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October 2014 LCBA Newsletter

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Questions? Suggestions? Resources you’d like to share, stories you’d like to tell?

Please contact LCBA Secretary Susanne Weil: susanne.beekeeper@gmail.com or call 360 880 8130.

~ In Memoriam ~

Kenneth “Bud” Walker passed away on August 22 at Providence St. Peter Hospital in Olympia. Bud was 83. He was a member of LCBA from our beginnings. He was always generous with advice for new beekeepers and brought “a wink and a smile” to our meetings. He will be missed. A card has been sent to his family in sympathy.

UPCOMING EVENTS:

Coming Saturdays this October/November: LCBA's BEGINNING BEEKEEPING CLASS

When: October 4, 11, 25, November 1, 8, from 9 a.m. to noon

Where: Centralia College Student Center, 212 S. Rock, Centralia WA 98531

Registration Brochure: available under "Upcoming Events" on LCBA's website (or ask Susanne for a copy). LCBA offers the Washington State Beekeepers' Association's apprentice beekeeping curriculum. The class builds core beekeeping skills and covers basic bee biology/behavior, equipment & apiary set-up, seasonal management, identifying & managing pests, honey harvesting, and over-wintering. Students completing the course earn WSBA's Apprentice certificate & can advance to Journeyman & Master Beekeeper courses. Washington State Beekeepers' Association manual lays out basics for beginning beekeepers; LCBA's PowerPoints & demonstration materials supplement manual with visuals. Questions encouraged; children welcome. Post-Course Support: LCBA's free Mentor Workshops give hands-on guidance in working bees. Students who join LCBA are eligible for discounts on spring package / nuc bee orders & free consultations with an individual "bee mentor." Course cost: \$35 individual, \$50 couple/family. Fall 2014 instructors: Tomme Trikosko, Norm Switzler, Bob Harris, & Jon Wade.



Above, LCBA Membership Coordinator Tomme Trikosko at 6-21-14 workshop; Tomme, who's been keeping bees for several decades, joins our cadre of beekeeping instructors for this fall's class after embedding the WSBA curriculum in her spring 2014 animal husbandry class at Toledo High School.

October 8: LCBA Monthly Meeting

When: 6 – 8:45 p.m.: Social Time 6 to 6:30; Speaker, 6:30 to 7:30; Business Meeting & Beekeeping Q&A, 7:45 to 8:45

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

Topics: What's Causing Bee Colony Decline? / Winter Feeding & Moisture Control

Speaker: Dr. Tim Lawrence: What's causing bee colony decline? Studies have identified multiple causes, and many beekeepers suspect neonicotinoid pesticides. Tim will report on a recent survey of 148 apiaries throughout Washington for the presence of neonicotinoids. Do these findings support a regulatory approach? Tim will also explore other factors affecting honey bees, "including the use of in-hive products to control Varroa destructor; the extensive and intensive migratory management practices; lack of effective breeding practices by the beekeeping industry and seed producers to improve pollination efficacy; modern agricultural practices; impacts of urbanization; and noxious weed control measures affecting honey bee nutrition." A longtime beekeeper, Tim is Extension Director of Island

County. His talk on "Human Dimensions of CCD" was one of the highlights of the October 2013 WSBA Conference.

Winter Feeding & Moisture Control: Following Tim's talk, LCBA member Kevin Reichert will present his approach to winter moisture control in hives, & board members will present candyboards & other dry feed methods.



Left, Island County Extension Director Tim Lawrence, our Oct 8 speaker; right, Tim minus bees.

October 25: Olympia Beekeepers Host Workshop with Michael Bush (“The Practical Beekeeper”)

When: 9 a.m. to 5 p.m.

Where: Farm Bureau Building, 975 Carpenter Road N.W., Olympia

Registration: Preregistration required, \$40, includes lunch: space is limited, and the workshop is expected to fill up fast. Mail registration to Olympia Beekeepers, P.O. Box 732, Olympia, WA 98507. For more info, email LMPCarl@gmail.com.

Nov. 6-8: Oregon State Beekeepers’ Association Conference

Where: Seaside Civic & Convention Center, Seaside, Oregon

What: WSBA encourages beekeepers to go to this year’s Oregon Beekeepers Association conference. Their speaker roster (attached to this newsletter) reads like a who’s who in bee research: Dennis vanEngelsdorp will speak on drivers of bee losses; Marla Spivak will speak on how conversion of resins to propolis affects bee health; Steve Sheppard will speak on the honey bee gene repository; Dewey Caron & others will speak on efforts to breed local queens; other speakers include Kim Flottum, Ramesh Sagili, & Paul Anderson. Additional topics include tree bee hives, predicting/managing pesticide losses, connecting kids with beekeeping, & much more. The full schedule is attached in PDF to this newsletter & posted on our website under upcoming events. Registration details will be available soon at this site: http://www.orsba.org/bee_schools_and_events.php.

Nov. 12: LCBA Monthly Meeting: Topic – Winter Projects

When: 6 – 8:45 p.m.: Social Time 6 to 6:30; Speaker, 6:30 to 7:30; Business Meeting & Beekeeping Q&A, 7:45 to 8:45

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

Topics: What things can you do this winter to help your bees next year? Rick Battin will present his propolis/alcohol stain for weatherproofing hive boxes; Tomme Trikosko will present her homemade, non-spendy mouse guard; Martin Stenzig will present his method for constructing hive boxes using dovetails, and, for those who didn't see Kevin Reichert's vacuum box for swarm and colony removals last year, Martin will show his version.

