Lewis County Beekeepers' Association:

January 2013 Newsletter

In This Edition:

- **Upcoming LCBA Events**
- **Notes from LCBA's December 12, 2012 Holiday Potluck Meeting**
- **Part 2: Highlights from October's WSBA-WAS Conference on "Sustainable Beekeeping"**
- **Mason Bees**
- **Bees in the News**
- **Western Apiculture Society invitation**
- ***Please note: repeat announcements, like mentor information & beekeeping supply options, are now posted on our website: visit [www.lewiscountybeekeepers.org.](http://www.lewiscountybeekeepers.org)***

FYI: we will not post members' contact information (phone, email, address) online unless individual members authorize this; the secretary's phone and email (below) serve as our online conduit for those who find our group via our website. If you haven't seen our website, please check it out!

Do you have questions, suggestions or resources you'd like to share? Please contact LCBA Secretary Susanne Weil (Susanne.beekeeper@gmail.com or call 360 880 8130. If you don't have internet access, but want mentor or supply information, please call!

UPCOMING LCBA EVENTS:

January 9, 2013: LCBA Monthly Meeting, 7 p.m., 103 Washington Hall, Centralia College.
Topic: Top Bar Hives: an alternative to the Langstroth standard. LCBA VP Dave Gaston will discuss how he uses top bar hives & will have samples for members to view. Dave will also share a colony record management form that he uses to keep tabs on his hives. Finally, Dave will bring our LCBA library to the meeting so that members can see what we have (and take suggestions on what we maybe should add).

January 25: WSU honey bee genetics expert Sue Cobey: "Enhancing Genetic Diversity in the U.S. Honey Bee Gene Pool," noon – 1 p.m., New Science Center 309. This talk, part of Centralia College's STEM science lecture series, is free and open to the public: LCBA members are warmly invited both to the talk and the reception that follows. FYI: The New Science Center is across the street from Washington Hall on the main campus: you'll recognize it by the big greenhouse jutting out of the third floor. For more information about Sue Cobey's honey bee genetics work, visit our website: www.lewiscountybeekeepers.org.

February 13: LCBA Monthly Meeting, 7 p.m., 103 Washington Hall, Centralia College.
Topic: Swarm & Colony Removals: How They Work. LCBA President Norm Switzler will narrate a slideshow of swarm and colony removals. Discussion: what's involved & how interested LCBA members can participate. It's a great way to learn more about bees – as well as save them from the exterminator.

February 23: Hive Building Workshop, noon to 4 p.m. at Rose of Sharon Farm.
Where: Please contact secretary Susanne, above, for details.
What to bring: woodenware, frames, foundation. LCBA will provide tools, glue, & screws. If you need woodenware, check the "Beekeeping Supplies" link under "Resources & Links" on our website, or call Susanne. Our object will be to build hive bodies, supers, telescoping covers, and put together frames; we're not making screened bottom boards, as those are complex. Coffee, tea, hot chocolate & snacks will be provided.

March 9, 16, 23, & 30: WSBA Apprentice Beekeeping class in East County:
Morton Senior Center, 1 to 4 p.m. For registration details, see "Upcoming Events" on our website to download the brochure, or call Susanne (see above). LCBA President Norm Switzler will teach this introductory class with help from Susanne, Peter Glover, & Sheila Gray.

June 2013: WSU – WSBA Bee Field Days: WSU-Pullman's APIS Lab will host WSBA & members of bee groups again this June. All Washington State beekeeping societies/members are invited. More details – date, workshops, cost – will be posted on our LCBA website & announced in the newsletter as soon as they're available. Road trip to Pullman, anyone?

Late summer/early fall 2013: The 2013 WAS conference will be held in Santa Fe, New Mexico. More details as they become available.

October 31 – November 2, 2013: WSBA/ORSBA Conference, Seaside, Oregon. WSBA will co-host its annual conference with the Oregon State Beekeepers' Association next year. More details as they become available.

