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December 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: secretary@lcba.community or call 360 880 8130

UPCOMING EVENTS



Thursday, December 8 ~ LCBA's 8th Annual Holiday Potluck ~ New Location!

Please mark your calendars to share good food, good fellowship, door prizes, & after dinner, brief monthly meeting with board elections & bylaws voting, fundraising drawing for our 2017 Youth Scholarship Program, our traditional Beekeeping Q&A, & more.

Where: New Location – Borst Kitchen #2, Fort Borst Park in Centralia: 2020 Borst Avenue; in Borst Park on the right side of the road, just past Thorbecke's Fitness Center.

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.

Please Bring: A dish of food to share & a plate, cutlery, & cup to eat/drink from. Borst Kitchen has tables & chairs, ranges, a refrigerator, & plug-ins for hot pots. LCBA will provide soda, water, 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 Secretary@lcba.community; call 360 880 8130. Below, Borst Kitchen #2:



Above left, Borst Kitchen #2; right, Jeanne Reichert, Peter Glover, & Kevin Reichert carving hams at last year's potluck. LCBA is providing 2 hams for this year's potluck.



Above, left, Josiah Cowin, one of our 2016 Youth Scholars, on bee pickup day with his mentor, Gottfried Fritz; right, Josiah & Gottfried in the field. The two will speak to members at our potluck about Josiah's first year in beekeeping.

Saturday, January 7: Getting Started in Beekeeping – A Free Orientation

When: 10 a.m. to noon

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

What: Do you have friends who are interested in keeping bees, but not quite sure what's involved? Please tell them about this free orientation! LCBA beekeeping instructors Peter Glover and Susanne Weil will cover benefits of beekeeping, "bee biology 101," equipment needed, how to set up your apiary, what beekeepers do over the course of their first year, getting and managing bees, harvesting honey, parasites and diseases, & preparing for over-wintering.

This Orientation is also a preview of LCBA's Beginning Beekeeping Class ~coming this January & February (see below) - offered through Centralia College's Continuing Education Program

Questions? Call 360 880 8130; email secretary@lcba.community



New Beekeeper Reena Schiele at our May 2016 Hive Inspection Workshop

Thursday, January 12

LCBA Monthly Meeting: Topic TBA

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

Speaker: Unfortunately, Harvard Robbins had to cancel his talk – the board is looking for a replacement speaker. We'll send an email and update our website and Facebook page when we've found one! **Also: Short business meeting & "beekeeping Q&A."**

Saturdays, January 21, 28, February 4, 11, 18, & 25

LCBA's Next Beginning Beekeeping Course: "Your First Year of Beekeeping"

When: 6 Saturdays, 9 a.m. to noon

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

Course Description: This class is designed to help beginners learn to keep bees successfully in southwest Washington's unique conditions. Topics include basic bee biology/behavior, equipment & apiary set-up, seasonal management, identifying & managing parasites & diseases, honey harvesting, over-wintering, & more. Students completing the course earn LCBA's diploma. This course is part of Centralia College's Continuing Education Program.

Registration Begins Early December: visit our website for the registration brochure (http://www.lewiscountybeekeepers.org/upcoming_events) or ask for one at a meeting.

Thursday, February 9 ~ LCBA Monthly Meeting:

New Long Langstroth & Observation Hive Designs – John Edwards, Ruhl Bees



WHERE – ONE TIME LOCATION CHANGE – CENTRALIA COLLEGE, WALTON SCIENCE CENTER, ROOM 121

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.

LCBA November 10 Monthly Meeting Notes



Above left, Dr. Najera & friend (photo, Ross Coyle, Kent Reporter); right, Dr. Najera at a workshop (photo courtesy of Dr. N.)

Nov. 10 Monthly Meeting Notes Dr. Danny Najera: Inside the Waggle Dance And Other Reasons For Keeping Bees

Meeting Notes by Bob Harris, V.P. LCBA.

*For Dr. Najera's PowerPoint, visit our website:
http://lewiscountybeekeepers.org/monthly_meetings*

For a video of Dr. Najera's presentation, check out our new YouTube channel, set up by Cody Warren & linked on our website: http://lewiscountybeekeepers.org/lcba_youtube_channel

Dr. Najera opened with the most common question of all: “why keep bugs that sting”? After all, 50-60 people die annually from bee stings and their complications. In fact, bee stings account for more deaths in North America than any from other domesticated pets.

The answer is simple; because bees are fascinating and more amazing than we ever thought they were. Besides the obvious honey crop and associated products, the amount of agricultural revenue generated is in the millions because of pollination: arguably, the bees' biggest benefit to humanity. Simply put, honey bees are a massive food provider.

Again, though, why keep them at the hobbyist level? Education. Honey bees are amazingly complex organisms with unparalleled vision (including color vision), social structure, and genetics.

