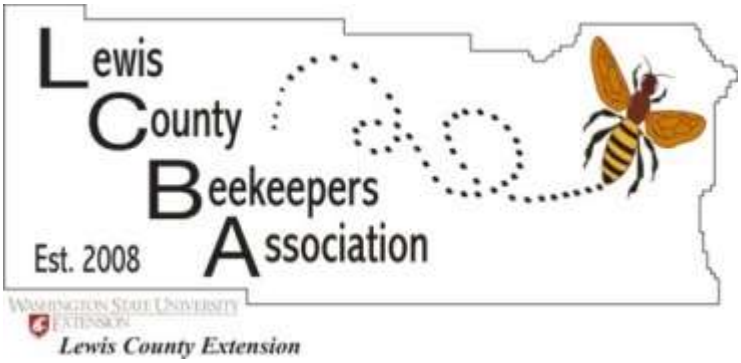

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January 2014 LCBA Newsletter

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

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

UPCOMING LCBA EVENTS:

January 8: LCBA Monthly Meeting, 7 – 9 p.m., 103 Washington Hall, Centralia College

Social Time 6:30 to 7 – Come Talk Bees!
Speaker: Carl Roush, biology instructor, Lower Columbia College (retired)
Topic: Yellowjacket Woes: Friend or Foe?

Yellowjackets are much maligned for painful stings & stealing our food. Join us for a balanced treatment to include benefits, like preying on insect pests, & the fascination of these highly social insects. We will examine practical ways to coexist, as well as control methods. Seasonal population cycles, larval development, & communication will be touched upon via power point slides, video clips, & sample nest dissections.

Business Meeting: Beekeeping Q&A; Updates: Youth Scholarship Program & Package Bee Orders; January raffle & brief discussion re: raffles & fundraising.

January 18: "Getting Started in Beekeeping" ~ Free Overview ~ Open to the Public

When: 1—3 p.m.
Where: Lewis County Public Utility District Meeting Room, 321 N.W. Pacific Avenue, Chehalis WA 98532.
What: LCBA President Norm Switzler, 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). PowerPoint slideshow plus "show & tell" demonstration equipment. Children welcome. If you have friends interested in starting beekeeping, please let them know! Questions? Call 360 880 8130, or email susanne.beekeeper@gmail.com.

January 25: *More Than Honey* movie - Repeat Showing by Popular Demand!

[For East County showing, see Feb 15, below]
Free & open to public (donations to benefit LCBA's education programs gladly accepted).
When: 1 p.m. to 2:30, with discussion to follow
Where: Centralia College, Washington Hall 103, 701 W Walnut St, Centralia 98531.
Repeat showing of Markus Imhoof's award-winning 2013 film that explores possible causes of honey bee deaths from Switzerland to California, China to Australia. Stunning footage of bees at work; fascinating questions about how people coexist with pollinators. For preview, visit: http://vimeo.com/45684169. Questions? Call 360 880 8130 or email susanne.beekeeper@gmail.com**.**

February 8: Hive Building Workshop {Langstroth hives}

When: Noon to 4 p.m.
Where: Chehalis, WA: for directions, email Susanne.beekeeper@gmail.com.
What to bring: woodenware, frames, foundation – and questions! LCBA will provide tools, glue, & screws. If you need woodenware, check the "Beekeeping Supplies" link

under “Resources & Links” on our website, or call Susanne (see contact info above). We’ll 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. Attending this workshop is free.

Below, mom & daughter team Linda Newton & Terrie Phillips with hive boxes they built at our 2013 workshop; boxes as painted by (grand)daughter Michaela:

February 12: LCBA Monthly Meeting

When: 7 – 9 p.m. Social Time 6:30 to 7 – Come Talk Bees!
Where: 103 Washington Hall, Centralia College
Speaker: Wilma Sofranko
Topic: KiReeCo Project: Training Kenyan Beekeepers in 2013 & Beyond

KiReeCo ~ the Kisii Rural Education & Empowerment Coalition ~ is LCBA's Sister Beekeeping Organization in Kenya. To visit their website, http://kireeco.wordpress.com/, click here. Founder Wilma Sofranko writes:"On October 30-Nov 1 KiReeCo trained 58 Marani community members in beekeeping and honey production using Langstroth hives. A few have been using Kenyan top bar hives and many are beginning beekeepers. The three day training included bee anatomy, bee temperament, diseases and predators, forage plants, honey production, markets, honey health and nutrition, hive management, and more…." Wilma will tell us more on February 12!