NOTES FROM OUR DECEMBER 12 MEETING

December 12: LCBA Holiday Potluck at the Newaukum Grange

At LCBA's 4th (!) Annual Holiday Potluck, about 60 beekeepers shared good food, good fellowship, door prizes (expertly emceed by President Norm), & after dinner, a brief monthly meeting. It was a great time – visit our website (www.lewiscountybeekeepers.org) and click on "Resources & Links," then "Photo Gallery," for pictures. Thanks to all who donated door prizes, particularly Gary Stelzner, whose 4 hand-made screened bottom boards got snapped up fast. Thanks, too, to Steve & Cheryl Howard for providing cedar boughs and holiday balls for décor!

- **Hive building workshop:** For those who want to build hive components, we'll hold a workshop in February, by which time we should know about package bee orders. Bob Harris and Ted Saari both volunteered as hosts. After the potluck, it was settled to hold the workshop on February 23 (see upcoming events, above, for details). Gary Stelzner noted that for this workshop, our focus will be building hive bodies, supers, telescoping covers, & constructing frames; screened bottom boards (as Gary can testify from experience!) are a long contract to construct. Gary will bring glue and screws; LCBA board members will bring tools; members must bring their own wooden-ware to work on, plus wax or plastic foundation for frames. If you're seeking woodenware, check our website (under "Resources & Links," click on "Beekeeping Supplies") or call Susanne.

- **2013 Educational Opportunity ~ WSBA Journeyman Class:** A group of LCBA members is forming to improve our skills by tackling this 2nd class in the WSBA sequence in 2013. If you'd like to join, please contact Susanne: we'll be setting up a regular meeting date in January. For basic details on the Journeyman program, visit http://www.wasba.org/master.htm. In brief, to earn Journeyman certification, students study for and take ten tests, including a home apiary inspection, and register "service points" for things like mentoring new beekeepers, giving talks, doing swarm and colony removals, serving as board members, staffing at the county fair, etc. Charles Bennett (our October speaker) will administer our tests and apiary inspections. Journeyman students pay $10 for a booklet.

- **East County Apprentice Beekeeping Class update:** The brochure for the East County class at the Morton Senior Center (1 to 4 p.m., Saturdays, March 9, 16, 23, & 30) is up on our website. So far 19 people have indicated interest. Norm will teach the class with an assist from Susanne, Peter Glover, and Sheila Gray.

- **LCBA Membership directory:** LCBA is developing a membership directory – a pamphlet like the Master Gardeners' that will help members identify others with similar interests in their area. Forms were made available at the potluck and will be attached to this newsletter mailing. To protect members' confidential information, the directory will NOT be posted on the website. Membership coordinator Steve Howard has volunteered to take pictures for the directory at our upcoming monthly meetings, so get ready for your close-ups ☺

- **Grange update:** Though the Grange has had significant increases in their expenses, they did not raise our costs for renting the hall. We appreciate their support! Rob Jenkins suggested that next year, we could considering asking members to bring canned and dry goods for a donation box to the Greater Chehalis Food Bank: Bob Kramer, who manages the Grange, is on the Food Bank board and could potentially help us coordinate this.

- **January is LCBA dues month: update on the benefits of membership & our scholarship fund:** Treasurer Jon Wade reported on upcoming dues. Per our revised bylaws, dues are now due in January and are $24 for individuals or families. New members pay an additional $10 join-up fee, unless they have taken / are taking the WSBA apprentice course – in that case, the fee is waived. Dues support association expenses, such the annual website fee, newsletter expenses, fliers for outreach, name badges, Grange rental for the holiday potluck, workshop supplies, and contributions to Growing Place Farm's hive, as well as occasional purchases by the club (*e.g.*, the observation hive). We have a scholarship fund from members' donations to help support anyone in need: just contact a board member.

- **LCBA Name Badges:** Bob brought the latest batch of name badges to the potluck. If you want one but still don't have one, please contact membership coordinator, Steve Howard: sfhoward45@msn.com.

