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September 2013 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.

Thanks to Anna & Alan Sparling for sharing this honey-spinning-season-appropriate TUNDRA cartoon:



UPCOMING LCBA EVENTS:

September 7, 10 a.m. to noon: Fall Management Issues Workshop, Winlock. Topics: What to look for in fall inspections, questions of reversing hive bodies, treatment issues, feeding questions, & more (for details and directions, email susanne.beekeeper@gmail.com or call 360 880 8130).

September 11: LCBA Monthly Meeting, 7 – 9 p.m., 103 Washington Hall, Centralia College
Social Time 6:30 to 7 – Come Talk Bees!

Topic: Fall Management Issues. Q&A will focus on conducting fall inspections, removing/reversing hive boxes, treatment options, and more. **Special features:** Tim Weible will demonstrate candy boards, & VP Dave Gaston will cover queen inspection / re-queening issues.

Business Meeting: Beekeeping Q&A. Also: monthly raffle ~ members are invited to bring contributions to help support our educational programs.

September 14: Fall Management Issues Workshop II at the Randle United Methodist Church (RUMC), 116 Kindle Road, Randle, WA98377. Travel east on Hwy 12 to the town of Randle; continue through Randle about 1 mile, past the US Forest Service office on the right and the White Pass High School on the left, just past the high school, turn left on Kindle road: RUMC is on the right (look for gravel drive & parking lot - hive is behind it). We may travel on to more nearby hives. See Sept. 7, above, for topics. Thanks to Liz & Steve Hoecker for setting this up!

September 19: Last day for discounted WSBA conference registration [see Oct 3 below]

September 21, 2:15 – 3:30 p.m.: “What Does It Take To Get Started in Beekeeping?” 103 Washington Hall, Centralia College. LCBA Secretary Susanne Weil & Past-president Peter Glover will lead this overview of what’s involved in beekeeping – time, equipment, costs, rewards, “bee bio 101,” & more, including preview of our fall LCBA/WSBA Apprentice class (see below). Free & open to the public – please tell friends interested in beginning beekeeping!

September 28 ~ Honey Spinning RE-SCHEDULED to OCT 12 ~ see details below.

October 3 – 6, 2013: WSBA Conference, Federal Way, WA. This year’s WSBA conference focuses on techniques beekeepers can take home to their apiaries. Featured speakers include Les

Crowder (*Top Bar Beekeeping*), Howland Blackiston (*Beekeeping for Dummies*), and Michael Bush (*The Practical Beekeeper*). Session topics include Rearing Your Own Queens, Natural Cycles of a Colony, Pesticides, Simple Steps to Healthier Bees, “Jeaporbee,” and more. To check the complete schedule, visit:

http://lewiscountybeekeepers.org/yahoo_site_admin/assets/docs/2013_WSBA_Conference_Agenda.195124506.pdf. Registration is \$100 per individual, \$200 per family; for registration details & a download-able form, visit: <http://wasba.org/wp/wp-content/uploads/2013/07/2013-Washington-State-Beekeepers-Conference-Registration-Form.pdf>. To register online, visit: <http://wasba.org/event/wsba-annual-conference-2013/> Schedule & registration are attached.

**October 9: LCBA Monthly Meeting, 7 – 9 p.m., 103 Washington Hall, Centralia College
Social Time 6:30 to 7 – Come Talk Bees!**

Topic: “Creators’ Corner”: The coming winter offers time for projects to make next year’s beekeeping better. Volunteers Mike Helms, Dave Gaston, Bob Harris, & Tomme Trikosko will demonstrate, respectively: foundationless beekeeping options & a new type of entrance restrictor; a simpler method of building top bar hives; a new kind of observation hive; and Ohio State U’s “Broodmapper” online “citizen science” project, which researches the effect of miticide/fungicide interactions on honey bee brood survival and development by evaluating & scoring photos of brood frames. Bring your curiosity – and if you have projects you’d like to share or topics you’d like to learn about, please let us know – we have 2014 meetings to plan...

Business Meeting: Beekeeping Q&A. Also: monthly raffle.

October 12, 10 a.m. to 4 p.m.: Annual Honey-Spinning workshop, Winlock. LCBA members will share extractors & equipment to help others get their honey (if you have equipment to share, please let Susanne know). Bring your supers ~ please, no more than 2, so that others don’t have to wait too long; please also bring your own buckets (2 if you want to keep your wax cappings). You’re also welcome to just bring your curiosity! Need directions, have questions? Email susanne.beekeeper@gmail.com or call 360 880 8130.

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.

November 13: Movie Night - & PLEASE NOTE SPECIAL TIME: *More Than Honey* will air at 6:30 p.m. ~ it runs 90 minutes, & we’ll have Q&A about the film, plus a brief business meeting, after a break at 8 p.m. No admissions charge, but we’ll have a “suggested donations” can with an amount TBA (probably about \$2). *To view the film’s trailer, visit: <http://vimeo.com/45684169>. We’ll have a review by Dewey Caron in November’s newsletter.*

December 11: LCBA Holiday Potluck, 7-9 p.m.

Please mark your calendars for LCBA’s 5th Annual Holiday Potluck and get ready to share good food, good fellowship, door prizes, & after dinner, a brief monthly meeting with our traditional Beekeeping Q&A. We’ll discuss the question of ordering package

bees, take your suggestions for 2013 speaker topics, and more. *Need directions? Contact Susanne (see info below).*

Please Bring: A dish of food to share & a plate, cutlery, & cup to eat/drink from.

Our venue 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.

Questions? *Contact Susanne Weil, LCBA Secretary, at Susanne.beekeeper@gmail.com, or call 360 880 8130.*

NOTES FROM LCBA'S August 14, 2013 MONTHLY MEETING

Southwest Washington Fair Announcements: Our meeting fell in the midst of the Fair, and we viewed some great photos that Kimo Thielges shared from set-up day. For news of how it all went – including our honey contests, observation hive, “Bee Buzz” game, and more – see the special report on the Fair, below, and visit the photo gallery page on our website.