February 15: *More Than Honey* movie – East County Showing by Popular Demand!

When: 2 to 3:30 p.m., with discussion to follow
Where: The Roxy Theater 233 West Main Avenue, Morton, WA 98356. Free & open to the public: suggested donations to benefit LCBA’s education programs & the Roxy Theater gladly accepted. Repeat showing of Markus Imhoof’s award-winning 2013 film that explores possible causes of honey bee deaths from Switzerland to California, China to Australia. Stunning footage of bees at work; fascinating questions about how people coexist with

pollinators. For preview, visit: http://vimeo.com/45684169. Questions? Call 360 880 8130 or email susanne.beekeeper@gmail.com.

February 22: "Getting Started in Beekeeping" at Gardening For Everyone

When: 2:15 – 3:30 p.m.

Where: Washington Hall 103, Centralia College

LCBA President Norm Switzler, 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). PowerPoint slideshow plus "show & tell" demonstration equipment. Children welcome. Free & open to the public – if you have friends interested in starting beekeeping, please let them know!

March 1, 8, 15, 22, 29: LCBA/WSBA BEGINNING BEEKEEPING CLASS

When: 1 - 4 p.m. all 5 Saturdays in March

Where: Old Credit Union Building, 156 N.W. Chehalis Avenue, Chehalis, WA 98532

Cost: $30 per person /$45 per couple

Registration Process & Brochure: please fill out the registration form – the class brochure is attached to this newsletter – & send to LCBA Secretary Susanne Weil, PO Box 787, Onalaska WA 98570. Payment is by checks (made out to "Lewis County Beekeepers' Association" only – not "LCBA") or cash only – sorry, no plastic. Class size is limited, but first day enrollment is possible – first come, first served.

Course Description: This beginning course in the Washington State Beekeepers' Association's Master Beekeepers' Program builds core beekeeping skills. Topics include: **b**asic bee biology, equipment & how to set up your apiary, seasonal management processes, identifying & managing pests**,** honey harvesting, & more. A great introduction for "newbees" or refresher for those getting back into beekeeping. Those who complete the open-book, open-note quizzes earn the WSBA Apprentice certificate & are eligible to proceed to WSBA's Journeyman & Master Beekeeper courses.

Course Materials: WSBA's beginning beekeeping manual & LCBA's informational PowerPoints & demonstration materials supplement classes. Student questions are welcome!

Course Instructors: WSBA-certified instructors are board members of the Lewis County Beekeeping Association: LCBA President Norm Switzler, Secretary Susanne Weil, & Past Presidents, Peter Glover & Bob Harris.

Post-Course Support: free hands-on mentor workshops (see topics, listed below March monthly meeting); LCBA members can ask for an individual mentor, as well as get discounts on LCBA package/nuc bee orders.

Course Sponsors: Lewis County Beekeepers' Association**,** Washington State Beekeepers' Association (WSBA), and WSU - Lewis County Extension.

Questions? Contact LCBA Secretary Susanne Weil: susanne.beekeeper@gmail.com or call 360 880 8130.

March 12: LCBA Monthly Meeting

When: 7 – 9 p.m.; Social Time 6:30 to 7 – Come Talk Bees!

Where: 103 Washington Hall, Centralia College

Topic: Zombie Fly Parasitism of Honey Bees ~ University of Washington Research

Speakers: Dr. Evan Sugden and his undergraduate research team – Ashley Powell, Hannah Dayley, & Fiona Kana – will share their work on how zombie flies are affecting honey bees in western Washington, plus information about UW's teaching apiary & ongoing Nosema research. For an overview of Dr. Sugden's "Science with Bees" UW class, see the November 2013 edition of *Bee Culture.*

Business Meeting: Spring management Q&A.