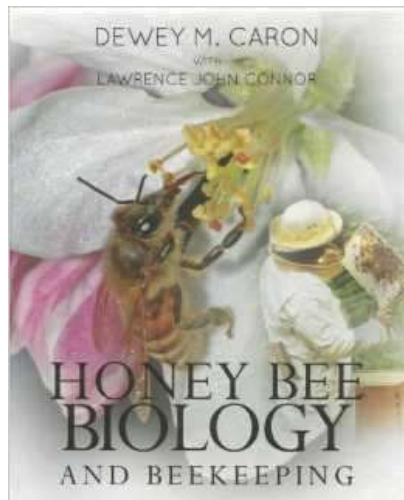
Dec. 10: LCBA 6th Annual Holiday Potluck: Please mark your calendars & get ready to share good food, good fellowship, door prizes, & after dinner, a brief monthly meeting with board elections, fundraising drawing for our 2015 Youth Scholarship Program, our traditional Beekeeping Q&A, suggestions for 2014 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.

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.

For Directions, please email Susanne.beekeeper@gmail.com.

Questions? Contact Susanne.



Above left, the most recent edition of Dr. Dewey Caron's textbook; right, Dewey inspecting his bees.

LCBA MONTHLY MEETING NOTES: SEPT 10TH

Before introducing our speaker, Secretary Susanne Weil noted that several members had told the board that in our big meeting room, audience members sometimes can't hear each other's questions, which leads to a buzz of cross-talk round the room. To improve this situation, we are now asking the audience to hold questions for the end of the speaker's talk, and asking our speakers to repeat the questions so everyone knows what is going on. Members who still can't hear are asked to raise your hands, and we will "up the volume." Susanne also thanked members who had asked the board to reinstate "beekeeping Q&A" as an integral part of our monthly meetings: our Sept 10 meeting had no business, just discussion of fall management issues for beekeepers.

Dr. Dewey Caron, our September speaker, retired as Professor of Entomology from the University of Delaware and now serves as Affiliate Faculty at Oregon State University. He is the author of several noted books on bees and beekeeping and has been integrally involved with honey bee loss research through BeeInformed, the American Beekeeping Federation, and ORSBA. At this meeting, Dewey focused on what we can do in September to prepare our bees to over-winter successfully. He pointed out that for beekeepers, fall is really the start of the new year: we try to influence our next season through fall hive manipulations. Fall management actually begins with August observations. Generally, in August colonies are large, may be experiencing nectar dearth, are not as much fun to work with, and some colonies may be limping along. In August, we can ask: is a colony queen-right? Some colonies have lost queens: why? Looking in August gives the option to act to get them queen-right – by September, we have fewer opportunities to do that, though it is not too late to re-queen.

Analyzing a brood frame: Dewey displayed a photo of spotty drone brood surrounded by empty & pollen cells (see below). When inspecting, within looking at 2 or 3 frames, a beekeeper should be able to tell if a colony is o.k. or in trouble. A pattern like that in the slideshow suggests that the colony may not have a functioning queen. In June, this queen might have been productive, with a large colony population in July - but by August/September, the population has dropped. Sometimes a queen laying a spotty pattern may just be laying drones: sometimes drones are laid in worker cells because the queen



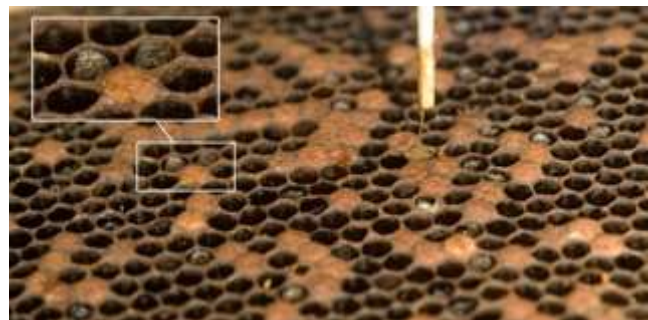
can't fertilize many eggs. At first, this failing may not be reflected in colony population – after all, bees are starting to throw out drones in late summer/early fall – but this sample colony has no future. What to do? Possibly salvage individual frames & adult bees by putting them in another colony? Re-queening, another option, is a personal choice: the beekeeper must assess whether enough colony structure is left to put in a brand new queen. The answer will vary.....it depends in part how early in August you make this assessment, and how many colonies you want to overwinter. Dewey advises care when combining colonies: don't let queens battle it out and risk the poor queen winning, or damaging a good queen.



Above, a frame of brood displaying IBDS: see discussion below.