Varroa destructor and Nosema ceranae on the big screen: Thanks to special guest Dr. Steve Norton, Associate Professor of Biology at Centralia College, and the college's I.T. staff, we viewed projected images of microscopic samples of Varroa mites and Nosema spores, which made for vividly horrific viewing. At the WSBA-WSU Bee Days this June, Mentorship Coordinator Gary Stelzner and Secretary Susanne had the chance to be tutored by lab manager Erin O'Rourke in making slides of sampled bees to test for Varroa mites, tracheal mites, and Nosema spores: if you bring a sample of bees in alcohol to a monthly meeting, Susanne or Gary will grind them up and make a slide for you; Gary will be bringing his microscope and Susanne the slide preparation materials. We can't scale your sample to determine the extent of infestation your colony faces, but we can at least let you know what your bees are battling.



Above, Varroa destructor mite (image courtesy of Vita Gallery, Vita Europe Ltd.): the images we viewed were not this sharp, but close enough to show features like the “feet,” below, that enable mites to cling phoretically to the bee’s exoskeleton.

To treat, or not to treat? That is the question called by V.P. Dave Gaston in his report on July's Pacific Northwest Treatment-Free Beekeeping Conference. Dave noted that commercial beekeepers trend toward treating, while hobbyists tend to be more open to alternative approaches. Dave was impressed by Cornell entomologist Tom Seeley, author of *Honeybee Democracy*: Dr. Seeley marks scout bees caught from his swarm boxes, then observes how they communicate. (His July 28 conference address is available on YouTube: <http://www.youtube.com/watch?v=PKitNHCDQJk>).

Dr. Seeley explained "five habits of a highly effective hive." The first is that group members recognize shared goals – as Seeley writes in a blog on the *Harvard Business Review* website, bees remind each other “of their shared interests and foster mutual respect, so they work together productively. The scout bees know instinctually that their interests are aligned toward choosing the optimal home site, so they work together as a team. There are no clashing curmudgeons in a bee swarm.” (http://blogs.hbr.org/cs/2010/11/the_five_habits_of_highly_eff.html)

The second habit is to “explore diverse solutions to the problem, to maximize the group's likelihood of uncovering an excellent option. The scout bees search far and wide to discover a broad assortment of possible living quarters.” ***The third habit*** stems from what bees do with what they learn: they “aggregate the group's knowledge through a frank debate. Use the power of a fair and open competition to distinguish good options from bad ones. The scout bees rely on a turbulent debate among groups supporting different options to identify a winner. Whichever group first attracts sufficient supporters wins the debate.” Dave noted that you can see bees actually doing this on Youtube (<http://www.youtube.com/watch?v=vER8V0VZHaQ>): Seeley shows scout bees communicating with each other about potential new homes for their colony using an artificial swarm board.

The fourth habit: bees vote openly and fairly, “[m]inimiz[ing] the leader's influence on the group's thinking. By functioning as an impartial moderator rather than a proselytizing boss, a leader enables his group to use its combined knowledge and brainpower. The scout bees have no dominating leader and so can take a broad and deep look at their options.”

Fifth habit: bees “balance interdependence (information sharing) and independence (absence of peer pressure) among the group's members. Only if ideas are shared publicly but evaluated privately will the group be good at exploring its options and making good choices. Scout bees share freely the news of their finds, but each one makes her own, independent decision of whether or not to support a site.”

Now, how does this boil down to non-treatment, you ask? Dave reported that the key is the distinct genetic difference between the feral bees that Dr. Seeley studies and commercial bees. Feral bees are survivor stock: we need to figure out why these bees survive, but commercial bees often do not. Colonies in trees have similar characteristics: all propolize, which sets up their own self-medication barrier. At the bottom of a wild hive's home, there is empty space and debris: the bees don't build all the way down, leaving the bottom open. Perhaps, then, within our own hives, we shouldn't have smooth sides: bees can't propolize smooth surfaces as easily. Also, we could consider leaving the bottom open or giving bees a super-sized box to leave space: beekeepers can try different approaches and keep records of what works.

Raise hives off the ground? Another recommendation is to get hives off the ground, raising up the hive stand at least three feet: one person Dave knows who builds hive stands puts them 10 to 15 feet off ground, though, for management reasons, Dave does not recommend this.

Make Varroa our friend? Dave noted that presenter Kurt Webster spoke about “making *Varroa* our friend,” arguing that by not treating, our bees will be better off in long run, building up resistance to mites. Conversely, the more we treat, the more mites build up resistance – and in the process, we put more toxins into our hives, contaminating comb. We need to breed for better, mite-resistant queens. Freezing frames kills *Varroa*, though at the conference, it was argued that no medication on the market reliably, effectively kills these mites. Steve Norton noted that as bees evolve, so will mites, so the challenge is to adapt, making *Varroa* a minor nuisance. [See our online “Bees in the News” column: 2012 studies in France and Sweden showed that feral v. managed colonies in the same region showed higher survival among the untreated feral colonies.]

Speaking of queens: If you buy commercial queens, remember: they are bred for commercial stock. In the latest *American Bee Journal*, Dave reported that Randy Oliver compares commercial bees to livestock – the more they are fed, the more they depend on a monocultural diet, and this is the environment from which we get package queens. In contrast, the more variety of forage bees get, the healthier they are, and the more likely to resist disease and parasites [see *Bees in the News* online for Dr. May Berenbaum’s 2013 study re: pollen and honey activating honey bees’ detoxification genes]. If you have a queen breeding program, focus on breeding only from queens that have survived three years or longer – survivor stock – if from package, they have not been tested, so you have no clue how they will survive.

Climate: eastern Washington is not the same as western Washington, so one recommendation from the conference is to breed local queens adapted to our climate.

Shift the genetics: Renzy and Dave are discussing swapping some queens. Those who have seen brood patterns from Dave’s top bar hives know they are strong [see the “top bar hive” photo gallery on our website for examples]: why not share them and enhance genetic diversity?

At the conference, Dr. Deborah Delaney spoke about genetic studies showing that queens have similar genetic characteristics –drones provide the diversity [studies have shown that queen “promiscuity” correlates highly with colony health]. (You can find Dr. Delaney’s talk on YouTube as well: <http://www.youtube.com/watch?v=mziimuh0iRc>.) One possible approach is to collect drones, then select them to mate with queens in our queen rearing program next year – probably ferals, to mitigate genes from California packages. Les Crowder, the guru of top bar beekeeping, spoke about rearing queens in top bar hives - his survival rates are very high with this approach, and he does not treat bees. They treated originally and found that bees were dying off anyway, so he stopped treating and then found better results.