LCBA's 2014 workshops (dates & places TBA) will include:

Building / Assembling Langstroth Hives

Building Top Bar Hives

Spring Hive Inspections

Making Splits from Local Survivor Bees

Colony Removals from Structures

Inspecting for & Addressing Bee Parasites & Diseases

Removing Honey Supers

Fall Management Issues

Honey Extraction

Above, scenes from 2013 mentor workshops. At left, east county beekeepers examine a frame of bees at a September workshop in Randle led by President Norm Switzler (photo, Tomme Trikosko). At right, member Kent Yates demonstrates his "shake method" for removing bees from a frame at our honey super removal workshop at Mentorship Coordinator Gary Stelzner's apiary last August.

WINTER MANAGEMENT REMINDER: CHECK FOR BLOCKED HIVE ENTRANCES!

A timely message from our newly elected Membership Coordinator Tomme Trikosko: "check for dead bees blocking their hive openings after the really cold weather we had. I had bees frantically trying to bulldoze theirs open through the mass of bodies collecting at the entrance. Photo attached for sharing!" [see below]

For those of you relatively new to beekeeping – yes, bees do cluster for warmth, but after temperatures as low as we've had lately, some bees on the outside of those clusters will likely have died, so it's a good idea to take off the entrance restrictors - very briefly - and gently sweep the bottom board with a twig, pulling out dead bees. If your restrictors are stuck, don't wrench them loose - so as not to risk breaking up the cluster - just sweep around the entryway to be sure it's not blocked and the bees have ventilation.

Good luck - and don't bee shy about checking in if you have any questions!

Above, dead bees blocking a hive entrance (photo, Tomme Trikosko).

LCBA's DECEMBER 2013 HOLIDAY POTLUCK & BUSINESS MEETING

About 75 LCBA members and guests attended our 5th annual holiday potluck on December 11 at the Newaukum Grange, sharing good food and fellowship. It's amazing how potlucks always seem to work out: your scribe got several calls asking what items were particularly needed (her informed answer: *"um . . . I don't know!"*). Undeterred by this lack of centralized organization, members brought a delicious (and abundant!) balance of main dishes, sides, salads, and, of course, desserts (including some with honey . . . only fitting!).

Above: LCBA members at our 5th annual holiday potluck.

Food Drive: We also held a food drive for the Greater Chehalis Area Food Bank: the Grange's manager, Bob Kramer, is on their board, and this seemed an appropriate way to thank the Grange for extending us the same rental rate they have since 2009, as well as to give some help to those in need. We gave 4 big boxes of canned food (about 250 pounds) to the Food Bank. Many thanks to member Rob Jenkins for bringing this suggestion to the board a year ago.

Raffle: After our potluck dinner, President Norm Switzler ran a fundraising raffle for our 2014 Pilot Youth Scholarship Program. ***Special thanks to local businesses who supported us:*** Tim Weible donated a candy board and a jar of fireweed honey from the Honey Hut; Harold Weaver donated a nuc from Beeline Apiaries & Woodenware; Copy Depot-Precision Printing donated 4 LCBA logo mugs; Katie's Candies donated a pound box of their special caramels; Kaija's donated a holiday ornament shaped like a skep; and Winlock Hardware donated hive tools. Members were generous with raffle items too, ranging from Terrie Phillips' popular critter-feed-themed tote bags (see photo, below) to honey bee holiday lights to screened bottom boards (thanks again to Mentorship Coordinator Gary Stelzner, who knows his way around woodenware!).

Above left, Dahlia Miller displays her raffle prize, an unpainted nuc from Beeline Apiaries; right, Linda Gorremans seemed pretty pleased to win a pound of Fireweed Honey from the Honey Hut. . . .