- **LCBA Calendars:** 3 copies of an LCBA calendar were door prizes at the potluck. If you're interested, contact Susanne: calendars cost about $15 to 22 (depending on what specials Shutterfly is offering in any given week). 2 copies (already spoken for) will be at our January meeting in case anyone would like to see what they look like.

SUSTAINABLE BEEKEEPING*: *Highlights from WSBA/WAS October Conference, Part II

Jim Bach responded to our December newsletter with the news that *Bee Culture* has asked for an expanded version of his "Sustainable Beekeeping" talk for one of their 2013 editions. He had a number of follow-up comments, *including a very important cautionary note for those planning to use Mite-Away Quick Strips.* Scroll on down:

Jim writes, “One easy way any beekeeper can check on Varroa levels in their colonies is to turn the 3/4" side of their reversible bottom board upward. Either purchase some of the "sticky boards with screen" from a bee equipment supplier, or use heavy white cardboard, or a piece of white fiber board with cover screens as a Varroa trap. Then paint the cardboard or fiber board with a thin layer of cooking oil, place the (1/8th") mesh screen (or purchased screens) on top and slide the two into the bottom of the hive. I tie a string through a hole in the front of the board and screen for easy removal. Come back in two days, remove the board and screen, and count the mites. Purchased sticky boards have printed squares that make counting Varroa easier. I use two sticks the length of the boards and count the mites between the sticks which are gradually moved across the width of the board to make a total count of mites; or draw lines one inch apart on the board. These mites are called "natural fall" mites (unless the colony is being treated) and are said by ARS to be mostly non-phoretic (non-reproductive). If this is correct, this mite count gives you an image of the mite population in the colony but does not tell you how many reproducing mites are in the colony. Conduct your first natural Varroa fall measurement in February, but wait till afternoon temperatures are 55 F. or above to begin treatment. If you count over 100 mites, I'd recommend treating with HopGuard, at least twice 7-10 days apart. You can repeat the use of sticky boards to get an idea of how many Varroa HopGuard knocks down. Make a second test of natural fall again in early June. Remember there will be many mites in sealed brood in June. Wash the sticky boards in soapy water between uses.

“I find that spring treated colonies will need to be treated again in early to mid September after the honey has been removed. Treatment with Formic Acid over a sticky board revealed over 1,000 mites falling over the first two days! I measured again mid-treatment (2 weeks) and again found 500 to 1,000 mites as brood rearing shut down. Mite counts vary between colonies of course. September temperatures appear to be about right so no queen loss occurred in my ten - 3 western broodnest colonies.

“My work with USDA on HopGuard revealed that colonies remove the material from the cardboard strips in two to three days and begin tearing down the strips. When the strips are dry they cease to be useful as a treatment. That is why I recommend replacing the strips every 7 days on your next trip to the apiary.

“HopGuard will cost $0.60 per strip. Spring colonies may need three strips (1 per each 5 deep combs of bees) = $1.80 per colony x two applications = $3.60 per colony. Four strips may be needed = $2.40 x 2 = $4.80 per colony. Shipping and labor costs are extra.

“Mite Away Quick-Strips will cost $4.43 per colony plus shipping and labor.

“If you are going to use Formic Acid (MiteAway Quick Strips) you must purchase a safety respirator. Failure to do so has resulted in serious permanent lung damage to beekeepers! The specific requirements are shown on the product label. Take the label to your safety supplier and request the proper respirator. My respirator with appropriate canisters cost about $55.00 but will be useable for 5 to 10 years until you need to replace the canisters. A good investment. Of course always stand upwind from your hive(s) when applying the product so any escaping acid fumes blows downwind.

"Over the years I've learned that observing bee behavior at the hive entrance doesn't tell you very much. You might have just been looking at the low side of the colony foraging while the colony next door is at the high point in the foraging cycle. You will learn whether bees are foraging or not, and if the bees are clustering above the hive entrance the colony is too crowded and you should have added supers two weeks ago. That is about all you can learn by entry observation. Everything else you have to open the hive, remove frames and make analyzed observations to learn the condition and behavior of the colony.