Dave observed that when he stopped buying packages, his survival rate went up. He started using survivor ferals and has been grafting from them: not a single one of his feral hives died last year – last winter he had nine feral hives, and all came through winter. He had four commercial packages and some nucs: all died (he did not treat).

Timing re-queening: Dave was asked when is best to re-queen, now or later in fall? Dave urged requeening now, while there still is some nectar flow.

Below, a feral queen from a May 11 carve-out in Winlock; photo by Jennifer Taylor



Foundationless beekeeping: Also, conference presenters recommend going to non-foundation frames – Michael Bush has been pushing this for years and will speak about it at October’s WSBA conference. Bees can build their own cell size: Renzy asked whether any scientific information backs this, and Dave reported that Bush said when he switched to foundationless, his bees had better survival. Susanne noted that some research has suggested that when not given foundation, bees build slightly smaller cells, more difficult for Varroa mother mites to lay eggs in.

Indoors/outdoors – best over-wintering strategies? Dave experimented with solid boards and screened boards – screened survived, solid did not, so Dave switched to solid only in winter and in November, moved these colonies into a horse stall – out of the rain and cold. Gary asked about lack of sunlight – Dave observed bees going in and out, taking advantage of their access to the outside. Dave moved them back outside in March. Renzy asked if you want to make your bees stronger, why move them? They don’t get moved when they live in trees in the woods. Dave answered that trees are more solid, more protected. Renz suggested that the answer might be to make a better bee box. Steve Norton noted that in the wild, bees pick microclimates that work for them – if their choices were not superior, they would not have survived – but people don’t have same sensory information that bees do, so anything we can do to maximize what bees do in the wild can help us move them “toward the sweet spot of survival.”

Cedar shavings: Kevin Reichert noted that he used cedar shavings for insulation: he built a screened top board 3 inches deep, vented with air holes, lid on top; he semi-wrapped hives

to keep them dry, and this helped in a test that he and Grant did last year with 4 hives. This year, they will try it on all 17 boxes. He used waffleboard from political signs to wrap the hives. Whether that helps with mites, he is not sure. Dave said that for top bar hives made from cedar, he lost no bees, so possibly the material matters.

Who's feral, and how can we know? Dave, tongue firmly in cheek, answered, “the queen's not marked.” But seriously, one accepted criterion is that the bees have been on their own for two or three generations without management or treatment. Dave gets his feral bees from a cedar tree in Shelton: he has gotten multiple swarms from them over past two years, and they've proven to be strong stock. President Norm Switzler added that in many cases when we've taken out bees from walls, we know where they came from and can follow their survival.

Kent Yates noted potential problems with this classification, telling how he answered a colony removal call from a resident reporting bees in a barn: she told him that the bees had been there for six years, but then noted that they had disappeared and returned. Who's to say those were the same genetic stock: they could as easily be someone's hive that swarmed into that space after the original bees had died out. Norm noted that the number of runs of comb can help to tell, though Kent said there still might not have been one continuous run of bees. Norm noted that one can see where they have abandoned one comb and started a new one. Gordon Bellevue noted that even if you know they have been there a couple years, you are going the right direction.

The value of forage: Dave noted that at the conference, it was emphasized that we have “no silver bullet”: one option is to look at the variety of forage, in addition to other issues, and improve our beekeeping practices. Another recent *ABJ* article focused on the number of visits to variety of flowers needed to make one super of honey and urged planting for bees with more attention to variety of forage over different times of the year.

To treat, or not to treat, revisited: Norm noted that before you throw away your meds, you must realize that you will have losses “as a dead solid certainty” if your packages have been treated and, in his view, “babied.” Unless you do carve-outs and get ferals, realize that losing treatment means losing bees.

Gary played the devil's advocate: he lost a couple of hives this summer that he believes he could have saved, had he treated in spring. He likes Randy Oliver's method of using one Mite-Away Quick Strip (formic acid): this knocks the Varroa population down 70 percent for him, so he will continue to use till he sees something that works better. He doesn't like seeing 40 to 50 percent losses. Asked if he knew it was mites that killed them, Gary said he makes this assumption because found many mites in the hives: he broke into drone cells and found mites in every drone cell in problem hives. At this point, we took a break and resumed discussion after.

Below: no, this is not Dave, but a honey bee with visible phoretic mite (courtesy Cynthia Brast)



August Business Meeting Notes

Our Monthly Raffle netted about \$70 for our education programs. Terrie & Michaela were the first winners and took home jars for storing honey. Next, Maggie Keeling took home a flat of plants. William Pittman took the “question mark” bag containing pickled okra and fresh green beans donated by Maggie & Herb Keeling. Eldon Gilmore took home the cordless screwdriver, and Jeanne Reichert bagged the upside-down-pepper plant. Thanks to all our raffle donors!

Upcoming Events are listed above: **please note that our Honey Spinning has been moved to October 12 (no longer Sept 28). Some things to keep in mind about our honey spinning:** If you have equipment – an extractor, uncapping tank, filters, hot uncapping knives, or scrapers – please consider bringing them! Treasurer Jon Wade noted that if you want food grade buckets from bakeries, etc., it’s best to get them now, clean them, and air them out so that you get rid of residual odors that could flavor your honey. If you’re planning to bring supers to spin, please only bring 2 supers’ worth so that everyone gets a turn at an extractor, and please bring your own buckets (bring a second bucket if you want your wax cappings). Don’t have honey to spin this year, but want to see how it works? Please, come on down to see – we’d love to have you!

Yellow jackets, hornets, and wasps: It was noted that traps are filling up fast: wasps, hornets, and yellow jackets are out in force. Commercial traps have worked for some, not for others. Maggie Keeling said that friends had “black jackets” with white strips on the end of the abdomen. It was noted that these might be bald faced hornets, yet Maggie said they did not white on the face: there actually is a variety named black jackets - she looked it up. Hornets are absolutely relentless: they will keep coming back to the hive and can be a sign that a hive is weak to begin with.