2014 Pilot Youth Scholarship Program: Treasurer Jon Wade reported that the raffle raised $223 for the youth scholarship program, bringing our 2013 fundraising total to $783 for 2013. Our goal: to outfit two young beekeepers with gear and bees (projected cost about $400-500 per beekeeper), then provide them with an LCBA mentor to guide them through raising their first colony of bees, from hiving through over-wintering. Members Tomme Trikosko and Kent Yates are serving as our first youth mentors: if you'd be interested in volunteering as one of our 2015 youth mentors, please let a board member know! Our two scholarship students will be 9th, 10th, or 11th graders in the Toledo High School district; all of these students will be taking the WSBA Apprentice Beekeeping course embedded in their biology/animal husbandry curriculum. Tomme, who teaches biology at Toledo High, reported that the school has so thoroughly embraced this beekeeping project that all high school level subjects plan to incorporate something bee-themed into their spring 2014 curricula! January 7 is the application deadline, so we'll be reporting on our winners in the February newsletter.

Elections: Following the raffle, President Norm called a short business meeting, highlighted by our elections for 2014 officers. Secretary Susanne Weil facilitated the elections for 2014-15 officers. President Norm Switzler ran unopposed and was re-elected to a second term by acclamation. Jon Wade, too, ran unopposed, and was re-elected by acclamation. Steve Howard, after filling the 2nd year of Brandy DeMelt's term as Membership Coordinator, stepped down amid thanks for his record-keeping, name-tag-wrangling, and great LCBA business cards, as well as the beautiful cedar bough and ornament decorations that he and Cheryl brought to deck our potluck hall. Tomme Trikosko accepted nomination to run for a two-year term as Membership Coordinator and was elected by acclamation. Don Hershey thanked the board for their work, seconded by members. On behalf of the board, you're most welcome – we're honored to serve!

Above left, newly elected Membership Coordinator Tomme Trikosko with her raffle prize, a feed-themed tote bag made by Terrie Phillips; above right, Gordon Bellevue with his LCBA mug from Copy Depot & Mentorship Coordinator Gary Stelzner with his box of Katie's Candies. Thanks to all who brought raffle items to help us raise funds for our 2014 Youth Scholarship pilot program!

Election Part II: Proposed Bylaws Change: members approved the simplification of our dues structure noted in the November & December newsletters and outlined at our November business meeting: to change LCBA's dues structure to one flat fee, regardless of when during the year people join the association. The proposal should end confusion about what dues cost and when they are due. To see the complete, revised bylaws language, visit our website: http://www.lewiscountybeekeepers.org/officers__bylaws/lcbas_bylaws.

Membership FYI: January is dues month: the 2014 membership form is up on our website under the "Join Us" link (http://www.lewiscountybeekeepers.org/join_us). ***FYI: Thanks to the Lubbock County Bar Association and other miscreants who dare to share our acronym, Chase will ONLY accept checks made out to "Lewis County Beekeepers Association"!*** Please, save us all needless extra paperwork by spelling out our name. If you're not online, call Susanne (360 880 8130) for a hard copy of bylaws or dues forms, or ask for one at our January meeting.

Above left, President Norm and helper Michaela as masters of raffle ceremonies; above right, member Gottfried Fritz and granddaughters, who entered the spirit of the event in their bee costumes.

Above, emergence of the Queen from opening of More Than Honey (2013); photo, Eureka Entertainment

"More Than Honey" provoked so much discussion that we've arranged two repeat showings!

If you'd like to see this film again, or if you missed last November's monthly meeting, mark your calendars: Saturday, January 25, 1 p.m. at Centralia College, Washington Hall 103, or Saturday, February 15, 2 p.m. at the Roxy Theater in Morton (for addresses, see Upcoming Events, above). Both showings are free & open to the public, so bring a friend ☺ Suggested donations are welcome to benefit our Youth Scholarship program; Feb 15 benefits both LCBA and the Roxy Theater.

