calendar (winners receive a free copy). Winners receive both a cash prize and Vita anti-Varroa products. Also, best “entries will be added to the Vita Gallery, a free online resource of more than 600 honey bee-related photos which is used by beekeeping lecturers and associations across the globe.” Submission deadline: October 18. For details on how to enter, visit: <http://www.vita-europe.com/news/2015-vita-international-honeybee-and-beekeeping-photo-competition/>

October 1-3: 38th annual Western Apicultural Society (WAS) conference at the Millennium Harvest Hotel in Boulder, Colorado. See westernapiculturalsociety.org. This year, WAS's theme is "Healthy Bee / Bee Healthy," co-hosted by the Colorado State Beekeepers' Association in Boulder, CO. Days 1 & 2 will focus on bee health; the final day will emphasize the relationship between bees and human health and interaction. Speakers will include Marla Spivak, Elina Lastro (who succeeded Eric Mussen at U.C. Davis), and more. For young people, the conference includes the NextGen Beekeepers Summit facilitated by beegirl.org on Thursday evening and the ABF Bees and Kids "Bee Curious" program on Saturday afternoon. For more details, visit the WAS website: <http://www.westernapiculturalsociety.org/category/2015-conference-news/> .

Here are some of the workshops WAS will have for conference-goers:

- “Create your Own Queen Bee Pedigree: Queen Rearing Made Simple”
- “Real Time Disease Load Monitoring Service”
- “Excuse Me, But Your Porch Is Covered In Bees”

- “Managing Media to Make More \$”
- “Bee Mentors Matter”
- “Make Your Own Re-usable Winter Hive Jacket”
- The Oregon Mead Festival follows on October 18 and tickets are also available at www.eventbrite.com. For more information about both, see the www.OregonHoneyFestival.com website and "LIKE" us on Facebook!

WSBA Elections: On October 11, WSBA will hold its fall meeting at the Rodeo BBQ in Ellensburg. If you'd like to serve on WSBA's board or have concerns or suggestions for WSBA, please contact WSBA Secretary Susanne Weil (Susanne.beekeeper@gmail.com) or Charles Bennett, Vice President of WSBA, at vpresident@wasba.org.

September 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.

September 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)