"Russian bees: I saw some of these a few years ago and wasn't impressed with their behavior or colony size. Breeders have made some selections since then but I've continued to hear negative comments about the quality and behaviors of Russian bee colonies. I need to see some colonies to make a more recent evaluation of them. Their main purpose is to diversify our gene pool to incorporate their genetics into our bee lines. Most commercial breeders have their pet stock qualities that they want to maintain so I've not heard how they are attempting to diversify their gene pool with Russian bees. Diversifying the gene pool requires a lot of repetition of inbreeding and/or cross breeding to fix the traits and genes into our European gene pool. I haven't heard any data or discussion about how long it will take to diversify the gene pool or how successful the breeders are in their attempts."

Thanks to Jim for his detailed response!

The Yakima Indoor Over-Wintering project:

Imagine losing 60% of your hives in a year – 9000 colonies out of 16,500. Imagine, further, that two-thirds loss translating to almost $700,000 in lost revenue. Welcome to the world of Eric Olson, commercial Yakima beekeeper, *circa* 2011. At the WSBA/WAS conference last October, Eric shared the immense emotional impact of opening hive after hive, only to find dead bees. Instead of giving up, though, Eric gambled on his now-famous indoor over-wintering experiment.

Back in 1997, Belgian scientists found that oxygen levels in over-wintering colonies vary, sometimes reaching 15%; this decrease in oxygen is linked to the slowing of bees' metabolism ("diapause"). Recalling this, Eric decided to rent space in a pear warehouse outside Yakima to over-winter his bees. The controlled-atmosphere room was kept at 40 degrees F. with oxygen levels maintained between 15 to 20%. The target oxygen level was 18.2%, and they tried to keep carbon dioxide levels under 3%, keeping them closer to 1%. Whenever temperature rose, the bees began to cluster at the hive entrances, but they opened doors to drop the temperature again and drive the bees back into their clusters. His goal was to extend the lives of his bees by three weeks: if that could work, it could be a huge shift in beekeeping practice. At least this time, it did work: by the close of his seven week experiment, his losses were only 8%.

Though Eric was concerned that his bees would not rebound to build a strong enough population to pollinate the almonds effectively by the time he got them to southern California – they had emerged from this experiment virtually broodless - what he actually found was that these colonies quickly grew to equal the size of those survivors who had over-wintered in

California. It's possible that the long broodless window limited the impact Varroa could have on his bees; building on this theory, he followed up with a spring HopGuard application.

WSU graduate student Jason Long followed Eric's talk with a report on the follow-up study that WSU is conducting this winter. Eric is participating and has donated $20,000. The Washington State Department of Agriculture's apiary advisory committee has contributed another $30,000 – these funds came from beekeepers' hive registration fees, in part. WSU is maintaining three sites: the Yakima warehouse, an Idaho site, and WSU's own "small room" studies with small numbers of colonies to try to isolate the ideal indoor-overwintering atmospheric conditions.

WSU hopes to test the physiology of the bees at the close of this winter's experiment: ideally, winter bees have enlarged fat bodies, low amounts of juvenile hormone, high amounts of protein, enlarged pharyngeal glands, and live over 100 days, as opposed to 20 to 40 days for summer bees. WSU also plans to test the costs and benefits of indoor wintering. On the positive side, beekeepers can control temperature and lighting, minimize food consumption, and protect the bees from weather and animals. However, drawbacks include the bees' inability to take cleansing flights and the demand for active ventilation and air circulation. Lower brood rearing/production in winter may be a drawback, but may yield an alternative benefit of less mite production, as these bees have no capped brood for mites to infest.

Take-aways for hobbyist beekeepers? For those of us who don't have hundreds of thousands of dollars to spend on renting fruit warehouses, this project may seem less relevant. However, at our November meeting, we discussed possible take-aways for us smaller-scale beekeepers. It might be possible to capitalize on the benefits of shelter, controlled temperature, and protection from animals by housing bees inside smaller structures. In fact, Bruce Casaw commented that he has an enclosed bee shed for his Mossyrock bees. It is not completely enclosed – it has windows so that bees can do cleansing flights – but this is a direction that beekeepers could explore.