Research now concludes that bees have the ability for human facial recognition, sustainable heating and cooling processes within their habitat. Their grasp of sustainability shows us how to look at our own sustainability.

Karl Von Frisch, long noted as the discoverer of the waggle dance suggested that observation is perhaps the singular most important aspect of bee science; and it all hinges on simple

observation. In fact, he suggested that the simplicity of one's observation was the only way for one not to miss the complexity behind the simplicity. He stated the first step was to simply feed the bees and watch the results. Move the feed, watch the difference in the resulting dance. Dr. Najera said that when feeding bees during observation it was noted that for actual honey, when used as the feed stimulus, bees were recorded to travel an amazing 6 miles of straight line flight to retrieve it.

But, observation, as critical as it is, is not enough; one must be curious and want to understand what one observes. The process is simple, yet complex, and few of us actually do it: observe, understand, and be curious. Von Fritsch noted that innate curiosity is more natural to children, and much less so to adults.

The waggle dance is easiest to observe on swarm clusters or in an observation hive, and when executed to a group of other bees becomes an exponential call, as an army, to assemble bees to go and gather; essentially as a single minded organism. Gather nutrition for the whole as a necessity of survival.



Above left, "The Waggle Dance" ~ Image, Wikimedia Commons; right, Karl Von Fritsch, discoverer of the Waggle Dance ~ from Dr. Najera's PowerPoint

The dance, in its simplest construct consists of two main elements: Distance and Direction. The distance to a food source equates to a "longer" dance pattern. The length of the dance pattern, physically, as in inches of comb danced upon, equates to the "time" element of distance.

The Direction element of the dance, again, in relation to the positions on the comb surface, equates to the position of the sun as the primary point of reference. Amazingly, the bee doesn't need to actually HAVE the visible sun as a reference point because it is proven the bee can communicate that position even in its absence. In absolute darkness, the bees substitute the need for a visible reference point by recognizing and compensating with the effect of gravity. It was explained that bees intuitively understand that the sun moves, even at night, and they can track the position of the sun in real time; accurately even in hours of darkness.

Dr. Najera further painted a portrait of the honeybee as a steward of the environment. As a result of the lessons they teach us, we teach our communities to think about how THEY see their world; their world is that of mother nature and conservation. Again, as a result of that conversation amongst ourselves we see our slide toward societal unsustainability. We keep

demanding more and more from our soils, without genuinely replacing nutrients taken from them, and as a result we see the effect of bees suffering our erroneous practices.

Dr. Najera switched up the topic a bit by presenting the thought that the coming generation will be the most distracted generation yet, totally divorced from nature, with virtually no concept of how and where food comes to mouths of humans. It is critical that this generation understands where their future is.

Responsibility, Dr. Najera suggests, belongs to each of us. We own it, which is frightening if we don't even realize it's our banner to carry and cherish.



"Feed & Observe!" ~ from Dr. Najera's PowerPoint

Dr. Najera is an engaging speaker who immediately connected with his audience. His passion, humor, and winsomeness was thoroughly enjoyable. Dr. Najera left us with a thoughtful bit of encouragement to close his presentation, to wit; beekeepers, perhaps more than anybody else, need to have ultimate respect for nature, and we need to boldly share it, as we remember that it was previously shared with us. We beekeepers ARE the educators and ecological gatekeepers because WE see the amazing honeybee as nature's flagship organism.

Following the Q and A with our speaker we broke briefly and then concluded the evening with an abbreviated business meeting.

November Business Meeting Notes

Treasurer's Report: Treasurer Rick Battin indicated that LCBA's main bank account contained \$4,979.34, reflecting two recent transactions: an expenditure of \$50 for Borst Kitchen's rental fee for our December potluck, and a \$ 150 donation for a colony removal done in July. The Youth Scholarship account balance is \$1,969.36.

Proposed Bylaws Revisions: Education Coordinator Peter Glover recapped the proposed changes to the LCBA bylaws by showing a PowerPoint presentation of changes, and explaining them thoroughly. There were a couple of simple questions, but no substantial discussion or objections. These bylaws will be emailed to voting members for review prior to our vote at LCBA's December 8 annual meeting.

Proposed Dues Increase: Following Peter's presentation, President Kevin Reichert said the membership will be voting on the dues increase of either \$12 or \$16 / year at the December annual meeting. For details about the reasons for the proposed dues increase, please see our October meeting, where the September business meeting discussion about this is summarized (past newsletters can be viewed on our website: <http://lewiscountybeekeepers.org/newsletters>). There was no question or discussion.

Post meeting note: the proposed slate of board officers, per our bylaws, is *de facto* elected since no additional nominations were made by November 15.