Question: will entrance reducers help? They will, but only if you catch the attack before hornets or jackets get into the hive and have free reign. Gary suggested putting entrance restrictors on their smallest open area and possibly moving the telescoping cover back. Norm added a *caveat* – if it’s a warm day, you may need to reopen the entrance restrictor to avoid bees’ overheating. Renzy Davenport shared a vivid story of a hornet cutting a bee in half: he saw the

bee's first half crawling away and the hornet leaving with the back half of the bee, full of honey. Susanne recounted how a yellow jacket was killed in the observation hive at the Fair being dragged about by undertaker bees for hours; she asked whether it was true that it takes four or five stings to kill a yellow jacket: Norm said that it depends, as the sting has to get between the segments of the yellow jacket's exoskeleton.

Norm noted that one shouldn't be afraid to kill a bee while swatting a hornet: the hornet can kill so many bees that the collateral damage of a few dead bees is a worthwhile trade-off. Gary suggested taking a vacuum cleaner and sucking up yellow jackets, etc: he uses his DeWalt. *(Post meeting note: Membership Coordinator Steve Howard reports that there is something deeply emotionally satisfying about hearing yellow jackets get sucked down a vacuum hose.)*

Heat, hornets, and yellow jackets: Kimo noted that a friend in Japan told him that if a yellow jacket goes into a hive, the bees kill them with heat, raising the temperature of the hive. Norm confirmed that bees will play coy and then pounce on hornets after raising the hive temperature: hornets can't tolerate higher temperatures as bees can.

Varroa mites: Jon noted that at a workshop, Randy Oliver urged that at this time of year, we need to realize, if we are not treating, we quite likely have a certain level of mite infestation, and that as we enter fall, bees start preparing for winter and are not rearing brood: they are kicking out drones and consolidating, so bee populations are trending down while mite populations are the same or rising. This means that the mite proportion in a hive can be very high, so if you don't treat you need to be prepared for losses. Jon said that Randy's presentation brought home to him that what a mite does to a bee is the equivalent of a human being having a Dungeness crab clinging to one's body, then boring a hole through one's ribs, injecting a compound to stop one's body from healing up that hole, meanwhile drinking one's precious bodily fluids. Renzy said that he was big on non-chemical approaches until he lost a lot of bees: then he started taking honey earlier, next putting on an Apiguard tray, and since then, he has been getting mites dropping continually. He will put on a second tray the weekend following our meeting: these were hives that gave lots of honey, but he had noted some deformed wing virus earlier - not a lot, but he went ahead and treated all his hives. When he broke the brood cycle, he had a mite drop of 50 on the entire board: he checks it every morning before work and writes down results, but finds it still heavily infested, over 200 mites.

Renzy noted that Varroa pass on viral diseases, so beware of that, especially if you find a heavy mite load. If you can get green plasticell foundation, which has larger cells, the queen will fill them with drone cells and you can destroy them by freezing them. Renzy was asked whether drones suffer when frozen: Norm commented that he'd rather be frozen quickly overnight than kicked to the curb by the workers to starve slowly (Gordon asked whether this is in his medical directive; Norm thought he'd better add it).

Tracheal mites: Renz was asked about whether the tracheal mite problem he reported on at our September meeting last year had recurred: Renzy said that he medicates for this, and has not had a resurgence (see our October 2012 newsletter). Renz discussed this with Steve Sheppard, Brandon Hopkins, and Erin O'Rourke at WSU during Bee Days: all said that they do not treat for tracheal mites now and think they are not as significant an issue for our bees: our bees may be developing a resistance, so it may be best to let affected bees die off and propagate those bees that are resistant. However the WSU team does treat for Varroa because bees are so badly affected: they use an oxalic acid dribble in wintertime. Norm asked Dave for comments: Dave

wondered: if WSU bees are being bred for mite resistance, why they are treating? Renz noted that WSU's bees are touted to be more hygienic: they might last until February, whereas their predecessors only survive till January.

LCBA Library: Dave called our attention to our Library Box, noting that we now have Dr. Dewey Caron's revised and expanded edition of his classic book, *Honey Bee Biology and Beekeeping*, which Dewey donated to our collection. Norm invited members to take out books and be sure to sign the sheet so that we know what's where. We'll have a review of this book in our October newsletter.

Wintergreen, spearmint, and other plants: effective against mites? A visitor asked whether beekeepers can use wintergreen to address mites. Norm said that spearmint and similar plants can be helpful to bees, in his experience: he keeps catnip, peppermint, and spearmint because he doesn't treat, and these plants have pungent smells, bees like them, and they seem to aid their resistance. Also, you can use sugar water to stimulate the queen's laying: Norm fed his bees for the first time in twelve years, with good effects. Norm noted that at this time of year, if you have plants bolting in your garden, letting them bolt can help bees with new forage, and you can compost plant detritus after your bees go to bed for winter.

Genetic diversity: Gillian Davis asked whether it is best to buy bees from a variety of sources. Norm said that though LCBA coordinates group orders, we encourage people to buy bees wherever they want: one member bought an Olympic Wilderness Apiary queen of Russian stock. Norm noted that Russian queens may be harder for colonies to accept, but that spreading some royal jelly on the queen cage eased her introduction. Norm noted that we got our hygienic WSU queens in late July and hope to disseminate some of their daughters next spring, though he prefers to let his bees requeen themselves since many are local feral stock from carve-outs.

Queens without colonies? When asked how long a queen can be kept outside a colony, Norm noted that after helping re-queen the above-noted hive with that Russian queen, he took the original, Carniolan queen home and put her in cage with three attendant bees: he gave her a drop of water morning and evening from a fingertip and smeared a little honey on outside. When the attendant bees died, he got desperate and put her into a carve-out colony that was queenless, listless, and not foraging. He hand-released her, then held her down to the hive opening: she ran right in, and within 15 minutes, the listless bees were fanning; the next day, they were bringing in pollen. The moral of the story: you can keep a queen out of a colony box for up to a week, but she needs to be fed. Renzy noted that if you are isolating a queen to interrupt a brood cycle for mite treatment, the queen can be kept in a nuc box with a couple of frames with drawn comb: you can let her lay, then freeze frames after putting her back into her colony if concerned about mites. Bees will clean out the cells.

