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June 2013 LCBA Newsletter

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Questions? Suggestions? Resources you'd like to share?

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

UPCOMING LCBA EVENTS:

LCBA's board is organizing mentoring workshops for August, focused on removing honey supers, as well as a honey spinning, probably in September; we'll also have workshops on fall management for over-wintering. Check our website & watch for email announcements.

June 12, LCBA Monthly Meeting, 7 – 9 p.m., 103 Washington Hall, Centralia College.

Social Time 6:30 to 7 – Come Talk Bees!

Topic: Bob Smith, Olympia Beekeepers: How To Judge Honey. Bring your honey to compare/contrast with others and get ready to enter this year's contest at the Southwest Washington Fair.

Business Meeting: Beekeeping Q&A. Also: monthly raffle – if you have something to share, please bring it to the meeting (if you can, email susanne.beekeeper@gmail.com so we know what's coming; but if you have a spur of the moment inspiration, please bring it!).

June 12-13: "The Art of Queen Rearing," WSU-Pullman. This workshop will be led by Sue Cobey and WSU's APIS team. For registration information, visit <http://entomology.wsu.edu/apis/> ; for the Queen Rearing course registration form, visit <http://entomology.wsu.edu/wp-content/uploads/2012/11/QueenRearingWkshp2013.pdf?9d7bd4>.

June 14-15: WSU-WSBA Bee Field Days, WSU-Pullman. WSU's honey bee research team partners with WSBA to sponsor "Bee Field Days" every other year; beekeepers from all over Washington are invited to WSU's Pullman campus for workshops on hive inspection, identifying bee diseases, learning how testing is done in APIS's laboratory, and more. Schedule & registration information about Bee Field Days will be posted on our LCBA website and announced in our newsletter when available.

June 22, 10 a.m. - noon: Hive Inspection Workshop III: Focus – how to test for Varroa mites, tracheal mites, and Nosema; how to inspect when supers are on. Where: Winlock. Questions & directions: call Susanne, 360 880 8130, or email Susanne.beekeeper@gmail.com. Please RSVP if you can - we'd like to get a head count, but if your schedule suddenly opens up and you can attend, please come!

Saturday, July 13, 5 p.m. till ? LCBA's 5th Annual Summer Potluck – this time on a Saturday so that those with full time jobs and kids to get to bed on school nights can linger longer. Please bring a dish to share, a plate & cutlery, a chair, and, if you have something for our monthly fundraising raffle, please bring that too. Drinks provided by LCBA. Guests are welcome! This gathering is in lieu of our regular monthly meeting, though we will have a short business meeting as members munch. For address and directions, email susanne.beekeeper@gmail.com or call 360 880 8130. Looking for a new recipe? Check the HONEY link on our website...

July 19: "The Art of Queen Rearing" - Mt. Vernon Agricultural Station. Sue Cobey & the WSU APIS team will offer "The Art of Queen Rearing" a second time – see above for registration information, or visit <http://entomology.wsu.edu/apis/>.

July 26-28: Pacific Northwest Treatment-Free Beekeeping Conference. Pacific University, about half an hour south of Portland. Tuition of \$268 includes room and board. For more information, visit blisshoneybees.org.

August 13-18: Southwest Washington Fair. LCBA will have a booth in the Education Building – if you are interested in helping staff our table or have display items, please contact Susanne. We'll have information on the Fair's honey judging contest at our June 12 meeting.

August 14: LCBA Monthly Meeting, 7 – 9 p.m., 103 Washington Hall, Centralia College.
Social Time 6:30 to 7 – Come Talk Bees!
Topic: How to test your bees for Varroa mites, tracheal mites, and Nosema – with microscopic images projected on the big screen; report from July PNW Treatment-Free Beekeeping Conference.

September 29 – October 4, 2013: International Apimondia Congress, Kyiv, Ukraine. Representatives from over 35 countries will discuss the theme, “Beyond the Hive: Beekeeping and Global Challenges.” For registration and program information, visit: <http://apimondia2013.org.ua/en/exhibition-program/become-a-delegate/>

October 3 – 6, 2013: WSBA Conference, Federal Way, WA. Please note new dates & location – the conference was originally slated for Oct 31 - Nov 2 in Seaside, OR. Nearer than Ukraine ;) Updates - program, venue, registration info - will be posted when available.

October 24, 31, Nov. 7, 14: LCBA / WSBA Apprentice Beekeeping Course, Lewis County Extension Classroom, Old Chehalis Courthouse; Cost: \$30 individual; \$45 couple or family.

LCBA Past President Bob Harris and President Norm Switzler will teach this introductory class, assisted by Peter Glover, Sheila Gray, and Susanne Weil. The course is sponsored by Lewis County Extension. The registration brochure is available on our website. Questions? Contact LCBA Secretary Susanne: susanne.beekeeper@gmail.com or 360 880 8130.

NOTES FROM LCBA'S MAY 8, 2013 MONTHLY MEETING

Vice President Dave Gaston ran the meeting for President Norm Switzler, who was home sick.

Speaker: Dr. Dewey Caron ~ BeeInformed 2012-13 Survey of Bee Losses

Dr. Dewey Caron is Professor Emeritus of Entomology from the University of Delaware; he's now affiliate faculty at Oregon State University, where he continues to research honey bee health. He spends much of the winter in South and Central America teaching local beekeepers how to raise bees to produce honey as an affordable sweetener rather than be forced to buy sugar cane products at government-mandated prices. Dewey has spoken to our group several times

before, surveying us about bee losses and bringing information about where southwest Washington fits in the national bee loss picture.