One discussion topic that struck a chord: Africanized bees (AHBs) are said to be resistant to Varroa mites – are they? Below, a brief review of the research, followed by Dr. Dewey Caron's first-hand account of his experience working with AHBs in Bolivia. For an informative USDA page on the characteristics and spread of AHBs, visit: http://www.ars.usda.gov/Research/docs.htm?docid=11059&page=2

More Than Honey's Africanized Honey Bees: The Future of Beekeeping? A Brief Overview of the Research: Africanized honey bees & Varroa resistance

(Bibliography follows Dr. Caron's column)

In *More Than Honey*, Arizona beekeeper Fred Terry describes Africanized honey bees as "wolves," strong survivors in a world where inbreeding, monoculture, over-medication, and poor management have weakened *Apis mellifera.* The film highlights a breeding project (lead scientists: filmmaker Imhoof's daughter and son-in-law, at the Centre for Integrative Bee Research at the University of Western Australia) inseminating European honey bees with Africanized bee (AHB) sperm. Their goal: to create "a hybrid that is both hardy and human-friendly," working on a remote island to keep bees free of disease, while avoiding accidents like that which unleased "killer bees" in South America in the 1970s (Richardson 2013). Australia

remains the lone varroa-free continent, though the incursion of Asian honey bees – far more varroa-tolerant than their European cousins – in 2007, plus illegal smuggling of foreign queens, has Australian officials and scientists bracing for inevitable infestation (Phillips 2012).

Are Africanized bees really varroa-resistant? Entomologists Kirk Visscher (University of California-Riverside) and Justin Schmidt (University of Arizona) say that after losing many colonies to CCD, surviving hives in their apiaries are predominately Africanized. Schmidt notes that these bees are not only resistant to varroa, but show ability to stave off Nosema, chalkbrood, Israeli acute paralysis virus, and even foulbrood. Yet using AHBs to strengthen bee strains hasn't been a focus at conferences, Schmidt observes (qtd in Ring 2013).

A 2009 study showed that varroa had taken a toll of 70% of feral Africanized bees in Arizona (Matthews). However, evidence suggests that Africanized rebound more quickly than European bees; as they develop resistance, they may move into the European bees' niche, according to Arizona State U biologist Jennifer Fewell (Matthews 2009). Fewell noted, "In 1993 or 1994, right before the Africanized bees came into the area the population went from 200 colonies in the area we were studying (near Oracle Junction) to less than 10," Fewell said. "Those were all (wild honeybee) hives and then the next year we saw the African bees move into it and it's now more than 50 percent African." (qtd. in Matthews). Mitochondrial DNA studies have established that feral bees throughout the range of Africanized honey bees in the southern and southwestern United States contain Africanized genetics (Page 1998). Thus, Africanized genetics may have played an important role in rebuilding the U.S. feral bee population.

Above left, Africanized queen bee (Glenn Apiaries); at right, European queen surrounded by Africanized workers (US Atlas.gov)

How do Africanized bees resist varroa? Schmidt says rapid reproduction plays a role: "Mites do kill (killer bee colonies), but it takes two to three years, and by then, they've put off 15 to 20 new swarms (high reproduction rates is another trait they developed to withstand African predators). So mites don't really affect the population dynamics of killer bees" (qtd. in Ring 2013). Robert Page (Entomology, University of California-Davis) cites Brazilian entomologists' work that suggests AHBs "have the ability to detect varroa on the bodies of adult workers and remove them (Moretto et al. 1993, qtd. in Page 1998). What isn't clear is whether this is a trait

of AHBs generally or an adaptation that developed in Brazil. Still other studies note that the AHBs that infiltrated the U.S. Southwest had not previously confronted varroa, suggesting that AHBs are "pre-adapted" to stave off varroa more efficiently than *Apis mellifera* (Page 1998).

One outcome seems relatively clear and consistent: in comparative studies, Africanized bees survive varroa better than European bees. A 1996 studies showed that when "[v]arroa-infested colonies were provided with immature larvae from sources of European and Africanized honey bees that were located in central Mexico, ...[b] rood cells containing European honey bee pupae were twice as likely to have mites than were brood cells with AHB pupae, suggesting they were more attractive as host larvae" (Guzman-Novoa et al. 1996, qtd. in Page 1998). Another experiment showed that when "European and Africanized adult workers were placed together into infested colonies, then recovered two weeks later and inspected for mites[,] European workers were twice as likely to have varroa on them as were Africanized workers." Researchers speculate that not only may Africanized bees' larvae be less attractive hosts for female mites, but these bees may be superior in "grooming mites off their bodies" (Page 1998).