Why Do Our Bees Die Out in Winter? To close the evening, mentor Gottfried Fritz offered a sobering look at the reality of keeping bees in maritime Washington. He opined that most hobbyist beekeepers consider their bees to be pets, and as such make it very personal. This personal affinity to their bees means that too often we fail to recognize that sometimes those same bees have a mind of their own. Sometimes that mind is to fail as a colony. There is only so much we can do to help a struggling colony apart from being observant and doing our best to intervene early and thoroughly. Too often our best efforts are wasted by being too little or too late. After mid- summer, he opined, the best chance of helping a struggling colony with limited chances of winter survival is to combine it with a robust colony and hope for the best.

HONEY RECIPES FOR THE HOLIDAYS

Courtesy of the National Honey Board

Pineapple Honey Glazed Ham

Ingredients

1 (4 to 5 lb.) - fully cooked boneless ham
1 can (8 oz.) - pineapple slices
1/3 cup - honey
1 Tablespoon - ground mustard
ground cloves

Directions

- Bake ham on rack in shallow baking pan at 325°F for 1 hour or to 120°F on meat thermometer.
- Drain pineapple; reserve liquid. Combine reserved liquid, honey, mustard and cloves; mix well.
- Score top of ham, if desired, and arrange pineapple slices on top. Generously brush honey mixture over entire surface.
- Bake about 30 to 45 minutes longer or to 140°F; baste every 10 minutes.
- Let stand 10 to 15 minutes before slicing.



Baby Back Ribs with Honey, Chipotle & Mango Glaze

Ingredients

- 1 cup – honey
- 2 full racks - baby back ribs
- 1 can - chipotle peppers in adobo sauce
- 4 - ripe mangos, cubed
- 1 teaspoon - pepper
- 1 tablespoon - salt

Directions

Remove ribs from packaging, rinse and pat dry. Remove membrane from backside of ribs. Place in shallow pan, sprinkle salt and pepper evenly and set aside. In a small sauce pan, add chipotle, mango and honey. Cook over medium heat, stirring constantly until cooked down and thick enough to coat the back of a spoon. Using the slow and low method of BBQ'ing, set temperature to 225-240 degrees. If using coals, let them burn off and move over to one side of the grill. Wrap the ribs and 2/3 of the sauce mixture in aluminum foil tightly and place on grill. Close lid. After 2 hours, flip the ribs and let cook for another 2 hours. Open the aluminum and remove ribs, place them on grill and brush on remaining sauce & let cook another 30 minutes. Remove & serve hot.



Duck Breast with Tangy Honey Sauce

Ingredients

- 1/2 cup - canned crushed pineapple, undrained
- 1/4 cup - honey
- 1/4 cup - dry sherry or chicken broth
- 1/4 cup - soy sauce
- 1/4 cup - Worcestershire sauce
- 1 Tablespoon - orange juice concentrate
- 1-1/2 teaspoons - cider vinegar
- 4 (4 to 6 oz. each) - duck breast halves, about 4 lbs.

Directions

Combine pineapple, honey, sherry, soy sauce, Worcestershire sauce, orange juice, vinegar, garlic, mustard and ginger in medium saucepan. Bring to a simmer over medium heat. Reduce heat to low; simmer 1 hour to blend flavors. Strain and set aside. Sprinkle breasts with salt and pepper to taste. Arrange duck on rack in roasting pan. Brush with butter. Roast at 400°F 40 minutes or until golden brown. Broil 3 to 5 minutes or until skin is crisp. Serve with sauce.



Above right, Peanut Butter Honey Hot Chocolate; right, Frosted Honey Latte

Happy Holidays: 12 Drinks of Honey

The National Honey Board has counted down the “Twelve Drinks of Christmas” to “highlight how honey can be an integral part of your celebration” ~ some have alcohol, others do not. I’ve hyperlinked the pages where you can find the recipes ~ & you can visit:

<http://www.honey.com/blog/2016/detail/happy-holidays-12-drinks-of-the-honey>

- The first drink of Christmas is the [Coconut Cream Honey Eggnog](#).
- The second drink of Christmas is the [Brandy Baklava](#).
- The third drink of Christmas is the [Frosty Honey Latte](#).
- The fourth drink of Christmas is the [Peanut Butter Hot Chocolate](#).
 - The fifth drink of Christmas is the [Honey Toddy](#).
 - The sixth drink of Christmas is the [Honey Pot Cider](#).
- The seventh drink of Christmas is the [Honey Caramel Coffee](#).
 - The eighth drink of Christmas is the [Nuttin’ Honey](#).
 - The ninth drink of Christmas is the [Go Bananas Foster](#).
- The tenth drink of Christmas is the Apple, Pineapple and Honey Cider (no link, sorry!)
 - The eleventh drink of Christmas is the [Honey Hot Chocolate](#).
 - The twelfth drink of Christmas is the [O’ Honey Fashioned](#).