BeeInformed is working to create a long term database to help us understand trends in bee losses. For the past three years, there has been federal funding to look into bee losses. BeeInformed.org uses electronic surveys: while hobbyists have been involved, commercial large scale beekeepers were not filling out surveys, so BeeInformed has found (and is working to improve) ways to get those results, too. It should be understood that the last three years' data represent more input from hobbyists than the first four years: most respondents have fewer than 50 colonies. Dewey commented that because PNW surveys are reaching such a high percentage of individuals, and because all segments of the industry are represented, our PNW surveys are representative of - and help validate - the national loss survey.

Dewey shared with us the first results from BeeInformed.org's 2012-13 survey of honey bee losses (see below): we were the first beekeeping association to hear these data, which had been published just the day before our meeting. Dewey brought surveys for members who wish to participate but missed the online window; they want more data from the Pacific Northwest. Dewey's PowerPoint presentation is available on our website (see the Monthly Meetings link) and attached to this newsletter in PDF form.

Context: Past Declines in Bee Populations: Though we tend to think of honey bee die-offs as a recent phenomenon, in fact, honey bee colony health has been in decline since the 1940s; it worsened in the 1990s with the intensification of infestations by the Varroa mite, which arrived here in the 1980s. Bee die-offs have taken the form of syndromes – a set of things happening simultaneously, rather than specific diseases, though those are implicated: starting in 2000, it was called Bee PMS, “cruddy brood which just looks terrible” (Dewey apologizes for the imprecise language). The “Colony Collapse Disorder” monicker has been applied since 2007: in CCD, the queen is robbed of her supporting cast, the worker bees.

A century of disappearing bees (see the chart in the appended PDF for specific dates). A 10 year Pacific Northwest loss survey shows that the level of losses increased fairly steadily from 1989 to 1997, with losses averaging 22% by 1997, up from the earlier normal rate of 10 to 15% losses. Winter dragging on into delayed springs also caused bee losses. For bee losses, commercial beekeepers have, historically, been able to get “indemnification” – that is, the government pays for dead bees. However, this program was discontinued when it became “too expensive” for the government to continue to purchase dead bees.

National losses seen over the past 7 years dwarf past losses. Starting in 2006, we saw a major spike in losses, well above the 10 to 15% considered “acceptable.” In January 2007, at a national beekeepers' meeting, beekeepers reported heavy losses: after this, Dewey and others started surveying to see, first, how severe these losses were.

2012-13: bee losses showed a 9.2% increase in mortality. There had been a decline in losses the previous 2 years; this year, the losses spiked back up to 2007-11 level average of 30+% . In 2012, there were 18.5% losses in WA, 13.5% in OR, 12% in Idaho, 25.6% in California – as compared with national losses of 31.1%.

Re: survivorship, in 2012, 45% of respondents reported NO loss, nationally – of these, 99.5% were backyarders. (For more data, see the attached PDF.) Northwest commercial / semi-commercial losses were below national numbers at 18.1%, so our larger PNW beekeepers are doing better than their national peers. This represents 16 respondents. Small scale PNW beekeepers, on the other hand, had 38% losses.

Bob Harris asked whether 2011-12, the year of relatively low losses, might have been the anomaly. Referencing his slide of data from 2010, 2011, broken down by region, Dewey noted that the average loss figures were considerably lower the 2011-2012 winter. It has been suggested that the exceptionally mild winter in 46 of the lower 48 states (only OR and WA were colder and wetter) might have been a major influence. Additionally the loss figure presented includes those who had 100% survivorship which was higher in 2011-2012 than any of the other survey seasons. Incidentally the reduced loss figure was quoted by others to indicate that maybe the 30%+ loss levels were now a thing of the past. Unfortunately, with our return to this level in 2012-2013, this apparently is not the case: the 22.5% level might well be the anomaly.

Peter Glover asked whether the fact that Eric Olsen, the now-famous Yakima beekeeper who over-winters his thousands of hives in a pear warehouse, is using a climate-controlled atmosphere could account for lower commercial losses reported in the survey; Dewey said that he was not sure whether Olsen's #s are included – it depends on whether or not he sent in a survey, and the surveys are anonymous. But he made the point that each large-scale beekeeper has a different management and how they overwinter is not sub-sectioned in the overall numbers.

Gary Stelzner asked whether the fact that some PNW large scale beekeepers move their bees to California early in winter, or keep them in dryer eastern Washington, might account for the fewer losses of the commercial beekeepers? It is possible – but Dewey says they are suffering fewer losses because they are not letting colonies die. When they see bees getting weaker, commercial beekeepers use chemical interventions; smaller scale beekeepers tend not to and hope that in the end they'll have survivor bees. It's also possible that we may have nursed bees through the previous year that survived in a weakened state, so we lost them this year, despite the relatively mild winter. Thus, this year's over-wintered bees may be genuinely strong survivors - but this is not a firm prediction!