IBDS: Sometimes we inspect and see “ghosts of colonies” – eggs/larvae that didn’t thrive, coupled with very spotty brood, with little visible stored pollen (protein). This could be related to viruses, and/or to mites, and is sometimes classed as “idiopathic brood disease syndrome,” which Dewey defined as “a fancy term for ‘we don’t know what’s going on.’” Both mites and viruses mean a “double whammy on a colony.” If you see this in August, you can do a lot of manipulation; however, relatively little will make the situation salvageable because there are not enough young bees. In August, our bees should be rearing the bees that will raise the over-wintering bees. In some cases you’ll swear the colony has American Foulbrood – yet, if you send a brood sample to a lab, that won’t be the diagnosis. IBDS is a different disease condition: you see darkened larvae and some ropiness if you stick a toothpick into a larva and pull, but you don’t smell the characteristic odor of foulbrood. To contrast, see the photos below: if larvae are alive, they should glisten & move if you poke them. Another danger sign is a kind of scale inside the cell (see photo on right, below): worth getting tested, as it could be a sign of foulbrood.

Below, left, healthy brood; right, unhealthy brood:



Mites and hygienic behavior: What if you see cells that are not fully capped, and you see the larvae inside? If the colony has a high mite count, you may see this characteristic because the bees are exercising hygienic behavior: getting rid of mite-ridden cells by chewing them down. Bees from Russian stock exhibit more hygienic behavior. Hygienic behavior is important in combating the mites' cycle: the mites' numbers are low in spring, but start ramping up in July. By August, numbers rise, and can become severe by September. If a mite load is found in August, a beekeeper can help the bees overcome it; this is still possible in September, but options are more limited.



Above left, Varroa mites under a microscope (Vita Foundation); right, mites are the small reddish round items at the center of the photo (Curbstonevalley.com).

Mite sampling: Not many of us had sampled for mites, which Dewey said is not unusual. You can test for mites in several ways. The slider board method involves spraying a board with olive oil (or rubbing on Vaseline): that will hold the mites as they come to the end of their natural life and fall through a screened bottom board. The board is left in for 24 to 72 hours: when beekeepers take out the slider board, they can count the mites using a magnifying glass. Detritus on the board will complicate finding the mites, so experience helps (see photos above). If the hive has not had any treatment, the mite drop will be natural. But how many mites signal a colony at risk? Steve Sheppard has looked for a “safety number” and determined that if you see more than one mite per hour that the slider has been inserted, you have a problem. Originally the safety number was 50, but complications from viruses issue made them cut the safety number in half. Also, one infested colony can be a “mite bomb”: “willing to share with all your other colonies,” since the mites can travel on drifting bees. This makes it important to find the seriously infested colonies so that you can knock down mites before they can challenge the health of your other colonies. As mites make incisions in the bee and suck hemolymph, they create pathways for viruses to enter your bees: first mites weaken the bees, and then viruses can kill them.



Above, left, taking out a slider board; right, bees in a sugar-shake jar.

How to take bees for mite sampling: If you are not confident that you can identify mites on a slider board, you can do a sugar shake or an alcohol shake. The advantage of the sugar shake approach over sweeping bees into a jar of alcohol is that you can put the bees back into your colony. First, take a small Mason jar topped with one-eighth mesh hardware cloth, and get it about half full, about 300 bees. To fill the jar, you can sweep from the hive threshold, but then you get only foragers, so Dewey recommends taking a brood frame – being sure that “madam queen” is not on that frame! – then tipping the frame and gently hitting the backs of the bees with your jar so they fall in. Then put in two tablespoons of powdered sugar and do the shake for about 30 seconds (see photo above). Put the jar in the sun to bake them – not enough to kill them, but just to dry them out a little bit to release mites from bees. Then shake the jar again for another 20 to 30 seconds. Take that sample, dump out the powdered sugar on a white board or piece of paper, and you’ll see any mites on white surface. For this method, what is the “safe number” of mites? Hopefully mites infest under 2% of the 300 bees: that would be 6 mites.

Later, during Q&A, Richard Kain asked which method gives the more accurate count: powdered sugar or mite boards? Dewey favors powdered sugar: “the bees will be teed off at you, but they can’t do much to you, and when you dump them back in the hive, they will be loved by others.”

Assessing control options: to treat or not to treat? If your mite count is over the safe number, you can treat with a hard chemical like Apivar – if you use chemicals, though, be sure to follow label directions. Apivar is put into the brood box and left in for 42 to 56 days. Many beekeepers prefer to treat using a “soft” chemical or organic treatment like Apiguard, a gel made from the essential oil thymol (derived from the thyme plant). Apiguard comes in a high concentration, so don’t get it on yourself: wear gloves and be sure, again, to follow package directions. Apiguard will put odors into honey, so don’t use this until you’ve removed your supers. Still other beekeepers prefer an organic acid treatment like formic acid, the active ingredient in MAQS: this is a soft chemical, with fumes that penetrate brood. Some of the brood may die, but MAQs reliably kills mites and can be applied while honey supers are on the colony. MAQs, like other chemical applications, is temperature sensitive: warm weather is needed, but if it is too warm, the formic acid can be toxic (it can’t be emphasized enough: follow the package directions!).



Above left, MAQs container; right, President Norm reacting to smell of MAQs at Sept 2013 management workshop.