Page writes that "[i]n North America, it is likely that varroa are having two effects on the spread of AHB. They have reduced potential competition from feral and commercial European bees. This could be a 'curse' for California's agriculture because reduced competition could result in an increased rate of spread and higher colony densities of Africanized bees. However, varroa are also reducing the rate of growth and life expectancy of feral AHB colonies, resulting in reduced population densities and slower spread, a 'blessing.' This effect may be only temporary if AHB can evolve greater resistance to varroa. It is unlikely that European bees will evolve resistance because commercial beekeepers must treat their colonies with miticides to stay in business. Varroa eliminate feral European colonies that are then replaced either with AHB or with European colonies derived from nonresistant commercial colonies. In the end, AHB will spread to their ecological limits, wherever they may be."

Marla Spivak (Entomology, University of Minnesota), however, thinks that some of mite resistant/tolerant traits of Africanized bees can be cultivated in more user-friendly European strains. Spivak notes that the Africanized advantage includes "[s]horter post capping period, meaning there is less time for mites to complete reproduction; [i]ncreased grooming of both themselves (autogrooming as found in tracheal-mite-tolerance) or among bees (allogrooming); [m]ore uncapping and removal of infested larvae and pupae by adult bees, the hygienic behavior thought to be responsible for some populations being resistant to American foulbrood" (qtd. in Sanford 2004).

According to Spivak, "If colonies are bred from the survivors of untreated colonies, some degree of resistance in the progeny may be obtained, but it is important to understand the reasons why some colonies survive. The most efficient breeding program should be based on selection for characteristics that have the greatest impact on reducing mite survival and reproductive success, and those characteristics should be heritable." (qtd in Sanford 2004). She suggests:

"1. Select for a single trait such as grooming or hygienic behavior. Carniolan Yugo bees fit that category.

"2. Import stock and select from a population known to be tolerant. Most often this is from an area where there has been no treatment for a number of years and so-called survival colonies can be found. This is the case for Russian bees. Dr. Seeley s bees in the Arnot Forest are likely candidates as are other populations that might be discovered in the future. Populations have also

been reported at Tucson Arizona s USDA Bee Lab. The latter case showed there was no significant interaction between tracheal and Varroa mite infestations, and Africanized honey bee stock was not necessarily a cause of tolerance.

"3. Select for suppression of mite reproduction (SMR). This is a program pioneered by Dr. John Harbo and colleagues at the Baton Rouge Louisiana s Bee Laboratory.

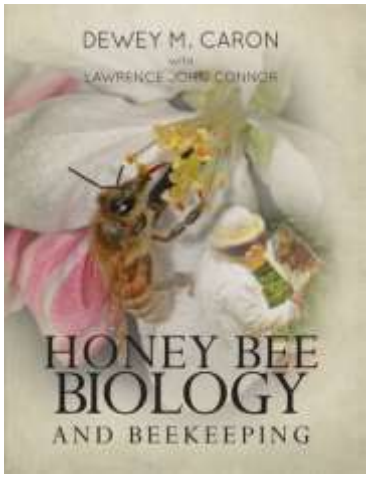
"4. Select for a group of characters that allow colonies to survive without treatment. The Honey Bee Improvement Program in the UK12 and Sue Cobey s New World Carniolan Project fit this model." (qtd in Sanford 2004).