LCBA AT THE SOUTHWEST WASHINGTON FAIR, August 12-18

For more pictures, visit the Photo Gallery page on our website.



Above, Kevin Reichert's & Grant Inmon's wild honey bee hive display hangs above LCBA's banner: the display attracted many to our booth.

In a new location – opposite the door of the Floral Building – and with seven tables, LCBA mounted an ambitious educational exhibit that drew literally hundreds of visitors. Secretary Susanne would like to thank all who helped out. First, Kevin & Jeanne Reichert and Grant Inmon brought in a spectacular wild honey bee hive: they found it in 2010, designed a special box, cut it out of its ash tree, where the bees never could have over-wintered, and carefully hived it. They hived five swarms from this original colony, one of which they still have, before the colony died out. Grant and Kevin hung this amazing example of how honey bees choose to build in nature from the rafters of the Floral Building, arranged so that it hung above LCBA's banner. Next to this hive, they hung a paper wasp nest: the contrast of the two taught visitors to our exhibit more than any words could about how different a honey bee and wasp nest look. The striking display, visible from the Floral Building doorway, drew many visitors to ask questions and read over the story board Jeanne provided and illustrated with photos of the hive's capture.

The observation hive – which we had not brought to the Fair since our much-missed members Jason and Heather Sherwood moved south – was stocked Tuesday through Friday by past-president Bob Harris and transported by Susanne and Peter Glover except Thursday, when rain prevented safe moving of the bees; Norm stocked the hive with his bees over the weekend. The observation hive was an enormous hit with kids of all ages: visit the Photo Gallery on our website to see visitors captivated as they tried to find the queen, watched baby bees hatch out of capped brood cells, and saw undertaker bees cart away dead bees (and, one day, a yellow jacket).



Above, children visiting LCBA's exhibit look for the queen in the observation hive.

Among other great contributions, Kimo Thielges brought an array of materials about mason bees, the “super pollinator,” and held a workshop about mason bees on Thursday afternoon. Kimo also brought bumble bee materials, and Rob Jenkins brought the remains of the bumble bee hive that he and Matt & Jen Taylor took out of a caller’s attic earlier this summer (see story in our August newsletter) so people could see what wild bumble bee nests look like. Many barefooted children were surprised to learn that the critter that stung them was probably a bumble bee or hornet, both ground nesters, as one of our educational trifolds showed.

Sharette Giese brought in a beautiful display of the life cycle and castes of the honey bee, as well as “gifts from the hive” – including pollen, royal jelly, and assorted kinds of honey. On Tuesday, Kids’ Day, Sharette led young visitors in her home-school bee adventure game, “Bee Buzz: Who’s Who in the Hive?” Children brainstormed with Sharette about what kinds of jobs have to be done to make a bee hive work, and Sharette gave “bee volunteers” props to illustrate those jobs. See the “Bee Buzz” page on our Photo Gallery site for some fun photos, including Little Miss Friendly starring as queen bee.

Gary Stelzner donated complete parts for a Langstroth hive (well, minus the bees); Susanne and Peter donated hive tools and a sample bee suit and gloves. Many visitors who wanted to know what it takes to get going in beekeeping asked how all these items worked. Mel Grigorich noticed that we were lacking a top feeder and brought one in to complement the bucket feeder, division board, and Boardman feeders already on show: Mel also brought in his hand-crank extractor, which helped volunteers illustrate how honey is extracted.

Dave and Kaye Gaston brought in Dave’s model top bar hive, which fascinated many visitors: a honey-laden top bar frame under glass helped show how things work inside top bar hives, as did Dave’s illustrated booklet. Kaye’s photos of bees on flowers served as beautiful illustrations of the range of honey bee forage. Dave also sent Susanne a link to *TIME*’s cover

story – which ran the week of the Fair – about a “World Without Honeybees,” which Susanne made the centerpiece of a trifold about the factors challenging honey bees today. Other trifolds showed the range of LCBA’s learning opportunities and public service, from our mentor workshops to the “Bee Team’s” swarm and colony removal work.

Our volunteers were terrific: with all these educational displays, volunteers were pretty much always busy answering questions, not to mention giving out our business cards, class brochures, and encouraging folks to sign up for our mailing list. Special thanks to all who pitched in: Gordon Bellevue and neighbors Dahlia and Alex, who answered children’s questions throughout the Tuesday of the Fair, Bruce Casaw, Tom and Mary Jo Christensen, Dave Gaston, Peter Glover, Mel Grigorich, Rich Harned, Mike Helms, Steve Howard, Grant Inmon, Rob Jenkins, Judy & Gary Kalich, Ed Odell, Kevin Reichert, Ted & Kathy Saari, Leslie Shultz, Gary Stelzner, Norm Switzler, Kimo Thielges, Tomme Trikosko, Jon Wade, and Kent Yates. Your scribe apologizes if anyone was left off this list!

Honey Contest #1 ~ Official SW WA Fair Contest Criteria:

This year, the Fair asked LCBA to handle judging of the honey contest. Longtime member Roy Schaafsma, who judges honey at the Clark County Fair, stepped up, aided by Gary Stelzner’s refractometer and Peter Glover’s “Jack’s Scale” of honey shades. After Bob Smith’s very helpful presentation at our June meeting, the board developed a modest set of criteria focused on color, lack of scorching, avoidance of excess filtration, and moisture content.

Winners of the Fair Contest: We had 9 submissions in all – three times as many as last year – and these broke down into dark amber and amber entries. Judging was anonymous – Roy didn’t know who submitted what. In the dark amber category, Sharette and Alesha Giese won with the Woogie Bee’s wildflower honey; Gary Stelzner took 2nd prize; and Kevin Reichert took 3rd.

In the amber category, where moisture content was very similar among entries, Roy declared a six-way tie between honey from Dave Gaston, Ben Moe, Guy Priest, Sarah Roebas, Kevin Reichert, and Deanne Schlumpf. For pictures, visit our website’s photo gallery.