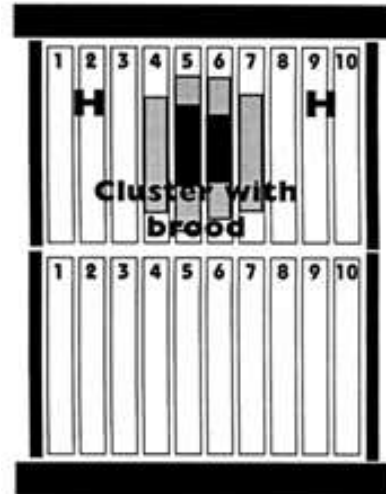
“Mechanical” treatments can be effective, too, such as removing drone brood comb: mites lay their eggs in the larger drone brood, so breaking this brood cycle can also break the mites’ reproductive cycle. This approach doesn’t work in August/September, though, because bees are not raising much if

any drone brood. Breaking the brood cycle is hard work. First, you must break down the colony and put all the brood in one place. Then, you treat adults and brood separately (this can be done by using a screened bottom board to separate two boxes).

Cultural control: Beekeepers who use cultural control are trying to work with bees that are mite-tolerant (can bear a mite load with lower colony mortality) or bees that are hygienic in behavior (nurse bees scent and remove mite-infested drone brood). Dewey noted that “the biggie” in cultural control is to look at your stock. If you re-queen with mite-tolerant or hygienic behavior stock, you are helping your colony in a long term way. The term “survivor stock” means breeding local stock. We don’t have a superior stock yet that reliably means “no mites.” So far, all stock are still susceptible, but some do a better job. Overall, a beekeeper has to look at mite control NOT as a one-time affair: just as when you inspect, you don’t do just one thing. Look in terms of mite control all year: practice integrated pest management strategies (IPM).

(FYI: for more thoughts on treatment issues, see Q&A section, below.)

September Management: First, check for healthy bees: examine for IBDS (see above, and in *Honey Bee Biology and Beekeeping*, page 342 has more detail; chapter 20 covers stress diseases; and American Foulbrood is discussed on pages 331). In September, your colonies are rearing the bees that, in turn, will rear fall bees: assess the brood. Look for sunken or greasy cappings. Are enough bees covering the brood area? How many brood frames do you find? Has the colony built up adequate winter stores, enough pollen and honey? At this time, you may still find lots of brood, and possibly some drones are left, but you may not see honey in the corners of frames: they need that, as well as bee bread, so you may need to feed sugar syrup and pollen patties to supplement their stores.



Above left, the ideal fall colony pattern; right, how the bees will move up over the course of the winter.

Ideal Winter Food Stores: In October, beekeepers are looking for adequate winter stores and weather protection. Dewey quipped, “If you want to do something useful, take this diagram (above left) out to your colony and show them.” In an ideal situation, your colony will have 10 frames of honey in the top box; in the bottom box, there’ll be 3 frames of honey and pollen around the central 4 frames of brood. The total weight will be about 70 to 80 pounds. The cluster will be compact and organized, with bees pushing the queen down so she can’t lay as much (that won’t occur till around Columbus Day). How can

a beekeeper help a colony reach this ideal situation? First, feed a heavy sugar:water syrup solution: that doesn't encourage laying. As brood hatches, bees will put syrup into the newly empty cells and not let the queen lay. Consider putting the brood in the bottom box, then topping it with a queen excluder to encourage bees to make the upper box a solid food chamber. You can also consider leaving a super on top as a third box to help them get their food stores built up. Make sure you remove the queen excluder before winter sets in: otherwise, the workers may move up to the honey – leaving the queen behind to die – or refuse to leave her, and starve with her.

Fall Preparations for Winter Weather Challenges: It's important to provide an exit for moisture: cold won't kill bees – they will fan to keep the temperature around their cluster at 90+ degrees – but moisture will kill bees, freezing them. To get rid of moisture, first, locate the hive out of the wind. Use screened bottom boards and leave them open (you can close them if you wish during extreme cold snaps, though the air flow helps ventilation). Use a screened shallow top box filled with a moisture collector like burlap, straw, old towels, etc.: you should be able to put your hand on that towel or other material and feel that it's moist, but below, where bees are, it should be dry. If you save one colony by moisture control, you saved a lot of money. So, provide a wind break . . . be sure that the hive boxes are tilted slightly forward to aid moisture draining out . . . provide venting for moisture . . . weight down the telescoping cover.

Winter Feeding: By mid-October, cut off syrup feeding. Once you have confined your bees, you do not want to add moisture. For winter feeding, give only dry sugar. Fondant candy or drivert sugar may stimulate queens to lay eggs – something you don't want her to do during winter – so it is best to stick with dry cane/beet sugar or a sugar candy.

Why do colonies die over winter? They are starving, or the colony may have too few bees to provide protection. Also, they can't get out to void waste if it is very cold. Further, in winter bees may be suffering the cumulative effects of mites or diseases. It's important for bees to be in contact with honey: if their cluster is too small, they may not find the honey. See the diagram, above, with the small cluster that has moved up to the top box with some food remaining: this is the hope. In the Pacific Northwest, we have had a terrible run of poor over-wintering: in the Portland area, beekeepers suffered about 70% losses; in Eugene, 30%. Clark County had high losses. Sometimes, bees just die. If you control mite numbers, you control viruses, and can avoid the double whammy of disease plus tough weather.



Above right, considerations for winter preparations; right, moisture control box.