[Holiday Honey Cookies \(Gingerbread\)](#)

Ingredients: 7 ½ cups all-purpose flour; 1 Tb baking soda; 2 Tbs cinnamon; 1 Tb ginger; 1 tsp nutmeg; ½ tsp salt; 1 ½ cups (3 sticks) butter; 1 ½ cups dark brown sugar; 1 tsp lemon zest; ¾ cup honey; 3 eggs

Directions: Sift dry ingredients together; set aside. In mixing bowl, cream together butter, brown sugar, zest. Add honey in a steady stream and mix until smooth. Add eggs, one at a time; mix well. Add dry ingredients, a cup at a time; mix well. Divide dough in two, flatten into disks, & wrap in wax paper or plastic wrap. Refrigerate 30 minutes or until firm enough to roll. Roll out dough to desired thickness. Cut with cookie cutters into desired shapes. Bake in a pre-heated 350°F oven for 12 to 15 minutes, or until beginning to brown. Makes 4 dozen 4-inch large gingerbread men.

BEES IN THE NEWS

Editor's Note: Normally, I summarize news stories for "Bees in the News"; because the story below has been given such importance by Bee Culture and is followed by Boulder beekeeper Tom Theobald's editorial, the entire story and commentary are included here. It's depressing material, but there are also rays of hope: following these pieces are some positive discoveries by entomologists to help us protect our pollinators from neonicotinoids.

"Court Fails to Protect Bees and Beekeepers. Pesticide-coated seeds remain unregulated by EPA as pollinator populations plummet": Bee Culture, Nov 24 2016

**The Story, followed by an Editorial Comment from Tom Theobald, Boulder, CO
Beekeepers**

"On Tuesday a judge in the Northern District of California delivered a crushing blow to the nation's beekeepers and imperiled honey bees. The judge ruled against the beekeepers and public interest advocates in a lawsuit seeking to protect honey bees and the broader environment from unregulated harms caused by the Environmental Protection Agency's (EPA) lax policies for seeds coated with certain insecticides known to cause massive die-offs of honey bees.

"It is astounding that a judge, EPA or anyone with any common sense would not regulate this type of toxic pesticide use, especially when the seed-coatings are so broadly applied and there is so much at risk. Study after study has shown that seeds coated with these chemicals are a major culprit in catastrophic bee-kills. Now more than ever our country's beekeepers, environment and food system deserve protection from agricultural interests, and it is EPA's job to deliver it," said Andrew Kimbrell, Director of Center for Food Safety.

"The seed-coatings in question are the bee-killing neonicotinoids, or "neonics", which are strongly linked to the record-high colony mortality suffered by commercial beekeepers, as well as to water pollution and risks to birds and other beneficial species. Corn and soybean seeds, in particular, coated with these chemicals are planted across nearly 150 million acres of the United States, in what is by far the most extensive type of insecticide application in the nation.

"EPA has exempted the seeds from regulation or mandatory labeling, despite their known toxicity. This exemption was the basis of the lawsuit filed by Center for Food Safety (CFS) in the public interest and on behalf of several impacted beekeepers.

"The broader implications of this decision drive the nails in the bee industry's coffin. Of course as a beekeeper I am concerned about my livelihood, but the public at large should also be alarmed. More than one-third of the average person's diet is generated by pollinators that I help manage," said Jeff Anderson, a California and Minnesota-based commercial beekeeper and honey producer, who was the lead plaintiff in the case.

"The judge dismissed the case on an administrative procedure basis, not on the fundamental question of whether the exempted seeds are harming honey bees. In fact, the judge stated in his conclusion, "the Court is most sympathetic to the plight of our bee population and beekeepers. Perhaps the EPA should have done more to protect them, but such policy decisions are for the agency to make."



Above, neonicotinoid-coated seeds (PeakProsperity.com)

“CFS is representing the plaintiffs in the case and says the group is considering all options.

Background:

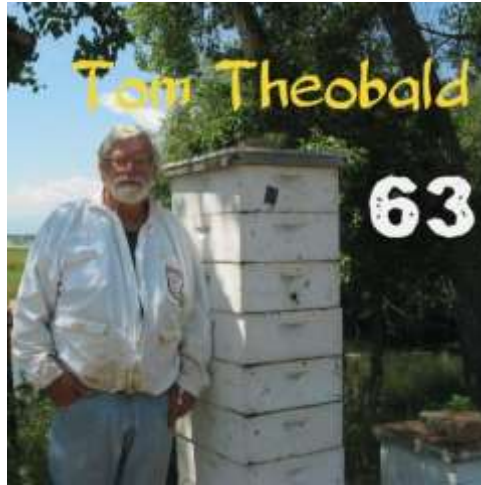
“Impacts to bees from neonics are well-documented, as are impacts to the nation’s beekeepers. For example, in 2015, one plaintiff in the case, Bret Adee, co-owner of the nation’s largest commercial beekeeping operation, suffered approximately \$800,000 in damages in just one bee-kill incident from toxic neonicotinoid-laced dust during planting of corn fields near his hives. Due to EPA’s exemption for the coated seeds and their dust, Mr. Adee could obtain no enforcement action to protect his bees. In effect, the nation’s beekeepers have been told to fend for themselves as EPA will not enforce any mandatory requirements from the federal pesticide law to protect their bees. Neonics also negatively impact soil health by harming beneficial insects, and can have dire effects on other non-target species, like birds.