For more information about the Yakima project, visit WSBA's homepage, http://www.wasba.org/index.htm, and click on the Newsletter link to the right. The WAS newsletter also has several conference write-ups that may be of interest to LCBA readers: "Know Nucs," by Morris Ostrofsky, and "Swarm Management," by Bob Arnold. To access the WAS newsletter, visit: http://groups.ucanr.org/WAS/WAS_Journal. If you run into problems accessing either this or the WAS newsletter, below, contact Susanne.

MASON BEES:

Interested in Mason Bees? LCBA member James ("Kimo") Thielges, mason bee expert, has generously offered to help any LCBA members get started with these early season pollinators this year. He's written a wide range of articles about mason bees – you can find these on our website, www.lewiscountybeekeepers.org: visit the "Mason Bees" page under Resources & Links. Below, some notes from Kimo on how he gets mason bees – and how you can get started:

"Master Gardener Bob Taylor helps provide me with empty starter blocks each year. I, in turn, ensure that he has an adequate supply of filled starter blocks for his elementary school program at Cascade Elementary in Chehalis. His program presents mason bees, compost worms, a vegetable start, and a tree seedling for each student for Arbor Day.

"Bob and I swap empty for filled mason bee blocks at the Master Gardener's Gardening for Everyone event each February. That's where I also GIVE AWAY filled mason starter blocks each year. [FYI: This year's GFE will be on Saturday, February 16, 9 to 1 p.m. at Centralia College, Washington Hall.]

"The free mason bee starter blocks are an ongoing public service that began at the 2000 Southwest Washington Fair as part of my son's Eagle Scout community service project.

"Lewis County Beekeeper members who need mason bee starter blocks can get them from me at NO COST. I can bring some mason bee starter blocks to the February LCBA meeting. LCBA members can e-mail (kimosabe@compprime.com) and arrange a time to visit. February and March are the ideal time to obtain mason bee starter blocks. April is too late, as the mason bees are usually quite active then.

"One-on-one mentoring is possible when an LCBA member stops by, as I can show him/her my mason bee setup and answer questions.

"Towards summer's end (August or September), we could have an LCBA meeting and/or mason bee workshop at my place (weather permitting). I plan to build two (2) 4x8-foot honeybee shelters this spring, and hopefully a greenhouse, too. I still have a lot of yard cleanup/ organizing to do over the summer, as well as adding to my pollinator paradise on the back hillside. It was too much work to terrace the hillside. Instead, I created what I call "pocket gardens" with my Japanese hori hori garden tool, filled them with a mixture of compost and (free) Starbucks coffee grounds, and planted herbs and perennial flower seeds in them. Also, over a dozen varieties of mint are planted along the fence line."

BEES IN THE NEWS:

"Greek Honey Linked to Healthy Longevity"

"Blue Zones": 5 places on Earth where people live extraordinarily long and healthy lives. In November, both *National Geographic* and the *New York Times* reported that Blue Zone researcher Dan Buettner found a link between lifestyle and diet – including honey – on a Greek island called Ikaria, where living past 90 is common and virtually no one suffers from Alzheimers', cancer, diabetes, or cardiovascular disease. "Honey is treated as a panacea. They have types of honey here you won't see anyplace else in the world," he said. In the words of one of Ikaria's "few doctors," people use honey "for everything from treating wounds to curing hangovers, or for treating influenza. Old people here will start their day with a spoonful of honey. They take it like medicine.'"

Ikarian honey "contains anti-cancer, anti-inflammatory and antibacterial properties,'" according to Buettner, and it's been harvested the same way for centuries. The Times reports that "[a]rchaeologists get all excited when they excavate a 5th century BC and later, ceramic large pottery jar used for beehives, in which the interior had been incised before firing to provide a rough surface for the bees to attach the combs. You can see these still in use in Ikaria. Ikaria has no large flat areas to speak of for cultivation purposes and thus possesses few fields or plantations designed for food production. In consequence, the indigenous bees of the island feed off of plants, bushes, and trees that have evolved naturally without any input from man. Because of this, the pollen and nectar collected by the bees of Ikaria is 100% pure and free from any chemicals or pesticides/herbicides normally found in commercial or private farming."