~ Next page: Dewey's Q&A Session ~

Beekeeping Q&A

Winter Feeding Issues: Dewey took questions after our break. Anna Sparling asked whether, if you are keeping honey back to give bees later, you have to freeze it? Dewey said you don't, but recognize that it will attract pests if not properly stored. Wax moths may already be in the comb, so if you bag your honey frames, you may lock mites inside that garbage bag. The best storage place would be a cool place, but it doesn't have to be a freezer.

Gottfried Fritz asked whether, in winter, we should move honey frames closer to the brood, or would moving frames then do more harm by chilling brood? Dewey answered that this is "six of one half dozen of another." It's possible to save honey frames and put them back in during early spring: if you do insert food in cold weather, don't break up the brood area, but put the frames adjacent to it, very quickly, to minimize chilling.

Candy Boards and Moisture Control: Ed Carter asked how to use a candy board. Dewey said the candy board can go on top of the inner cover, underneath the screened top box. Moisture from bees and warm air will come up to the candy and make a slurry out of it so the bees can use it, so put the candy over the oval hole in the inner cover. You can put both the dry feed – whether hard candy or dry sugar – and the moisture control in one rim. You can also put the screened box right on top of the frames, replacing the solid inner cover. Amie Smith asked whether you should remove the towel if it is moist and put in new dry one? Dewey answered that you can do that on a warm day: you can even put the towel in the dryer so that when you give it to them, it's warm and fluffy. However, Dewey likes to use wood shavings. Renzy Davenport asked if you can get the same effect by increasing ventilation, making the rim on top more of a space area and put a shim under it for ventilation? Dewey said this can work, too.



Above, bees on one type of candyboard (photo, BeverlyBees.com). We'll have more about candyboards at our Oct 8 meeting.

Freezing Drone Comb to Combat Mites: Richard Kain asked what he thought about freezing the drone cells: Dewey suggests putting them in the freezer to kill both brood and mites. You don't want drones to emerge because they will come out with baby mites; frozen comb can be put back into the hive for the bees to clean up. You can also feed drone brood to chickens.

Apivar, MAQS, Apiguard, and Apilife-Var: Renzy also asked about Apivar killing queens: is the chemical or the application what's dangerous? Dewey explained that Apivar used to be 12.7% active ingredient: now, 30 years later, it's banger in a lower concentration. Renzy noted that with MAQS, one must expect 40 to 50 percent queen loss at the maximum concentration, and that he pitched MAQS when he saw what they did to his bees. Dewey said that this is due to the formic acid: the problem was initially queen loss, sometimes substantial, 30 percent or so, but the company has recognized this and made

changes. MAQS are not a knock-out for mites, but a knock-down. In contrast, Apiguard and Apilife-Var are very concentrated.

Honey-B-Healthy: Dewey warned us not to get lulled into thinking that putting an essential oil like Honey-B-Healthy into sugar syrup will kill mites: it doesn't have enough concentration. The difference between food and medication and poison is the concentration of the active ingredient. One advantage of H-B-H, though, is that bees may take more sugar water if you add it.

Hop Guard: Dan Maughan asked whether Hop Guard works: Dewey said that it does, though it is smelly, messy, and only affects adult bees. Hop Guard does not penetrate brood, though the new Hop Guard 2 that is in the works is starting to penetrate brood, according to the manufacturers. The Hop Guard available now has a "30ish percent kill rate," but if you use it for a 21 day period and then repeat, following directions, that will improve the kill ratio.



Above, Hop Guard strips protrude from one of Treasurer Rick Battin's hive boxes at our Sept 6 Fall Management workshop.

Making the Treatment Decision: Overall, Dewey commented, many products work well – if you have a low mite threshold. If you find 15 mites in your sugar-shake, that's more than the "safe number" of 6, but you can choose whether or not you want to treat. On the other hand, if you get 50 mites in that sugar-shake, you have a problem and may have to hit it with something potent if you want to save your bees. But these are personal decisions: they get into your values about husbandry. You can also divide your treatment: treat half your colonies, not the rest, and test the results for yourself, then decide if you think the product is worth extra money and time.

Rotating Treatment Methods to Limit Mite Resistance? Norm asked whether rotating mite treatments means you don't build up mites' resistance. Dewey agrees with this. Mites won't dry up and all die: some will survive, the survivors will breed, and if you use the same treatment all the time, you are in effect breeding for mites that can survive that treatment. Mites go through reproductive cycles in 12 days, twice a month. This means that they are reproducing at a faster rate than your bees. Among the chemicals, if you go to a different trade name, you are going to a different kind of chemical, which hopefully will attack different parts of the mites. However, if you trade brand names only, you may be

using the same kind of treatment, so you may promote resistance: if you rotate between two treatments, and both are formic acid, you have not changed your treatment.

Making Medications: Dewey suggested being careful if trying to make your own medications because these are chemicals. Rick Battin asked if acids and oils are the two main classes of miticides: Dewey answered yes, of those approved for organic treatments. There are others, like vinegar and acetic acid in low concentrations, and you'll see recipes for many of these. But vinegar, for example, is not very concentrated. Some believe in mineral oil, but others have not had much success with it.