Comb honey was also entered – by Dave Gaston, who won a first for the neat square from one of his top bar hives.

Finally, in the “other” category, first prize was shared by Kevin & Grant’s wild honey bee hive and Dave’s top bar display.

~ continued next page ~

Below, Sharette & Alesha Giese with their first prize honey in the “dark amber” category of the official Fair contest:



Honey Contest #2 ~ LCBA People’s Choice Honey Tasting

One of the most popular features of LCBA’s display this year was our “People’s Choice Honey Tasting” – held on Saturday, August 17, National Honey Bee Day – which gave visitors a chance to taste 14 different raw, unpasteurized, mainly local honeys. Visitors were fascinated by how different honeys that looked to be the same color could taste: some younger visitors felt it necessary to taste twice to be quite sure what honey they liked best ;) The winners were Kevin Reichert and Grant Inmon, with their dark amber honey: its spicy floral notes captivated 29 of 180 vote-casters. 2nd place, with 24 votes, went to first year beekeepers Sherri Underhill and Randy Duncan, with their bright golden amber honey. 3rd place was shared by the Gieses’ wildflower honey and Grant & Kevin’s amber honey. The other entries were shared with the public by Dave Gaston, Judy & Gary Kalich, Ben Moe, Sarah Roebas, Gary Stelzner, Deanne Schlumpf, and Kent Yates (some had multiple entries of different honeys).

Our Saturday “People’s Choice” judging was so popular that volunteers put the honey tasters out again just for fun throughout the day on Sunday. One special feature, Dave Gaston’s “light box,” gave us the chance to show visitors the unnatural clarity of hyper-filtered commercial honey versus the rich, seductive, cloudy look of natural, raw honey – an appeal that, visitors discovered, was exceeded by taste! Thanks to all who volunteered their honey, as well

as to the National Honey Board for donating recipe cards and informational brochures about how bees make honey. We expect that we'll have a People's Choice judging again next year.



Above, Kevin Reichert & Grant Inmon display 1st prize "People's Choice" dark amber honey [left] & the amber that tied for 3rd prize with the Giese's California Wildflower honey. Second prize was bright golden amber honey contributed by Sherri Underhill & Randy Duncan, below:



BEES IN THE NEWS

Thanks to Renzy Davenport, Norm Switzler, & Tomme Trikosko for sending stories!

Again neonicotinoids dominated honey bee news, from the revelation that ordinary garden plants may be infused with these pesticides, to the EPA's announcement of new labeling requirements that would require manufacturers to list neonics in ingredient lists, to Syngenta's and Bayer's lawsuits attempting to force the European Union to rescind its two-year ban on these chemicals. The article "Silence of the Hives" provides an excellent overview of the neonic story in context of other factors that challenge honey bee health; meanwhile, a new method of tracking honey bee foraging is providing fresh evidence. A new study shows on how "pathogen webs" of Varroa-transmitted viruses affect bees. Finally, another study calls into question the efficacy of treating bees with fumagillin to combat Nosema ceranae. . . .

“Bee-friendly’ plants may be contaminated with pesticides: study found neonicotinoids in potted plants sold throughout the U.S.” 13 Aug. 2013, *Salon.com*; “Home Gardeners’ New Plants Could Be Killing Off Bees,” 14 Aug. 2013, *CBS Minnesota*

The Pesticide Research Institute sampled flowering plants sold in the San Francisco Bay Area, Minneapolis/St. Paul, and Washington D.C. areas and found that 54% of plants sampled at Home Depot and Lowe's contained neonicotinoids. “[O]f 13 composite samples (from 45 individual plants), seven tested positive for at least one neonicotinoid, with two testing positive for two residues, and a Gaillardia plant from Minnesota showing measurable levels of three different neonicotinoids.” Other plants that tested positive for neonics included Salvia, tomatoes, and squash. [Another article noted that sunflowers were affected, as well.]

Researchers think that the neonics were used on the plants at the nursery level, not at the retailers'. Regardless where the pesticides were applied, Lex Horan of the Pesticide Action Network said, “home gardeners who thought they planted a bee friendly landscape in their backyard may end up planting a bee toxic garden instead.” The neonics remain in the plants for two years.

Home Depot stated, “We have not reviewed the study but we certainly appreciate the importance of the bee population. We will reach out to the study group to find out more about their findings and methodology.”

To read more, visit:

http://www.salon.com/2013/08/13/bee_friendly_plants_may_be_contaminated_with_pesticides/
and

<http://minnesota.cbslocal.com/2013/08/14/home-gardeners-new-plants-could-be-killing-off-bees/>

“Controversial Insecticides To Carry Clearer Warnings To Protect Bees,” 16 Aug. 2013, *Northwest News Network*

WSBA President Mark Emrich hailed the EPA's new directive that requires pesticides containing neonicotinoids to be labeled: imidacloprid, dinotefuran, clothianidin and thiamethoxam, contained in “more than a hundred different garden products sold under brand

names such as Bayer, Ortho, and Scotts.” The EPA’s directive targets “widely used bug killers, rose and flower treatments, and grub controls. Future product labels will have to carry specific warnings under a picture of a bee.” The labels will also have to contain more focused, clear directions: not to use the chemicals on flowering plants or during times when bees forage. Emrich and other beekeepers voiced this complaint to EPA staff earlier this year: “I was very, very pleased to hear they acted on this,” Emrich said.

New labels should be on the shelves by 2014, according to the EPA’s Director of Pesticide Programs Steve Bradbury, though getting the warnings onto labels may be a tight small-print squeeze. Meanwhile, “environmental groups and several Midwestern beekeepers have sued U.S. EPA to suspend the registration of the two most common neonicotinoid pesticides.”

To read more, visit:

<http://www.opb.org/news/article/npr-controversial-insecticides-to-carry-clearer-warnings-to-protect-bees/>

“Syngenta, Bayer challenge EU bee-saving pesticide ban”: (AFP) – 27 Aug 2013

Arguing that the European Commission based its two-year ban of several pesticides containing neonicotinoids on “inaccurate and incomplete” research, the Swiss company Syngenta and the German Bayer are separately suing for reinstatement of their products. The European Court of Justice in Luxembourg will hear the cases. Syngenta also argues that farmers are suffering from the ban, forced to use less effective pesticides. The company makes thiamethoxam (trade name “Cruiser”), which is infused into seeds or soil, or sprayed on plants.