Myriad reasons for bee losses: losses are not caused by one single factor. Mites and viruses play a role. *Varroa destructor* mites – which open a hole in bee's exoskeleton, making a passage for mites to get inside bee's body and feed on hemolymph – do not kill the bee; however, they provide an opening for viruses, which do. Deformed wing virus, Israeli Acute Paralysis Virus,

and others are transmitted by the mite because of these feeding holes. Tracheal mites, too, are implicated (see Renzy Davenport's September 2012 talk, archived in the October 2012 newsletter on our website – see the Monthly Meetings link).

Queen producers tend to think that we must strengthen our survivor stock, but how can we do that? Dewey suggests not putting a chemical crutch in a colony to make them survive. Dewey notes that he doesn't necessarily mean going completely treatment-free, but rather, using chemicals that carry a less severe possibility of killing "non-targets" – chemicals more closely related to what is already in the colony, e.g., organic treatments like formic acid. The sugar-based formic acid MAQS Strip can be used with supers on and is designed to target male mites in cell so they can't fertilize the females when daughters hatch out. MAQ strips have some problems, though. Initially, the amount of formic acid that bees are exposed to is a big jolt when it comes out of the package, so it does kill some brood, and some feel it is killing their queens. In dealing with mites, many favor a brood break: go for a queenless window, when there are no larvae for mites to infest. As little as four days will work; one week is better. To do this, hold queens for a week and then reintroduce to your queen. If you do this, you can't just drop her in: rather, you must reintroduce her as if she were a queen new to the colony, in a cage.

Renzy Davenport asked how HopGuard and Mite-Away Quick Strips affect honey: he's been told that there is no effect, but how could these chemicals not affect honey to some degree? If formic acid kills brood, how can it not permeate a honey cell? Dewey noted to audience that HopGuard only kills phoretic (hitchhiker) mites, whereas MAQs do penetrate cells. There are precautions that we as applicators must take care of. One must wear gloves because of possible burns on hands from applying formic acid, for instance. How could this be good for the bees, Dewey asked? The answer is that the bees' system is different from ours. These chemicals won't burn bees' exoskeletons, antennae, feet. Bees may run out the hive entrance and hang out in a beard for a couple of hours, but that seems to be caused by dislike, rather than damage.

If a product doesn't show up in honey, it may show up in wax – depending on whether it is oil or water soluble or not. With food additives, e.g., Honey-B-Healthy, or lemon grass, or spearmint, what you are doing is putting an essential oil into a water base, so you have to keep stirring it so that droplets are smaller in size. These food supplements do help support those who produce them, Dewey quipped, though he admits that's a bit severe. Having some HBH in sugar water sprayer when you are working bees can be attracting to the bees – you can use it to help get them into your box, for example.

Bob asked whether commercial beekeepers' willingness to do whatever to keep bees alive may perpetuate problems; Bob also wondered whether data coming from commercial respondents might not be completely accurate. Dewey noted that commercial beekeepers are not going out and counting precisely – more like estimating – though volunteer effect could be an issue. As to the first part of Bob's question – is the pool of commercial beekeepers exacerbating

the problem of not getting survivor bees – there are no data to point to, but given their high number of colonies, this too could be an issue.

Is local queen rearing an answer? Dewey suggested that, say, you want to raise queens in Lewis County. Let's say a commercial beekeeper brings in large number of colonies in summer. Could we produce survivors in that context? At time of year when we'd be producing our best quality queens, drones from those commercial beekeepers will impregnate them. Dewey visited Vashon Island, where they are thinking about starting a queen survivor program because no commercial beekeepers go there. There is a Rocky Mountain queen rearing group that presented at WSBA last fall – given their high elevation, commercial bees don't go there. Dewey's group hope to work with Portland urban beekeepers – again, there are no commercial beekeepers nearby– but where do the bees come from? California. Bob commented that, ultimately, there is no fix because we can't tell people not to earn a living.

Reading the bad news: dead hives have a tale to tell, and beekeepers need to look for symptoms. Treatment options: those who don't treat are seeking survivorship selection. In trying this, do we build stronger bees or weaken the mites? Tom Seeley (Cornell U) looked at mites who are on bees in bee trees – trees which are separated by distance – and his evidence suggests those mites are not killing wild colonies: bee tree mites might not be as virulent, as not killing their hosts is improving their success as well. But when bees are all together, as in a traditional bee yard, it's in mites' advantage to kill a colony – if they kill one colony, they can move to the next door colony. Mites can travel up to a mile – they travel on bees, via drifting bees, or on swarming bees. However, if mites live on bees in a bee tree, and they kill colony, mites are out of a home too. Tom Seeley is testing this hypothesis with current research.

If you are going to treat, Dewey urges Integrated Pest Management: a multi-tactic approach, starting with “cultural” aspects – common sense – to physical-mechanical, to biological, to chemical interventions. Cultural options: let bees build natural comb with smaller cell size [harder for Varroa to find ways to infiltrate cells]. Smaller bee takes less time to develop, so less time for mites to develop; the key may not be the size of the cell, but the size of the bee, that makes the difference. Drone brood removal: there has been no real difference nationally, but drone brood removal among northern beekeepers was associated with 15% fewer losses than in southern states. Chemical controls were associated with 5% fewer losses. Those who used Apiguard had fewer losses; the same held true for formic acid. Apivar also seems to make a difference. As for alternative materials, Honey-B-Healthy leads to no significant differences. Dewey was asked whether HBH interrupts communication pheromones in the hive? It does interfere with some of the normal smells in hive, but we are not sure that HBH and other essential oils do also interfere with normal pheromone communication.