Oxalic Acid: Renzy asked whether Dewey had experience with oxalic acid, which is wood bleach: it's so cheap that a bottle will last you forever, and it is effective. Most larger-scale beekeepers use it in two ways: as dribble between frames, or they put crystals on a hot plate and create fumes. Oxalic acid is a brood killer: it's best used after Thanksgiving, when no brood is present. It is not licensed for use in bees: however, it is effective. If you buy it at Home Depot and use it to bleach your wooden frame, you are ok. Heard through the grapevine: oxalic acid is close to being eligible for legal approval in the U.S. if someone will jump through EPA regulatory hoops. WSU was given a permit to experiment on it.

Dewey noted that oxalic acid contaminates wax: this is an issue with many of the hard chemicals. They don't go into honey, but into the lipids in wax. Dewey said you can look at wax and test it and virtually, like with tree rings, read the history of the colony. The major use of beeswax in the world is in the cosmetic industry, and those manufacturers go with third world beekeepers who keep swarms in top bar hives with natural comb: they do not use U.S. wax because of chemical contamination. For many 3rd world countries, beeswax is a more lucrative export than honey. In Dewey's experience in Central America, the honey is a product for sale, but in most cases it is not commercial - more like shared at a party. Brood is family nutrition.

Using Biocontrols: Some fungi attack mites and don't harm brood: however, since bees will remove fungi, this is not an effective biocontrol. Dewey commented that propolis may help combat disease: however, we lack studies to best define how to administer propolis to bees to control mites.

Check-Mite: Dan Maughan asked whether using Check-mite is effective against the small hive beetle. Dewey said that Checkmite is the trade name for coumaphos. It is used on corrugated cardboard: beetles hide, but if you put coumaphos in there, it will kill the beetles. However, coumaphos is an organophosphate left over from World War Two gases: it is a huge environmental contaminant, so it is not widely used for varroa control. However, a number of beekeepers do use it for small hive beetle.

Synergistic Reactions When Multiple Chemicals Are Used: Apistan, a pyrethroid insecticide, had a ten year span before mites developed resistance: now it is not used by commercial beekeepers. All these chemical have their down side: in this case, apistan is a synthetic form of chrysanthemum, which has a synergistic action with fungicides that you might put on plants. Bees can then get the double whammy interaction of two chemicals, with fungicide becoming very toxic to the bees. Another way we kill bees is via insurance policies: when we spray fungicide on trees, when we put on chemicals "just in case." A number of commercial Washington and Oregon beekeepers who took bees to pollinate the almonds in California this year fell victim to this – or rather, their bees did. A bad synergistic tank mixture affected over 80,000 bees.



Above left, wrapping linden trees to protect pollinators after incorrect application of Safari in Wilsonville, Oregon, 2013; right, bumblebees killed by dinotefuran, the neonicotinoid in Safari (photos, Portland Tribune)

Neonicotinoids: Dewey thinks we are off track if we focus on attacking neonics: rather, we should tackle winnable issues, such as coatings on seed corn that yield toxic clouds of pesticides that kill bees in fields. Dewey's not persuaded that there is sufficient evidence that neonics are the key to bee die-offs. (At our October 8 meeting, Tim Lawrence will report on this year's WSU neonicotinoid study.)

Christmas Tree Sprayings: Pat Swinth asked about the effect on bees when Christmas trees get sprayed. Dewey said that, yes, bees are affected by chemicals put on trees, especially at times of low forage: if you are adjacent to a nursery, you may see an impact on your bees. Comments were made about the the linden tree spraying with Safari that caused a major bumblebee kill in Wilsonville, Oregon, in 2013. People wanted aphids dead because they gum up windshields badly: so the trees were sprayed, label directions were not followed, and bumblebees were killed. Norm commented that that incident was simultaneously the worst and the best thing that could have happened: though many bees were killed, it raised public awareness.

All present gave Dewey a warm round of applause for his very informative talk and Q&A.

Want Dewey's Books? Dewey's available books sold out during the break, but if you'd like to order them, please email Dewey at: dmcaron@udel.edu.

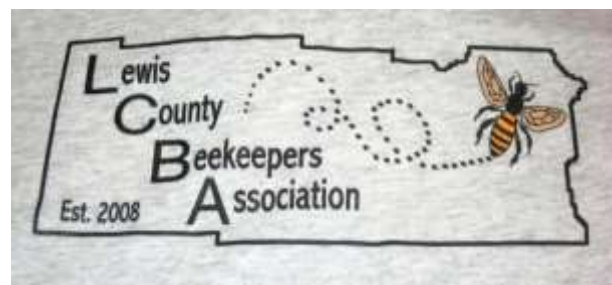
September 10 Business Meeting

Fall Apprentice Beekeeping Course: It was announced that if you have friends who want to start beekeeping, please let them know that on Saturday, Sept 27, 2:15 to 3:30 after Gardening for Everyone, Susanne and Tomme are giving a free preview of our fall beginning beekeeping class. Details about the preview and the course itself are on our website under Upcoming Events.

LCBA Website: Our website turned 2 years old on Labor Day and has had some reorganization. Contact Us, Membership, Board officers, & Bylaws are all linked under the Homepage now to make room for new features: our Youth Scholarship Program and Kenyan Beekeepers' pages. Coming later this winter, time permitting, will be a comprehensive site index and a kids' page.