Bayer’s spokesman argued that it can’t function without “dependable basic conditions with regard to future investment decisions” and claims that “No new facts had come to light since the products’ approval, he argued . . . In our opinion there are no new scientific findings.” [For research studies published since the EC’s ban was implemented that document sublethal effects of neonicotinoids on honey bees, see the August newsletter’s “Bees in the News” column.]

Officials from the EC said that the lawsuit would not stop the ban and countered that its action was based on research. Last month, the European commission expanded its ban to include another pesticide made by BASF.

To read more, visit:

<http://www.google.com/hostednews/afp/article/ALeqM5jF9JhE9Qi6xL17e66Tr1YArkDXkA?docId=CNG.eb497844a118d291deccabe9966d599a.1d1>

“Silence of the Hives: America’s honey bees are dying in droves, and colony collapse disorder is the least of our worries,” 6 Aug. 2013, *Pacific Northwest Inlander*.

Deanna Pan’s well-written article provides a comprehensive overview of how commercial beekeepers and researchers have responded to honeybee dieoffs since 2011, featuring the perspectives of beekeepers Mike Durst, Eric Olson and his colleagues, as well as scientists Dennis van Engelsdorp, Jeffery Pettis, and Steve Sheppard. If you’re looking for a primer to bring a friend up to speed on the state of honey bee health, this article would be a good choice.

Pettis, who works at the USDA, comments, “We are one poor weather event or high winter bee loss away from a pollination disaster”; van Engelsdorp, University of Maryland entomologist, notes that “We’re right at the brink of having shortages of movable colonies in the U.S,” he says. “One in every three bites we eat is directly or indirectly pollinated by honey bees. ... If we do have that [shortage], we won’t be able to produce apples, almonds and a whole variety of crops in this country.”

The story reviews earlier bee die-offs, the impact of bee population decline on commercial agriculture, and the array of potential culprits, such as “pesticides, fungicides, viruses, cellphone radiation, genetically modified crops, global warming and even, as the *New York Times* reported in 2007, ‘a secret plot by Russia or Osama bin Laden to bring down American agriculture.’ ‘Everyone was hoping for this one single answer,’” says Washington State University entomologist Steven Sheppard. ‘But by about 2009, 2010, people realized there doesn’t seem to be a single answer. ... There’s no smoking gun.’”

Sheppard and other scientists increasingly see “a combination of long-existing factors — pesticides, fungicides, pathogens, malnutrition, parasites and monocultures weakening . . . domesticated honey bees.” “One way to perhaps think about it is that it’s just been an attrition of quality of life for the bees,” says Sheppard. “The overarching and more important concept is the need to be concerned with colony health.”

The article gives a good synopsis of the developing neonicotinoid story, including questions about field-realistic dosage measures, and covers the “Save America’s Pollinator’s Act,” introduced in Congress this summer by Reps. John Conyers, D-Mich., and Earl Blumenauer, D-Ore. after the now-infamous Target parking lot deaths of 50,000 bumblebees that foraged on linden trees sprayed with Safari, which contains the neonicotinoid dinoturefan.

Steve Sheppard [together with Whidbey Island Extension agent Dr. Tim Lawrence] is sampling pollen from both rural and urban managed colonies in western Washington this month to trace pesticide levels. [Seven LCBA members are participating in this study.] Sheppard’s focus, together with Sue Cobey and colleagues at WSU, is strengthening honey bee genetics in hope of breeding bees that better resist Varroa, Nosema, and other challenges.

“Tracking honeybees to save them: Scientists are outfitting the insects with radio transmitters to help identify trouble spots that threaten colonies,” 5 Aug. 2013, *Salon.com*;
“Who, what, why: How do you track a honey bee?” 1 Aug. 2013, *BBC News Magazine*

One problem in researching colony collapse disorder is that bees “abscond” from the hive and vanish: as any mystery fan knows, it’s tough to perform an autopsy without a corpse. Another challenge, particularly for analyzing neonicotinoids’ impact, is how to track where, and on what, bees forage. Research groups in the U.K. and in Germany are trying to solve this problem using radio and radar technologies, and preliminary results suggest that neonicotinoid exposure confuses bees’ navigation.

In 2009, German researcher Dr. Martin Wikelski led a study at the Max Planck Institute for Ornithology in Germany that successfully tracked bumblebees, attaching 3-inch transmitters that could detect radar over one-third of a mile: they found that the bumbles foraged “areas of over 100 acres” and made many repeat visits to the same plants. Wikelski urged using radio telemetry

to track honey bees, too, in hope of “identify[ing] trouble spots where the bees may come in contact with the viruses, bacteria, mites, and pesticides linked to their premature deaths.”



Above, Tracker Bee [photo BBC News Magazine]

Although the radio trackers used on the bumbles are too big for a 120-milligram honey bee, in 2007-08, an Australian study glued honey bees with radio-frequency identification tags [RFID, the same technology that lets Wal-Mart’s supply centers know from the swipe of a bar code that new items need to be shipped]. The tags weighed only 20% of the bees’ body weight. A scanner at the hive entrance picked up signals as bees came and went: it found that bees dosed with pesticide from an artificial food source “reduced their foraging habits and took more time to fly between hive and food.” Yet RFID tags couldn’t track where in the field bees went.

If a radio transmitter that weighs only as much as the RFID tags can be developed, Project Icarus, which will track small animals and insects from the International Space Station starting in 2015, could collect data about honey bees, too.

Meanwhile, in England, a new study using harmonic radar technology to track bees is revealing new information about Varroa mites and neonicotinoids. An antenna that weighs just one-tenth the bee’s body weight is glued to its thorax, and a trackable signal is emitted by a radar transmitter. Scientists at Rothamsted Research, a government-funded research center in Hertfordshire, put antennae on the bees by hand: “test bees are prepared by gluing a small plastic disc with an identification number on to the bee’s thorax using strong double-sided adhesive. An antenna is later attached to the disc, again using adhesive.” They catch bees “by attaching a long plastic tube to the entrance of a hive. As the insects come and go two gates are dropped down, like portcullises, to trap one in-between. The antenna is removed the same way when the honey bee returns.” The radar blips show where the bee flies and let scientists map their flight paths.