The Impact of Pesticides: “Depopulation” of bees has been affected by pesticides, though the extent of their impact is disputed. Many beekeepers are quick to blame pesticides; the EPA isn't sure what the bee loss rate from pesticides is. They say, based on incident reports, that very few

bees are harmed by pesticides. However, EPA's testing is supported by pesticide companies: there is a "swinging door" from the EPA to the VP of Monsanto. The EPA knows there is an issue, but their recent report noted pesticides, particularly neonicotinoids, as only one of a number of factors (see "Bees in the News," below, for summaries of recent reports and studies).

Dewey noted a difference between pesticides' immediate effect and their cumulative, chronic ("sublethal") effect. One issue is that we must investigate both the impact on individual bees and on a colony's social behavior – the superorganism. The EU has decided to ban three neonicotinoids for two years (see *Bees in the News*, below): the EU's approach is to try to find out whether the impact of pesticides really is minor, as pesticide manufacturers claim, or not – they are erring on the side of caution. In contrast, the U.S. approach is to ask whether a significant effect can be documented before taking action.

Dewey suggested we look at Randy Oliver's work on pesticides, available on his website (*scientificbeekeeping.com*) as well as in *American Bee Journal*'s Jan 2013 issue: "CCD Revisited: Pesticides." Oliver looks seriously at how neonicotinoids are used in a range of nations – no scientific studies show that neonics are harming bees – but they don't show they are not harming bees, either. It is hard to prove the negative. There is some evidence that neonics might be interfering with bee behavior (see below). Penn State studies of residue find over 5 different chemicals in bees and beeswax, but we do not yet understand what the level we are finding means. Most of the higher levels are the chemicals we ourselves, as beekeepers, use to try to control Varroa mites. In short, we don't understand yet what role pesticides, or what some specific pesticides in particular, might be playing in the bee loss epidemic. Studies such the one noted below are truly alarming and suggest we need to have better funding of studies and better testing procedures adopted by EPA before we can begin to insure better bee health. The pesticide companies have the money and it is a positive that both Monsanto and Bayer have established labs to study bee-pesticide interactions. Independent studies need to be done too – we cannot rely on the pesticide companies or EPA, with their current relationships to pesticide companies, to protect our bee health.

(A note from your secretary: two studies published earlier this year (see "Bees in the News" link on our website) reported neonicotinoids and coumaphos as obstructing honey bees' capacity to "learn and remember," and that this intensifies when the two are used together. Bayer et al argue that the neonicotinoid studies don't "apply to bees in the wild," but researchers noted that the pesticide makers fail to account for sublethal and cumulative effects in their own studies. The neonicotinoids were shown to make bees' brains hyperactivated, "an epileptic type activity," followed by "neuronal inactivation, where the brain goes quiet and cannot communicate anymore." The other study examined bee behavior and found that when exposed to both neonicotinoids and coumaphos, bees lost their capacity to "learn and then remember floral smells associated with a sweet nectar reward." See <http://www.bbc.co.uk/news/science-environment-21958547> for further details.)

We thanked Dewey for sharing this picture of national and regional bee losses, as well as suggesting ways we can approach them.

Raffle

Grant Inmon won a cut-out bee iron sign (made by LCBA member Rob Jenkins, Mr. Ironimagery.com – if you're interested in Rob's iron signage, email him [ironimagery@hotmail.com] or visit his website, <http://ironimagery.webs.com/>). Gordon Bellevue won the 20-pound bag of pure cane sugar (donated by Treasurer Jon Wade). New member William Pittman won the flat of tomato and other plants (from the garden of Membership Coordinator Steve Howard). Visitor Joy Roth won a flat of tomatoes and bell peppers, and Jeanie Reichert won the other flat of tomatoes, both donated by new member Terrie Phillips. Steve Roth won the sugar/water bee sprayer donated by past-president Peter Glover. Finally, Dywame McBride won Rob Jenkins' iron chicken sign. A very sincere thank you to our donors and raffle participants for helping to support our scholarship program – the raffle brought in \$97. Items to donate for our June raffle? Please bring them on down!

Discussion/Q&A: Managing to Minimize Swarming

After brief announcements of upcoming events, VP Dave asked those present what they wanted to focus on – swarm prevention or feeding methods - and swarm prevention was the choice. Renzy Davenport and Dave gave an overview of what to do. Renzy noted that from our reading and classes, we all know the basics about when to add boxes, so he focused on specific techniques that he's found helpful to stop swarming.

Renzy noted that bees are “hard-wired” to swarm – this is how they increase colony numbers – so beekeepers face a real challenge, flying in the face of instinct. Renzy prefers to pull the hive box up to see if swarm cells are hanging from the bottoms of frames: he'd rather not pull all frames out when he inspects because of the risk of crushing the queen. If you don't want to use swarm cells to make a split, he recommends that you scrape them off. If you use the “tilt-box” method, be sure to look up inside the box to see if some swarm cells are lurking just off the bottom. (Remember . . . the bees don't read the books.)

If you notice that a colony is starting to swarm, you can staple-gun a plastic queen excluder across the entrance – this will stop the queen from coming out, provided you move fast enough. You can wait until they all settle down, then remove the queen and shake off a bunch of bees to start a Nuc, or put them in another box above the box they swarmed from...separated by a queen excluder. Then, at a later date, you can remove the unwanted queen and queen excluder and allow the bees to rejoin.