LCBA Logo Hats & T-shirts: The heather gray t-shirts and tan hats with our logo from Alderson's/Awards West seem to be a hit: all the large shirts and most of the other sizes sold out. More will be available at our October 8 meeting, including more extra-large and 2XL sizes. The shirts are snug after washing, so you may want to order a size up. Hats are \$12; shirts (with the LCBA Bee on the front

& logo on the back) are \$15 (prices are at cost from Alderson's). Thanks to Dave Gaston for making these available!



Above, LCBA logo hat; below, left, bee on front of t-shirt; right, back of t-shirt.

Upcoming Board Meetings

Fall board meetings will be October 22, November 19, and December 17. If members have questions or concerns, please email Susanne (Susanne.beekeeper@gmail.com) or call Norm (330 1788) to be placed on the agenda.

Bees in the News

Thanks to Steve Norton, Kevin & Jeanne Reichert, Norm Switzler, Tomme Trikosko, and the good folks at American Bee Journal and Bee Culture magazines for sending news this month.

**“Is that real honey you’re dipping in? USDA seeking comments on a national standard”
Washington Post 25 Sept 2014**

Honey lovers have until October 19 to comment on a new honey standard originally proposed to the FDA by the American Beekeeping Federation in 2006. ABF seeks a clearer definition for “pure honey” to be

“codified in U.S. law,” helping consumers distinguish between pure and adulterated honeys. The FDA currently defines honey as “a thick, sweet, syrupy substance that bees make as food from the nectar of flowers and store in honeycombs.”

Under the new standards, the floral source of honey does not have to be declared, though if the seller can demonstrate the “chief floral source” of the honey, they can include that plant in the name (e.g., “Clover Honey”). If the honey is infused with sugar, corn syrup, or other sweeteners, sellers cannot label the honey as just honey: they have to identify the added ingredients on the label, such as “blend of honey and corn syrup” if the food is made of a greater percentage of honey; if corn syrup predominates, the seller must label the food a “blend of corn syrup and honey.” Infused natural flavors must be identified in the label, too (e.g., “Raspberry flavored honey”).



Honey being bottled for traditional Rosh Hashanah apple dipping rituals (Washington Post)

However, the new standard imposes no requirement that sellers mention whether the honey has been filtered, and if so, to how many microns. Neither would the new standard require any mention of whether pollen has been filtered out of the honey.

To comment on the proposed honey standard, you must write or call by October 19, 2014. To submit online, visit <http://www.regulations.gov>; to send a letter, write to Brian E. Griffin, Standardization Branch, Specialty Crops Inspection Division, Fruit and Vegetable Program, Agricultural Marketing Service, U.S. Department of Agriculture, 1400 Independence Avenue SW., Room 0709-South Building; STOP 0247, Washington, DC 20250. Those interested can also phone Griffin’s office ((202) 720-5021) or email him at brian.griffin@ams.usda.gov. Comments must reference Document Citation: 79 FR 56555; Agency/Docket Number: Document No. AMS-FV-14-0025, FV-14-327; Document Number: 2014-22406.

To read more, visit: <http://www.washingtonpost.com/blogs/in-the-loop/wp/2014/09/25/is-that-real-honey-youre-dipping-in-usda-seeking-comments-on-a-national-standard/> Click on the links to read details of the new proposed standard, or visit:

<http://www.fda.gov/downloads/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/UCM389828.pdf>

“South America’s Vital Role in the Evolving International Honey Market”: *American Bee Journal*, 19 Sept 2014

For those hungry for news of the international honey scene, Ron Phipps, President of the CPNA International Ltd. and Co-Chairman of the Committee for the Promotion of Honey and Health presents a comprehensive review of the honey crop, nation by nation, with special attention to problematic Chinese exports, as well as the rising importance of South American honey exports. His report covers geo-political issues relating to honey, production, marketing, and trade statistics, the impact of climate change on pollination and honey production, and more.

Phipps’ particular concern: “Due to an international shortage of export quality honey, increased production costs, acute shortages of white honey, reduced production per hive, prices for honey have sharply risen during recent years. Despite rising prices for honey, consumption has continued to rise with new markets developing. Dr. Ron Ward was commissioned to submit a report to the U.S. National Honey Board, which revealed that utilization of US and foreign honey has increased yearly in the past decade. However, the per capita consumption remained flat, around 1 pound per person, from 1986-2009. There is growing concern that in the absence of more creative marketing and product development, honey consumption will reach a point of inflexion where sharply increased prices provoke a decline in both total and per capita consumption.” To address this crisis, Phipps urges more research into threats to honey bees, as well as creative new approaches to marketing honey.

To read Phipps’ detailed report, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=c434e53f4f&e=e9ff21e0bb>

“No Glass Ceiling for Worker Bees”: *The New York Times*, 8 Sept. 2014

We normally think of worker bees moving in relatively lockstep fashion through a set progression of jobs in the colony. However, researchers at the University of Illinois have found more flexibility: “an elite 20 percent of foragers do 50 percent of all the foraging, and . . . membership in this group [is] surprisingly flexible. When the elite bees were removed from the hive, less hard-working bees raised the level of their activity and a new elite emerged.” Gene E. Robinson, lead researcher, noted that this discovery adds to our “increasing appreciation of the role of the individual in social insects.”

Bees were fitted with minute electronic ID trackers that put the bees’ motions under surveillance – very much as online companies “track people’s shopping behavior.” This revealed changing patterns of foraging, as well as “different life histories” of individual bees. This methodology, according to Dr. Robinson, “showed the power of “massive amounts of surveillance” to “reveal previously inaccessible data about individual behavior” in insects. And just when bees thought Facebook had ignored them.”