“Efforts by the attorneys from CFS to obtain relevant public documents were blocked by EPA. EPA gave CFS attorneys only 200 of 5,000 pages of documents relevant to EPA’s 2013 statements regarding the exemption for these pesticide-coated seeds. When CFS moved to get the full record, the Court ordered EPA to produce the rest of the documents to the Court only, which the Court itself reviewed, without allowing the plaintiffs to see them.

“The plaintiffs in the case were beekeepers Jeff Anderson, Bret Adee, and David Hackenberg; farmers Lucas Criswell and Gail Fuller; and the Pollinator Stewardship Council, American Bird Conservancy, Pesticide Action Network of North America (PANNA), and the Center for Food Safety. The Judge’s Order was issued on Nov. 21 in the case of Anderson et al. v. McCarthy, No. 3:16-cv-00068-WHA (N.D. Cal.).

“Center for Food Safety’s mission is to empower people, support farmers, and protect the earth from the harmful impacts of industrial agriculture. Through groundbreaking legal, scientific, and grassroots action, we protect and promote your right to safe food and the environment. Please join our more than 750,000 consumer and farmer advocates across the country at www.centerforfoodsafety.org. Twitter: @CFSTrueFood, @CFS_Pres”

Editorial by Tom Theobald, Boulder CO Beekeepers' Association



Tom Theobald on Kiwimana podcast, <https://kiwimana.co.nz/tom-theobald-beekeeper-campaigner-km063/>

“In a crushing defeat for the beekeepers and their bees, United States District Judge William Alsup has found in favor of the EPA, in the suit filed last January over seeds coated with neonicotinoid pesticides.

“While Judge Alsup sympathized with beekeepers, his decision was based on legal technicalities. Essentially he ruled that it was the responsibility of the EPA to make these policy decisions, not the courts. I’m not a lawyer, so that’s my layman’s understanding of the decision.

“At issue was the revolutionary group of neonicotinoid insecticides.

“First introduced in 1994, they soon became the most widely used pesticides in the world.

“They were touted as “safer” since they targeted neural connections which insects have many of, but mammals few.

“For bees, insects and lower life-forms they are the most deadly pesticides ever created.

“Using DDT as a reference point of 1, the neonics are 5,000 to 10,000 times more toxic to lower level life forms.

“They are mainly applied as seed-coatings on corn, wheat, canola, soybeans, and many other crops.

“They protect the seed and the entire plant from pests; they are water soluble and penetrate the entire plant, roots, stem, leaves, flowers, pollen and nectar. Their bee-killing poison persists for the entire growing season, and in the soil and groundwater for years.

“These toxic seed treatments are marketed as long term pest control products, not just to protect the seed, but the plant as well.

“But only 10% of the pesticide on the treated seed is absorbed into the plant; while 90% goes into the soil and groundwater where it can persist for years.

“Given the danger these pesticides pose to bees, you would think the EPA would monitor and regulate them closely. But you would be wrong; the EPA has set out to conceal the massive scale of their use.

“Here is the back story. In 1959, the year of maximum use for DDT, 80 million pounds were applied in the U.S. The EPA reports annual use of neonicotinoids at about 3.5 million pounds. However, by the most conservative estimate, neonics are 5,000 times more poisonous to bees than DDT, so that 3.5 million lbs. of neonic poison is the toxic equivalent of about 17.5 BILLION pounds of DDT. Remember though, that is just 10% of the actual neonics used – the other 90% goes into the soil and water.



Bees killed by pesticide poisoning (WeShapeLife.org)

“America’s annual pesticide load of neonicotinoids is the toxic equivalent of 400 to 600 billion pounds of DDT, every year, year after year.

“For honey bees, solitary bees, butterflies, earthworms, soil organisms, bats, insectivorous birds. – this is the most massive poisoning of the earth in human history.

“So what did the EPA do, in terms of regulating neonics?

“They deliberately excluded 90% of the neonicotinoids from oversight and regulation, by defining them as ‘treated items’ – rather than pesticides.

“They ruled that a ‘pesticide coated seed’ was not a ‘pesticide use’ – but a ‘treated item’ – exempt from pesticide regulations, despite their use on over 200 million acres of crops and the carnage that has ensued. The EPA has subverted Federal Law through administrative fiat; this willful corruption of the spirit of the law is nothing less than criminal. And while Judge Alsup’s decision may conform to the letter of the law, it ignores the spirit and intent of our pesticide laws and is a miscarriage of justice nevertheless.