One tried and true method is the “double-decker box approach”: rehive the swarm in a hive body, put it on top of its original colony, lay down slitted newspaper between the boxes, and

then recombine. Warning: make sure you give them room, or they may swarm again! Also, be sure to remove either the swarm cells or the old queen.

Yet another option: watch them swarm and then go get 'em. Keep extra boxes on hand. Dave recommends putting a swarm box in your yard, about ten feet up in a tree, baited with drawn comb. (*Post meeting note: visit the Swarm and Colony Removal page on our website to see some great pictures of Dave's swarm box in action*). If you don't have drawn comb, put lemon grass oil on a corner of a piece of paper inside a baggy that's a little bit open – the scent attracts them, and they go into the box. Renzy noted that it's a bad idea to bait with honey: doing this will not only attract robbers to your bee yard, but can start your hives robbing each other. If you have old dark nasty comb that you rotate out, you can put that into your swarm capture box, then rotate it out later. Bob asked about the visual of cappings from a hive that has been robbed – Renzy said it is striking, as if something's been chewing on it in a hurried fashion, as opposed to what you see in the early spring: neatly opened cells and fine wax debris on the bottom board. Gary asked how late in the season he would recommend making splits: Renzy thinks that it's a bad idea past June. If you catch swarms in July or August, you can combine them with one of your weaker hives to help bolster their forager numbers.

Queen replacement: you can use swarm cells from good hives with good brood patterns to requeen your hives that had spotty patterns or queens that you didn't think were strong.

Supersedure cells v. swarm cells: Dave also noted that it's important to recognize difference between a supersedure cell, which bees produce to replace a weak queen, and a swarm cell, which they produce when they're preparing to split their own colony (whether because they need more space or are rejecting the environment). If your colony has supersedure cells, the queen may be poorly mated or even dead, so you should inspect carefully to see if you can find the queen and see eggs and brood before thinking about destroying these cells. Renzy told a story about a time when he had to go out of town and leave his girls to his mentee. He left her a checklist of what to look for and do. The trainee emailed Renzy that she had not found the queen or any eggs, but wanted to send a picture of “these weird things on the bottom of the frame, within a quarter inch of the bottom.” The surprise was that these were not swarm cells, but supersedure cells: the lack of eggs in the colony was the clue. None of the bees in the colony had left. Renz noted that we may face some “weird issues” with the new packages and may see queens behaving oddly, such as placing supersedure cells where you'd expect swarm cells: possibly these had been the newest eggs or larvae, with no other place to put supersedure cells.

We thanked Renzy and Dave for their insights, and Jon for his time preparing to speak to the feeding questions. VP Dave then adjourned the meeting.

APRIL & MAY HIVE INSPECTION & COLONY REMOVAL WORKSHOPS

This year, LCBA has supplemented our meetings and apprentice beekeeping course with an expanded series of mentor-led workshops on how-to topics in beekeeping. These workshops are free, and both members and attendees are welcome to attend, participate, and ask questions. Reading is important, and courses are great – but nothing can substitute for hands-on learning and discussion. Below are some highlights:

Hive Building: We started off with February’s hive building workshop at Bob Harris’s farm, attended by about 20 members and led by Bob and Norm. Despite the cold, new and nearly-new members pounded away to produce deep bodies, supers, and telescoping covers, and put together countless frames (visit the Photo Gallery link on our website to see the results!).

Hiving Bees: Though we couldn’t exactly hold a workshop on this without bees, the demo given at our March meeting was followed up by instructions when members picked up their package and nuc colonies. Check the photo gallery later in June for package bee pickup day pictures, including some very excited young beekeepers.

Hive Inspection I: April 27, Mossyrock & Winlock

We had two, count ‘em, workshops on April 27 to help new beekeepers experience the basics of how to inspect an over-wintered hive. In the morning, 35 (!) beekeepers attended the workshop at Bruce Casaw’s Mossyrock apiary – this workshop had been rescheduled from April 13, when weather skunked us. Bruce had a hive that he thought might be queenless, and Norm led the inspection, showing new members how to pull frames gently, without alarming the bees. We went over spraying with sugar water v. smoking bees, looked at brood pattern, saw how to use a magnifying glass to locate eggs, and talked about when to add a second deep body. Though we didn’t actually spot the queen, the presence of eggs and larvae and a strong pattern of capped brood signaled her presence; the plentiful stored pollen and honey suggested a healthy colony. New members got used to having bees land all over their suits, though Bruce’s bees were a pretty mellow colony.

We also visited Bruce’s ingenious indoor “Bee Condo.” Bruce had converted an add-on to his house and made it a year-round home for his bees, with communication holes to the outside world, color-coded per hive to help his bees find their way home. Among other cool features, Bruce had a pulley arrangement for loading and lifting hive bodies: he reports that his back thanks him! For some pictures of Bruce’s set-up, visit the photo gallery link on our website and look for April 27 Mossyrock Workshop (more will be posted later this month).

That afternoon, we congregated at Mentorship Coordinator Gary Stelzner’s apiary in Winlock. To start, Kent Yates gave a demonstration of how he sets up a smoker, using shredded paper and wood detritus instead of burlap for a longer, more consistent burn, not to mention a

nicer odor; Kent also stuffs grass into the smoker nozzle, partially plugging the opening to filter out sparks. Despite the light drizzle, we opened and inspected four of Gary's hives, with the help of some big umbrellas: Norm and Gary showed over 20 beekeepers the basics of hive inspection, inverted hive bodies on a couple of hives, and discussed feeding methods. Afterward, everyone gathered in Gary's shop for coffee and doughnuts, and a good time was had by all. Many thanks to both Bruce and Gary for their hospitality and Norm for teaching.