To read more - and watch a video of honey bees under surveillance - visit:
http://www.nytimes.com/2014/09/09/science/no-glass-ceiling-for-worker-bees.html?ref=science&_r=0

“Bacteria from Bees Possible Alternative to Antibiotics”: *American Bee Journal*, 9 Sept. 2014

What makes raw honey such a potent infection fighter? Scientists at Lund University, Sweden, have isolated 13 individual lactic acid bacteria from raw honey: these bacteria “produce a myriad of active antimicrobial compounds.” The scientists then tested these bacteria on MRSA and other antibiotic-resistant pathogens: the bacteria from honey “counteracted” each pathogen they encountered. No actual human beings have been treated with these bacteria, but applications to horses showed that the bacteria healed their wounds.

These findings may help focus attention on the value of raw honey: “store-bought honey doesn't contain the living lactic acid bacteria, many of its unique properties have been lost in recent times”, according to lead researcher, Tobias Olofsson. More studies are planned to explore medical uses of these bacteria from honey on human infections in hope of fighting antibiotic-resistant infections. To read more, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=abe311193a&e=e9ff21e0bb>



Above, Manuka honey has long been credited with special healing benefits (images from Manuka Honey Benefits and Manuka Honey Remedies)



Above, Apis mellifera scutellata, the African honey bee (Wikimedia)

“Out Of Africa: Scientists Uncover History Of Honey Bee”: *Science Daily*

9 of the 10 species of the genus *Apis* live in Asia. *Apis mellifera* is the lone exception. Now researchers at the University of Illinois have discovered genetic clues suggesting that each of the 24 races of *Apis mellifera* originated in Africa, then spread to Europe, Eurasia and beyond in two major migrations. Ironically, though the bees in Europe are “geographically close,” their genetic heritage is very different: “the two European populations are more related to honey bees in Africa than to each other,” according to lead researcher Charles Whitfield.

The scientists tracked “single nucleotide polymorphism markers” – DNA variations – to figure out the interrelationships of *Apis mellifera* races, using the “recently sequenced honey bee genome to locate and compare 1,136 markers.” In their research, they found that after the first group of bees introduced to the Americas, *A. mellifera mellifera*, the black bee, at least 8 more subspecies were imported not only from Europe and Eurasia, but also northern Africa (those that hybridized to become the Africanized “killer”

bees). All originated in Africa, however. To read more, visit:
<http://www.sciencedaily.com/releases/2006/10/061025181534.htm>

Announcements

ORSBA Conference in Seaside, Oregon, November 6-8: WSBA isn't having a conference this fall, but encourages beekeepers to visit the Oregon State Beekeepers' Association meeting: for details, please see Upcoming Events, above.

Bee Culture announces The 12 Days Of Christmas Carol Contest! (Second Notice!)

“On The First Day Of Christmas, My Bee Keeper Gave To Me, A Beautiful Italian Queen Bee. / On the Second Day Of Christmas, My Bee Keeper Gave To Me, 2 Empty Supers and a Beautiful Italian Queen Bee. / On The Third Day Of Christmas....

“You know how this goes...send us the 12 days of Christmas, each with a beekeeping theme, and we'll publish as many of the best entries as we have room for in the December issue.

“There are only a few rules for this contest: every day has to have a beekeeping theme; spelling, rhyme, rhythm and meter count; your entry has to be sing-able (is that a word?); it has to be original; and...Keep it in the spirit of the season – friendly and fun!

“All entries have to be here by Midnight, October 10, 2014, no exceptions. You can have as many as 3 different entries. We accept only electronic submissions. Each email must have the name, address, and phone number of the entrant and each entry MUST have 12 Days in the subject line, and each email must have only ONE (1) entry. And send every one of those entries to Kim@BeeCulture.com.

“That's it. All entries will be judged by a tone deaf Bee Culture staff after midnight that night who have been sampling some Christmas Cheer, kind of early, and maybe some other office folks. We'll see who sticks around.

“Prizes: YES, there are PRIZES.1st Prize – A Life time subscription to Bee Culture Magazine. Value...unknown, but probably more than a couple grand...maybe even more if you're lucky, and young enough. But there's more! We are going to put the winning entry's lyrics ON THE COVER OF THE DECEMBER ISSUE SO THOUSANDS AND THOUSANDS OF FOLKS CAN SEE AND SING YOUR SONG!

“2nd Prize – A five year subscription to Bee Culture Magazine. Value...about \$125 or so, maybe more if the price goes up. 3rd Prize – A three year subscription to Bee Culture Magazine. Value...over \$100 anyway.

“So songbirds, get busy. You have only until October tenth, 2014.” –Kim Flottum, *Bee Culture*

October Western Apicultural Society Newsletter: 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.

October WSBA Newsletter: Pick up your copy online at www.wasba.org: click on "Newsletters." *Special announcement – there are two stories about LBCA events in this month's WSBA newsletter, including photos from the Fair.*

That's all for this month - take care, & bee happy!

~~ Susanne Weil, LCBA Secretary (Susanne.beekeeper@gmail.com; 360 880 8130)