To read more, visit "Honey from Ikaria": http://www.greektravel.com/greekislands/ikaria/honey.htm. Also, see "The Island Where People Forget to Die," 24 Oct 2012: http://www.nytimes.com/2012/10/28/magazine/the-island-where-people-forget-to-die.html?pagewanted=all&_r=0.

"Researchers identify new components of the epigenetic 'code' for honey bee development"

British and Australian scientists have new evidence that may explain why honey bees respond so sensitively to changes in their environment – including pesticides. They've discovered bees' "histone codes," markings on proteins underlying DNA, which can be triggered by "nutrition and environmental factors." These codes essentially turn genes on or off: for example, when nurse bees feed royal jelly to a larva, the jelly may activate a histone code that "turns on" the genes and makes that larva a queen rather than a worker. Though scientists have known that people have these histone codes, they've never before been found in bees. Next, researchers will try to find out just how this triggering works to morph a larva into a queen in waiting, but the repercussions of the histone code discovery could go far beyond this. Potentially, they could explain how pesticides in a bee's diet change bee physiology and behavior: according to Dr. Paul Hurd, "Indirect dietary-mediated effects are also of particular relevance to insect pollinators. Prime examples are from systemic pesticides used on agricultural crops, which accumulate inside nectar and pollen and therefore enter honey bee diet, in some cases with detrimental effect. By studying the impact of diet and particular chemicals on the histone code during honey bee development and behaviour, we may be able to identify how certain pesticides contribute to the decline of some colonies." This, in turn, could help us understand the interactions between genes that lead to bee diseases, including, potentially, the CCD phenomenon.

To read more, visit: http://phys.org/news/2012-12-components-epigenetic-code-honey-bee.html#jCp. And, speaking of pesticides:

"Combined pesticide exposure severely affects individual- and colony-level traits in bees"

In November, *Nature* published a study done on bumblebees that may have profound implications for honey bees – and the politics of pesticides. Although it may seem intuitively obvious that pesticides brought back to a colony by individual foragers have wider impact on the

colony as a whole, evidence establishing that linkage had not yet been found. Complicating matters, though many pesticides are used extensively in commercial agriculture, few studies have looked at how pesticides in combination affect bees. The *Nature* study demonstrates that "chronic exposure of bumblebees to two pesticides (neonicotinoid and pyrethroid) at concentrations that could approximate field-level exposure impairs natural foraging behaviour and increases worker mortality, leading to significant reductions in brood development and colony success. We found that worker foraging performance, particularly pollen collecting efficiency, was significantly reduced with observed knock-on effects for forager recruitment, worker losses and overall worker productivity." Further, they found evidence that neonicotinoid pesticides, when combined with pyrethroids, provide a one-two punch that increases a colony's chance to die.

For more information, visit *Science Daily*, http://www.sciencedaily.com/releases/2012/10/121022093148.htm, or *Natural News*, http://www.naturalnews.com/037676_pesticides_honeybees_destruction.html#ixzz2GOkQe0ix.

To read the complete *Nature* study, visit: http://www.beyondpesticides.org/pollinators/documents/Combinedpesticideexposureseverelyaffectsindividualandcolonyleveltraitsinbees.pdf

Western Apiculture Society invitation:

Western Apicultural Society's secretary, Betty Farber, invites beekeepers to join WAS, both individually and as associations. Those interested in serving as WAS directors (who represent their state on the WAS Board for 3 years) or delegates (who represent individual beekeeping organizations) can check our website for more information: visit our Helpful Beekeeping Sites page under "Resources & Links" and click on the PDF file.

Respectfully reported—bee happy in 2013!

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