Hive Inspection II: May 19, Winlock

On May 19, noon to 2 p.m., new LCBA members Jennifer and Matt Taylor hosted about 30 beekeepers in their brand new two-hive apiary in Winlock, where they have been doing a great job caring for their nuc and package bees. (*Can we bottle "new colony odor" – nice fresh drawn comb?*). Their apiary grew to three hives by the end of the afternoon, as President Norm not only reviewed hive inspection basics, but demonstrated how to take frames with queen cells and make a split. Jen and Matt had taken home a nuc of frames of brood extracted from a colony removal the previous weekend (see below), intending to combine them with their new nuc or package, but then discovered developing queen cells (photos available soon on our website), opening the door to starting a third colony. Thanks to Matt and Jen for stepping up as the first newbees to host a workshop! As of this writing, rumors that this workshop morphed into a patio party have not been confirmed. . . .

Colony Removal Workshop I: April 28, Onalaska

After our March meeting, many LCBA members signed up to join the "Bee Team," either to lead or help with swarm and colony removals. On April 28, about 25 beekeepers gathered at a home in Onalaska whose owners had agreed to allow a colony of bees that they discovered in the siding last September to over-winter, rather than have them taken out so late in the season that they might not survive. Norm led the project, showing members how he determines where in the wall the bees are, how to remove siding, cut out comb and insert it into frames, vacuum free-flying bees, and clean the remnants of comb out of the structure. This turned out to be a complex job, involving Matt Taylor's wedging himself under the porch roof overhang to help Norm get some bees out of a space above the soffit so that they could not re-establish a colony (see photo of "extreme removal sports" on our Swarm & Colony Removal link). Members pitched in to insert comb into frames, learning how to avoid skewering too much brood and how to space the frames in nuc boxes, as well as how to put brood frames in the center, surrounded by frames of food. Though a few people took stings, overall, these were fairly mellow bees, given a good home by Norm. Thanks to Norm for leading these workshops and for his clear explanations each step of the way.

Colony Removal Workshop II: May 11, Winlock

On May 11, Rob Jenkins led a removal from the Veterans of Foreign Wars hall in Winlock. We had about ten members (it was Mother's Day weekend, after all!) who pitched in

to help Rob take down siding of about a ten foot wide span; the colony was large, about five feet high by four feet wide, and once all the comb was skewered into frames, everyone who wanted bees took home a box (about five boxes in all). These, too, were fairly mellow bees, even after the sun warmed things up. One of the highlights of this job was how the Newman/Phillips clan celebrated Mother's Day, as grandmother Linda, mom Terrie, and daughter/granddaughter Michaela cut and framed comb together. See the swarm & colony link on the website for pictures. Thanks to Rob for organizing this removal and helping "newbees" get some new bees!

Upcoming Workshops:

On June 22, 10 a.m. to noon, we'll be in Winlock apiary (contact Susanne for directions) to focus on how to test colonies for assorted problems that plague our bees: Varroa mites, tracheal mites, and Nosema. We'll learn the sugar shake technique, insert some sticky boards and take out previously inserted ones, and discuss treatment issues. We'll also look at how to conduct inspections while supers are on a hive. In August, we'll have a workshop on how to remove honey supers, and in September, hold a honey spinning again. There'll be another removal workshop on June 1 – reports in our July newsletter!

Are there topics you'd like to see covered in a mentor workshop? Please let us know!
Contact Susanne (see above for phone & email).

Have you done a swarm or colony removal? Please let Susanne know: LCBA's board is keeping a log of removals in hope of applying for grant funding to help defray members' expenses. No promises – but we will try! So far, LCBA members have rescued at least 16 colonies/swarms this season – and given recent bee loss trends, our Bee Team is doing something very good, as most homeowners are not eager to cohabit with our favorite insects, and the temptation just to spray them can be great.

ITALIANS & CARNIOLANS, NUCS & PACKAGES: YOUR THOUGHTS?

2013 is the first year that LCBA members could get Carniolans through the association. How are these bees working out in your bee yards? Thoughts on your experiences with both *Apis mellifera carnica* and *Apis mellifera ligustica* would be welcome! Below are comments from new members Sherri Underhill and Randy Duncan. Nucs and packages: how are these working out? Please send your thoughts!

Sherri and Randi write, "Our Carniolans are definitely mellow: they seem to be the tortoise in the story. They are out sooner and stay out longer (can do better in the cooler air) and seem to be less busy, more sustained effort. Our Italians are very busy- the hare in the story. They come out later, but get right to it- no grass growing under their feet! They are a burst of energy and then are back as it cools down. Right and tight for the night. . . . From our inspection,

both tactics seem to work about the same. They seem to be about in the same place productivity-wise. They take advantage of every rain break and sunbeam.” For photos of Sherri and Randy’s working girls, visit the photo gallery on our website later in June – our photo gallery page will get a revamp to include pictures from our mentor workshops, recent colony removals, and pictures from our new members’ bee yards.