“For years beekeepers have appealed for help to their representatives, the regulators, and now the courts, with no help or support from any of them. Beekeeping is a small industry and apparently the only remaining power we have is in the Court of Public Opinion. While there has been a rising wave of public awareness, it isn’t nearly enough. Rather than own up to its manipulation of the law and its failed decision making, the EPA chooses instead to use your tax dollars to defend its conduct in court. The only reason neonics are so profitable is because billions of dollars in environmental damages go unaccounted for. All of us are paying the price, not just beekeepers, but the wider public, whose environment is being destroyed.

“We must have the support of the American public, or we are done for, along with a wide sweep of the environment. As beekeepers we are on the ropes and we need your help. The pesticide-coated seeds issue is fundamental to beekeeping. Lead plaintiff Jeff Anderson told me:

“In my opinion this decision opens the door to any pesticide technology that can be hung on a seed. This court decision is even more sinister than it appears, the EPA has betrayed its most basic responsibility: To protect the health of the American people and their environment. This has to end.” ---Tom Theobald

To read this article online and view the links, visit: http://www.beeeculture.com/catch-buzz-court-fails-protect-bees-beekeepers-pesticide-coated-seeds-unregulated-epa-pollinator-populations-plummet/?utm_source=Catch+The+Buzz&utm_campaign=cf3d3a800f-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-cf3d3a800f-256261065

Below, some hopeful stories about protecting bees from pesticides:

**“Treating bees with light therapy can counteract the harmful effects of neonicotinoid pesticides and improve survival rates of poisoned bees, finds a new UCL study”:
American Bee Journal, Nov 15 2016**



To see a video that shows bees exposed to Imidacloprid, a neonicotinoid pesticide, visit: <https://www.eurekalert.org/multimedia/pub/126908.php>: “In the video, the bees on the right have been treated with red light therapy, mitigating the deleterious effects. The bees on the left are not flying, and their loss of mobility has reduced their grooming capacity, resulting in the fur sticking together and loss of yellow coloration. Credit: UCL.” Story follows:

A new University of London study suggests that if bees are given light therapy, this can “counteract the harmful effects of neonicotinoid pesticides and improve survival rates of poisoned bees.” The research team’s goal is to “develop a small device that can be fitted into a commercial hive, which could be an economic solution to a problem with very widespread implications.”

Neonicotinoids “undermine mitochondrial function and compromise the production of ATP, the currency for energy that drives cellular function.” Consequently, the bees can’t move as far or fast, and can starve to death.

The study contrasted 4 commercial bee colonies, each with over 400 bees. Two were exposed to Imidacloprid for 10 days; of those, one received 15 minutes of “near infrared light . . . shone into the hive twice daily.” The bees that got the light therapy “had significantly better mobility and survival rates, living just as long and functioning just as well as bees that had not been poisoned. One group was given light therapy without being poisoned, and their survival rate was even better than the control group. The researchers found the deep red light did not interfere with bee behaviour as they cannot see it.”

The scientists noted that the infrared therapy has the most impact when applied as prevention, “the researchers found it can also be helpful as treatment in response to an incident of pesticide exposure, as long as the treatment is started within a couple days of exposure.” The lead researcher noted that “We found that by shining deep red light on the bee which had been affected by the toxic pesticides that they could recover, as it improved mitochondrial and visual function, and enabled them to move around and feed again.”

To read more, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=94f1d6d3d1&e=e9ff21e0bb>

“Protecting bees from pesticides just got easier with the release by Oregon State University of a smartphone app”: Bee Culture, November 26 2016

Beekeepers and farmers now can look up pesticide tables in the field via a smartphone app, thanks to OSU. The app links to OSU Extension’s 2013 publication, “How to Reduce Bee Poisoning from Pesticides,” which “lists 150 insecticides, fungicides, miticides, slug killers and growth disruptors—all of them now searchable by trade name or chemical name in the new app.”

“It’s a smartphone world,” said the publication’s lead author, Ramesh Sagili, an entomologist and Extension bee researcher in Oregon State University’s College of Agricultural Sciences. Coauthor Louisa Hooven, a toxicologist and bee expert in the College of Agricultural Sciences, explained that “We looked at the crops grown in the Northwest, and then at all the products that are likely to be used when the crop is flowering—which is when the bees will be foraging. Those were the pesticides we included.”

Chemicals are classified as “highly toxic, toxic and ‘no bee precautionary statement on label,’” in accord with “cautions and restrictions required by the Environmental Protection Agency and listed on the products’ labels.” The guide also gives a guide for how long the toxic effects of a given chemical will linger, an additional level of information not mandated by the EPA, but researched by Hooven.

The new app will help protect not just honey bees, but other pollinators, like mason, alkali, and alfalfa leafcutting bees, as well as “native ground-dwelling species such as squash bees, long-horned bees, sweat bees, mining bees and bumblebees.”