One problem the researchers have yet to solve is volume – since the blips of individual bees could be hard to isolate, they track just one bee at a time, but they are working on “the next generation of harmonic radars which will be able to track more than one bee at a time.”

Early research has shown that “exposure to Neonicotinoid pesticides has been shown to affect a bee's ability to navigate. . . two bees were captured and fitted with tiny radio transmitters. At a feeding station, one bee was exposed to neonics. When the bees were released, some distance from the capture site, the exposed bee was unable to find its way back to the hive.” The study is also exploring how bees’ flight paths are affected when the bees have viruses transmitted by Varroa mites.

To read more, visit: <http://www.bbc.co.uk/news/magazine-23448846> and http://www.salon.com/2013/08/05/tracking_honeybees_to_save_them_partner/?source=newsletter

“Pathogen webs in collapsing honey bee colonies,” 21 Aug. 2013, *PLoS Pathogens*

A new study by Jeff Pettis, Dennis van Engelsdorp, and colleagues “suggest[s] a distinct pathogen signature” in honey bee colonies suffering CCD, marked by “higher levels of several RNA viruses.” These virus levels were significantly higher, as much as double the virus levels in colonies that died out from causes other than CCD. Further, the study suggests “synergistic impacts” on bee health when additional factors challenge the bees: specifically Nosema. The study “showed a significant positive correlation with a diverse set of RNA viruses” when Nosema was present. Finally, the study discovered two new “groups of RNA virus that clustered phylogenetically with Chronic bee paralysis virus (CBPV).”

To read more, visit:

http://www.ars.usda.gov/research/publications/publications.htm?seq_no_115=267552

“*Nosema ceranae* Escapes Fumagillin Control in Honey Bees,” Mar 2013, *PLoS Pathogens*

Speaking of Nosema, those of us who use fumagillin – the sole antibiotic that enjoys FDA approval for treating Nosema – will be concerned by this study. Researchers found that since the drug becomes “diluted in hives over the foraging season, both the bees and the nosema spores continue to be exposed to it, though in smaller amounts. What’s new: even these smaller amounts may cause trouble in the form of resistance by the microsporidian: spore production grew “up to 100% higher than that of infected bees that have not been exposed to fumagillin.” *Nosema ceranae* rebounded faster following fumagillin treatment than did *Nosema apis*. The study sampled bees treated with fumagillin at various levels of degradation: they did not find significant differences in colony death among those levels, but concluded that the persisting presence of fumagillin enabled greater long-term spore production. The researchers conclude that “the current application protocol for fumagillin may exacerbate *N. ceranae* infection rather than suppress it.” Since the usual practice is to treat with fumagillin every six months, and since that window gives Nosema ample time to rebound, beekeepers may have to decide whether they want to medicate more often to try to prevent this or stop using the antibiotic.

To read more, visit:

<http://www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1003185>

HONEY BEE VIDEOS: URLS BELOW

Need an antidote to some of the depressing bee news above? Visit the links below for some beautiful videos of honey bee behavior:

For a live look inside a German honey bee colony, visit: <http://explore.org/#!/live-cams/player/honey-bee-hive-cam>. To see the bees landing, visit: <http://explore.org/#!/live-cams/player/honey-bee-landing-zone-cam>. Thanks to Jennifer Horrace for sharing these!

For how beekeeping was done back in the day – specifically, the 1930s - visit www.honeybeesuite.com/beekeeping-videos-from-the-1930s/. Thanks to Gary Stelzner for passing this along!

Why honey bees choose hexagonal building blocks for their homes: see this video from “The Code,” which explains it: <http://www.bbc.co.uk/nature/life/Apidae#p00jfltj> (Your scribe found this & the following videos as links in an article sent by Renzy Davenport –thanks, Renz!)

In this video from “The Trials of Life,” David Attenborough (in voice-over) narrates the Waggle Dance: <http://www.bbc.co.uk/nature/collections/p007rdq3#p007vgtw>

For more video-tainment, visit “Brilliant Bees” – the BBC’s terrific bee video gallery: <http://www.bbc.co.uk/nature/collections/p007rdq3>

ANNOUNCEMENTS & HELP WANTED

See Upcoming Events, above, for August & September Mentor Workshops & our October ~ November Apprentice Beekeeping class.

Looking for an extractor? Cindy & Mike Schaefer (friends of Chuck Wilson) are selling a two-frame hand crank model for \$100 (they report that “the model name is on it but so faded cannot read it). They can send a picture if you are interested, and they invite either emails or calls: rebel@toledotel.com or 360 864 8413.

Discovery Children’s Museum would like an observation hive: can you help? If you have an observation hive to loan or donate to the Discovery Children’s Museum in Chehalis, please contact Susanne. The Museum is very interested in helping attract children’s interest to bees.

Kids’ Page for LCBA Website – coming soon, we hope: 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! Thanks to Terrie & Michaela Phillips for their contributions so far.

Place bees on others’ property in 2014? At the Fair, several people asked if they could host bees – they’d like the pollination for their gardens but don’t feel ready to do beekeeping themselves. If you have more hives than you know what to do with, please contact Susanne about placing some on these folks’ properties!

October WSBA Conference Update: See Upcoming Events, above, for information about schedule & registration ~ this year's focus is take-home messages for beekeepers.

Honey Bee Biology and Beekeeping ~ Expanded & Updated New Edition: Dr. Dewey Caron, our May LCBA speaker, has updated and expanded his book, *Honey Bee Biology and Beekeeping*. This new edition is co-authored with Larry Connor, has impressive color pictures, and will soon be available from Wicwas Press. If you'd like to get it sooner, you can contact Dewey at carond@hort.oregonstate.edu or phone 302 353-9914 and include a mailing address: cost is \$55 (FYI, he can't take credit cards, just check or cash.) It will soon be stocked by bee supply dealers, including Ruhl Bees in Gladstone, OR.

September 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.

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

Take care & bee happy!

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