BEES IN THE NEWS

Many thanks to Gillian Davis, Dave Gaston, Peter Glover, Steve Howard, Judy and Gary Kalich, Margie Miller, Steve Norton, and Norm Switzler for sending links to news about our favorite members of the Genus apis ~ please keep ‘em coming! This month’s focus is new decisions and studies about neonicotinoids, followed by some happier news. . .

“Europe Bans Pesticides Thought Harmful to Bees” (The New York Times, April 29 2013, by David Jolly)

Following January’s recommendation by the European Food Safety Authority to restrict neonicotinoids until studies prove whether or not these chemicals are “contributing to a die-off in bee colonies,” the European Union will ban 3 neonicotinoid pesticides for 2 years, effective December 1. Clothianidin, imidacloprid and thiametoxam will be illegal to use on “seeds, soil and leaves on flowering crops attractive to bees, like corn, sunflowers and rapeseed.” Farmers can still use them to treat crops such as winter wheat, considered less attractive to bees; no home gardeners can use them. The original proposal would have banned neonicotinoids outright, but the EU commission did not reach the needed majority, so the commission head imposed the temporary ban.

When plants, even seeds, are treated with neonicotinoids, the chemical becomes part of the plant’s tissues, so that when insects eat any part of the plant, they die. The chemicals become infused in nectar and pollen, and two studies recently showed that “even sublethal doses might hurt bees.” According to the U.N. Food and Agriculture Organization, “71 of the 100 crops that provide 90 percent of human food are pollinated by bees,” yielding “\$200 billion annually.”

While Bayer CropScience and Swiss biochemical company Syngenta protest the ban, environmental activists argue that it doesn’t go far enough. Chemical companies question the science behind new studies, while activists challenge research by the companies that led to the pesticides’ original approval. The EU commission plans to re-examine those initial studies.

To read more, visit: <http://www.nytimes.com/2013/04/30/business/global/30iht-eubees30.html>

“USDA and EPA Release New Report on Honey Bee Health” (May 2, 2013)

After comprehensive study, the USDA and EPA have identified at least 5 smoking guns in the honey bee die-off mystery: “multiple factors . . . including parasites and disease, genetics, poor nutrition and pesticide exposure.” The study does not rank any one factor above others.

The study stemmed from the “National Stakeholders Conference on Honey Bee Health” last October at Penn State, which set out to “synthesize” what’s known about how stressors harm bee health. Among their concerns are miticide resistance, new viruses, and lack of genetic diversity: they recommend that breeders focus on promoting traits like hygienic behavior. To address lack of diverse nutrition, they urge federal and state governments to take bee forage into account when making decisions about land management. To address pesticide concerns, they suggest that crop producers adopt “best management practices” for pesticide use and work to communicate better with beekeepers. The study urges more research to “determin[e] actual pesticide exposures and effects of pesticides to bees in the field and the potential for impacts on bee health and productivity of whole honey bee colonies.”

Next steps include the Colony Collapse Steering Committee “updat[ing] the CCD Action Plan” in light of the report and “outlin[ing] major priorities to be addressed in the next 5-10 years . . . [to] coordinate the federal strategy in response to honey bee losses.”

To read the EPA’s press release, visit:

<http://yosemite.epa.gov/opa/admpress.nsf/0/E04602A5E7AA060685257B5F004A12D3>; to read the report itself, which the EPA says “represents the consensus of the scientific community studying honey bees,” visit: <http://www.usda.gov/documents/ReportHoneyBeeHealth.pdf>

“Study Finds No Single Cause of Honeybee Deaths” (The New York Times, May 2, 2013, John M. Broder)

Reporting on the USDA/EPA study, *The New York Times* noted that the agencies rejected the European Community’s two-year ban on neonicotinoids, citing insufficient evidence to support an act that might do more harm than good. Jim Jones, EPA’s acting assistant administrator for chemical safety and pollution prevention, said that ““we let science drive the outcome of decision making. There are non-trivial costs to society if we get this wrong. There are meaningful benefits from these pesticides to farmers and to consumers, as well as for affordable food.””

The Times interviewed May R. Berenbaum (Professor of Entomology, University of Illinois), who took part in the study and reported that when autopsied, dead bees contained “residues of more than 100 chemicals, insecticides and pesticides, including some used to control parasites in bee hives.” She also thought that banning neonicotinoids was premature, noting that it’s hard ““to

predict the effect of removing one of 100 different contaminants. . . .There is no quick fix. Patching one hole in a boat that leaks everywhere is not going to keep it from sinking.”

To read The New York Times’ story, visit: <http://nyti.ms/ZYgadQ>.

“Monsanto, Bayer seek answers to bee losses” (NBCNews.com, May 20, 2013; Carey Gilliam, Reuters)

Under pressure from critics, Monsanto, Bayer, and Sygenta are starting honey bee health initiatives: “Monsanto is hosting a "Bee Summit." Bayer AG is breaking ground on a "Bee Care Center." And Sygenta AG is funding grants for research into the accelerating demise of honeybees.” Responding to the EU’s 2-year ban on key neonicotinoids, the companies counter that viruses, mites, and habitat loss, not pesticides, are the problem. Monsanto and DuPont are use neonicotinoids to coat their signature seeds.