Sagili noted that on the west coast, agriculture depends more significantly on pollinators than in the midwest, where many crops, like soybeans and corn, are wind-pollinated. “With our diversity of crops, especially our fruit trees, berries and seed crops, we really need them,” Sagili said.

How to Reduce Bee Poisoning” was produced jointly by OSU, the University of Idaho and Washington State University. Its cost was underwritten by beekeeper associations in Oregon, Idaho, Washington, and California, and by the Oregon Department of Agriculture.

To read more, visit: http://www.beeeculture.com/catch-buzz-protecting-bees-pesticides-just-got-easier-release-oregon-state-university-smartphone-app/?utm_source=Catch+The+Buzz&utm_campaign=a385dcfd77-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-a385dcfd77-256261065

In Massachusetts, Bayer Cropscience Must Stop Presenting Neonicotinoids as “Daily Vitamins” for Plants: from *Items for Beekeepers*, by Fran Bach:

Bayer Cropscience has settled a pending case in Massachusetts after being sued for its advertisements claiming that “neonicotinoid pesticides are like ‘giving ‘a daily vitamin’ to plants.” The State Attorney General accepted Bayer’s promise of a \$75,000 settlement plus pulling ads that mislead the public, such as claims “that its neonicotinoid pesticide products are EPA-approved.” To read more, visit: <http://www.beeeculture.com/catch-buzz-bayer-must-change-pesticide-advertising>

“Pest Control: Wicked Weeds May Be Agricultural Angels”: American Bee Journal, Nov 14, 2016

Can farmers use certain weeds to control pests – in lieu of pesticides? Cornell University agricultural scientists suggest that this could work. “Managing crop pests without fully understanding the impacts of tactics - related to resistance and nontarget plants or insects - costs producers money,” said Antonio DiTommaso, professor of soil and crop science and lead author of a new study, “Integrating Insect, Resistance and Floral Resource Management in Weed Control Decision-Making,” in the journal *Weed Science* (October-December 2016).” DiTommaso’s study offers a fresh “look at a holistic, sustainable integrated pest management (IPM) approach.”

Milkweed and corn form a case study: “maintaining a few villainous milkweed plants in the middle of a cornfield may help minimize crop loss from the destructive European corn borer. The milkweed plants can harbor aphids (destructive sap-sucking flies) that produce a nectar food source for beneficial parasitic wasps *Trichogramma*. The wasps, in turn, lay eggs inside the eggs of the European corn borer, killing the corn borer eggs - reducing damage to the crop.” Further, milkweed is a key food source for endangered Monarch butterflies.

DiTommaso thinks that similar integrations of weeds can become a key part of IPM because “pest management is likely to move from total reliance on herbicides and transgenic crop traits for control, because of increasing resistance of weeds to these products.”

"The benefits of weeds have been neglected. They're often seen as undesirable, unwanted. We're now beginning to quantify their benefits," said Kristine M. Averill, weed research associate. "It's very important to recognize the benefits of all the species within the crop field - that includes both the crops and the weeds - not to mention cover crops. Weeds can offer ecosystem services,

such as soil erosion protection and pollination services for the benefit of insects," Averill said. "They can be part of a restorative cycle."

To read more, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=9ad68fa7c1&e=e9ff21e0bb>

MITES AND VIRUSES IN THE NEWS

Bee Informed Partnership has posted a new item, 'New Web-based Tool for Fast Identification of Bee Mites': <http://beeinformed.org/2016/11/07/new-web-based-tool-for-fast-identification-of-bee-mites/>

"Hawaiian Study highlights a new threat to bees worldwide: the Moku Virus," from *Items for Beekeepers*, by Fran Bach



Above, "RNA was extracted from eight asymptomatic *V. pensylvanica* individuals collected from managed honey bee apiaries on Big Island, Hawaii" ~ Image courtesy of the Marine Biological Association, posted on the [Earlham Institute](http://www.earlham.ac.uk) website.

A new study has called beekeepers' attention to the latest virus found to endanger bees: found on the Hawai'ian island Moku, the virus bears the island's name. Moku was found in an invasive wasp species, *Vespula pensylvanica*. Because of trade and other traffic in and out of the island the virus could be transported to new locations, endangering other pollinator populations.

To read more, visit: <http://www.beeeculture.com/catch-buzz-hawaiian-study-highlights-new-threat-bees-worldwide>. For a more in-depth story, visit <http://www.earlham.ac.uk/moku-virus-highlights-potential-threat-pollinators-worldwide>.