“We are concerned... that the science sometimes gets trumped by the politics,” said Dave Fischer, an ecotoxicologist at Bayer CropScience who is meeting with bee keepers and studying the bee deaths.” The pesticide industry stands to lose many millions of dollars annually if the U.S. were to adopt a ban similar to the EU’s; it challenges recent studies like Purdue’s (2012), which found that dust generated when treated seeds are planted has “very high levels” of the pesticide, which, as wind carries the dust, goes beyond fields where the seeds originally were planted. Pollen contained high levels of the pesticides, which were found in dead bees studied.

The USDA’s concern stems from threats that food prices will rise in the wake of the winter of 2012-13, when, their study showed, “nearly one in three managed honey bee colonies in the United States were lost. . . 42 percent higher than losses seen the previous winter.”

To read more, visit: <http://www.nbcnews.com/business/monsanto-bayer-seek-answers-bee-losses-6C9996526>

CREDO Action Asks: “Why Won’t the U.S. Protect Our Bees?”

CREDO urges those concerned about the environment generally and bees specifically to sign an Internet petition to “tell the EPA . . . Bee die offs are a serious emergency. Please follow the European Union and immediately suspend the use of the dangerous neonicotinoid pesticides that are killing bees.” CREDO notes that the EPA approved clothianidin “against the warnings of its own scientists in 2003, just a few years before bees began dying off in large numbers.”

If you’d like to sign CREDO’s petition, you can do so by visiting this link:

http://act.credoaction.com/sign/eu_ban?akid=7852.6619209.pdkwx9&rd=1&t=1001. Their website gives links to articles cited to bolster their claims about how neonicotinoids affect bees.

For more information about neonicotinoids and their sublethal effects on bees, visit the “Bees in the News” link on our website and scroll down the page, or visit:

<http://www.bbc.co.uk/news/science-environment-21958547> - this BBC News article has links to the original studies. More neonicotinoid news will be coming in our July newsletter. . . . but now for something more cheerful:

“What is it about bees and hexagons?” (Robert Krulwich, NPR, May 16, 2013)

Why do bees build comb exclusively in the shape of hexagons? Scientists have been asking this question since, literally, ancient Rome, when the scholar Varro proposed the “Honeybee Conjecture,” suggesting that bees have a reason: perhaps hexagons can hold more honey, or cost less wax to construct than other shapes.

Physicist/writer Alan Lightman has run with Varro’s conjecture, positing that the way bees build comb – simultaneously, with no workers taking down time – they chose a shape that fits together with maximum efficiency, leaving no gaps. Lightman notes that “only three geometrical figures with equal sides . . . can fit together on a flat surface without leaving gaps: equilateral triangles, squares and hexagons.”

Why the hexagon, then? Varro argued that bees choose it for its compactness – and since it costs bees “8 ounces of honey to produce a single ounce of wax . . . compactness matters.” In 1999, Thomas Hales, a professor of mathematics at the University of Michigan, made a mathematical proof that the hexagon actually is more compact in construction than either squares or equilateral triangles. So . . . now we know what bees were born knowing.

To read more, visit: <http://www.kplu.org/post/what-it-about-bees-and-hexagons>

“Utah cabin had uninvited guests - 60,000 honeybees” (Associated Press; May 6, 2013)

Ogden, Utah beekeeper Vic Bachman was blown away by the spectacle of 12 feet of comb occupying the eaves of a cabin he was called to inspect. Bachman estimated that they took out 15 pounds of bees, which he says “converts to about 60,000 honeybees.” Bachman was called in when the bees started to get inside the house. Using a vacuum cleaner, he spent 6 hours getting the bees out of the cabin: “[a]t \$100 an hour, the bill came to \$600.” Sounds spendy! Bachman, owner of Deseret Bee Supplies, called the colony “the biggest one I’ve ever seen”; the bees are now living in a reconstructed hive in his back yard. (*Editorial note: 12 feet of comb actually is not so unusual: our Bee Team has removed similar-sized colonies from structures. Typically, a*

pound of bees means about 3000 bees, making 45,000 bees for that 15 pounds a more accurate conjecture – about 5 packages' worth. Or maybe these were wee bees. . . .)

To read more, visit: <http://www.komonews.com/news/offbeat/Utah-cabin-had-uninvited-guests---60000-honeybees-206270141.html>

ANNOUNCEMENTS

See Upcoming Events, above, for mentor workshops & our fall Apprentice Beekeeping class.

Queen Rearing program update: VP Dave Gaston is working on rearing queens with an assist from Norm and Treasurer Jon Wade, all of whom attended the Silverdale queen rearing course last summer. We'll be getting two Caucasian queens from WSU's breeding program. We can't project dates yet when queens grafted from the WSU stock will be available since we are waiting on WSU delivery – as well as the weather to become more predictable – but will send an announcement to the mailing list when we know more.

Kids' Page for LCBA Website – coming this summer: Susanne is searching for age-appropriate videos, websites, texts, and of course illustrations to help children learn more about honey bees. If you know any great resources for children interested in bees, please let her know!

June Western Apicultural Society Newsletter: Visit http://groups.ucanr.org/WAS/WAS_Journal and 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.

June WSBA Newsletter: Pick up your copy from the main page, www.wasba.org: click on "Newsletters" under OUR SPONSORS on the lower right of the page. Then click "Current issue."

That's all for this month ~ best wishes for healthy, non-swarming bees this June (unless they didn't come from your hives and you're capturing them, of course!).

Take care & bee happy,

Susanne for LCBA (Susanne.beekeeper@gmail.com; 360 880 8130)