Above, "[Honey bee with Deformed Wing Virus and Varroa destructor on her torso.](#)" by Stefan de Konink, Wikimedia Commons, [License CC 1.0, Public Domain](#)

“New Findings About the Honey Bee Infecting Deformed Wing Virus”: *American Bee Journal*, Nov 14 2016

The University of Veterinary Medicine in Vienna has found that a molecular clone lets them simulate the development of the deformed wing virus in the laboratory. Prior studies have used virus samples from sick bees – but viruses sampled that way may also bring other infections into the lab study. The new test system “use[s] artificial genetic material instead of natural samples of the deformed wing virus, in order to clearly correlate the course of disease to the virus.” Benjamin Lamp, lead researcher, reports that Insects infected with the artificial virus showed the same symptoms such as discoloration, dwarfism, death or the eponymous deformation of the wing that also occur in natural infections. Thus, it could be unambiguously shown that these symptoms are caused by the deformed wing virus.”

The scientists infected adult bees, larvae, and pupae. In all three, they “found viral antigens -- the specific protein molecules of the deformed wing virus - in all body areas. However, neural, gland and connective tissue cells were particularly affected. "The high concentrations of viral proteins -- the antigens -- in the glands could also indicate an oral transmission of the virus from one bee to another in the hive.”” If the virus can be transmitted orally, “this could explain why the virus also remains present in the hives if it is not transmitted by the Varroa mite.”

The scientists hope that the the molecular clone will let them study the life cycle of the virus, how it is transmitted by mites, and what course infection and viral replication take during the host bee’s life cycle – ideally, leading to new ways to fight viruses transmitted by mites. To read more, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=4ce1f24b92&e=e9ff21e0bb>

“Another Species of Varroa Mite Threatens European Honey Bees”: *American Bee Journal*, November 17, 2016

Why did *Varroa jacobsoni* mites move from Asian to European honey bees? Scientists have now studied how gene expression of the mites differs when the mites parasitize Asian v. European

bees. Do the mites respond to different “host cues”? If they do, researchers think this could “lead to potential control strategies, the researchers said.”

The scientists then “sequenced and assembled the first *V. jacobsoni* transcriptome, a catalog of all of the proteins made by an organism that shows which genes are actively being expressed. They then used the transcriptome to compare gene expression in populations of *V. jacobsoni*.” This process discovered “287 differentially expressed genes between the mite populations that only parasitized Asian honeybees and those that successfully fed and reproduced on European honeybees. A change in gene expression is often a sign that an organism is reacting to a change in its environment – in this case, a new host species.”



Varroa Mite, Purdue, by Tom Campbell

91% of the 287 genes in mites that had switched hosts were “up-regulated in the host-switching mites. Many of these genes were related to stress responses.” The researchers believe that this “makes sense,” since mites parasitizing a new host will need to adapt to new food – since the European bees are different from Asian bees.

Varroa destructor moved from Asian to European honey bees in the 1970s, but the *V. jacobsoni* mites probably made the shift during the past decade. While *V. jacobsoni* mites sometimes appeared on European bee, up until recently they “seemed unable to produce healthy offspring.” The new study shows that the mites’ reproductive genes have increased expression when parasitizing European hosts.

“Catching the host transition in its early stages will allow researchers to continue to investigate the complex genetic details behind the shift and monitor infected European honeybees. The scientists note, “This happened once with one species of mite, and it looks like it's happening again. Maybe if we catch this as it's beginning, we'll be able to figure out why it's happening or, down the road, stop it.”

To read the complete paper, visit: <http://dx.doi.org/10.1186/s12864-016-3130-3>. For ABJ’s full account, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=cb9786fab6&e=e9ff21e0bb>

“A new honey bee pest, the Australian sap beetle, has been confirmed in the western United States.” American Bee Journal, November 15, 2016. [complete coverage is in the December 2016 edition of ABJ]



Dorsal view: adult Australian sap beetle (Brachypeplus basalis) on the left and adult Small Hive Beetle (Aethina tumida) on the right. Photo by Christopher Marshall

The Australian beetle, *Brachypeplus basalis*, was discovered in four California counties between 2010 and 2015: in 2015, California’s Department of Food and Agriculture gave it a “pest rating proposal.” The CFDA noted that these beetles had so far only been found inside bee colonies. In 2013, Montana State University reported that a Montana beekeeper had found *B. basalis* in a hive. 2015 and 2016 saw two separate reports of the beetle infesting colonies in Oregon. The beetles can survive in stored equipment, as well, according to a 2016 report from a commercial beekeeper with about 8,000 colonies. Combs with pollen or honey are most vulnerable. This beekeeper reported that he “destroyed \$20,000 worth of beetle infested combs.” The entire article appears in the December American Bee Journal. For the complete version of this short report, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=202c21dc09&e=e9ff21e0bb>

ANNOUNCEMENTS

LCBA Has A YouTube Channel – Thanks to Member Cody Warren! Click the link on our website to visit: http://www.lewiscountybeekeepers.org/lcba_youtube_channel

Do You Sell Wax? If you are an LCBA member and would like to be listed on LCBA’s Buy Local Honey page, please email secretary@lcba.community with your contact information, prices, and a photo if possible.

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 (Secretary@lcba.community; 360 880 8130)