Let's hope that Spivak's rays of hope can be put into breeding practice with Europeanized bees: not only have Mexican beekeepers have found Africanized bees extremely challenging to harness for migratory beekeeping (Page 1998), but Dewey Caron's experiences, below, will likely dash some cold water on hopes that Africanized bees may be the future for beekeepers. Dewey also notes that the Varroa infesting bees in South America may be a different strain than those that plague us here. Read on:

Reflections on Working With Africanized Honey Bees ~ by Dr. Dewey Caron

Down in Bolivia, Dr. Dewey Caron read the account of our discussion following "More Than Honey" last November and wrote: "Some really good responses given to the questions by members - a real progressive group to take on this task and then handle it so well." Below, Dewey shares his first-hand experiences with Africanized bees:

"Bees here in Bolivia, where it is spring, can be pretty hot this time of year [December 2013] - Africanized bees take the fun out of beekeeping. They can be very unpredictable. We had rains earlier in October (before I arrived) kicking off spring flowers, and since then it has been very dry - but the bees built up and I had some pretty strong colonies (1/2 of the 12 I have). When I arrived in November, they were plugged out with honey. So I had to harvest the outer frames (we keep Africanized bees in one standard Langstroth box, sometimes adding a second to the strongest colonies - mostly with foundation) and some of the foundation frames were full of honey. (We do not super here – there is no way we can keep drawn comb over from one season to another due to wax moth and other pests). I harvested and put the frames back into colonies - but the vegetation is too dry to continue a nectar flow - the bees hopefully will protect the comb until there is some more forage. One of the colonies was really defensive, and by the time I harvested 6 colonies, I had "clouds" of bees in the air - all intent on stinging anything that moves. But I was in the strongest colonies - the colonies that are most defensive. Smaller colonies, hiving swarms, doing splits, etc., are all "ordinary" managements I can do without the release of the very defensive behavior.



Above left, cover of Dewey's revised textbook, Honey Bee Biology and Beekeeping (with Larry Connor – a great resource); right, Dewey at the Western Apicultural Society 2012 conference (photo by Kathy Keatley Garvey)

"In one comment following the Movie *More Than Honey,* it was stated that beekeepers in some parts of the Americas "prefer" Africanized bees. Well, that is *not true* - the issue is that beekeepers don't have any other option, so of necessity, they have learned how to handle a bee that is unpredictable and *sometimes* (as when colonies get big) *very defensive*. When people say they 'prefer' the Africanized bee, the real fact is that 'newbees' don't have any frame of reference to go by, so if they want to keep bees and that is the only bee that is competitive, they learn how to keep them. There are no other bees available - imported queen are so expensive that they are prohibitive, plus the stock you can buy (queens from Hawaii, or put a queen in your pocket and fly back home with her) are simply *not competitive.* That means you keep the feral bees or what is available for the sellers of the bees in your region.

Relative to the other question regarding Africanized bees and Varroa mites: indeed, Africanized honey bees have fewer problems with both mites (not sure with Nosema - my sampling in Bolivia shows very low populations of Nosema). This is due in part to their growing more rapidly in brood development, but also because in much of the area where they exist, they have a Varroa of a different racial mix - not the same genes found in Varroa that infest U.S. bees. This Varroa mite is not so destructive (it seems to have a more a harmonious relationship with its host) - same mite species, Varroa destructor, but different genes. So bees that continually remain as small colonies, rear many queens, swarm a lot more, have brood breaks more frequently and have a different Varroa racially *all add up* to fewer problems with Varroa. Mites in some of my colonies in Bolivia may reach a 5% of infestation rate - but they never exceed that. It seems that the bees can handle 5% - most colonies stay at lower levels of infestation. In regions where there has been a lot of importation of European queens, the beekeepers report that they need to treat for Varroa mites: because there are more European bee genes, therefore their stock is more likely to reach higher Varroa numbers. Also, as speculated, the queen importation has brought in the other Varroa - the one with the genes of U.S. bees.

I hope this helps clarify some of the issues with Africanized bees and with their issue with Varroa. Trust the WA bees are overwintering well. --------Dewey Caron

Want to read more about Africanized honey bees? Here is a short bibliography:

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BEES IN THE NEWS

Thanks to Steve Norton, Norm Switzler, and Tomme Trikosko for sending news this month.

"Penalties of $2,800 Issued For Wilsonville Bee Deaths" (20 Dec. 2013, Northwest Public Radio)

After misapplied pesticides killed bees in four separate 2013 incidents, Oregon's Department of Agriculture has imposed "civil penalties and notices of violations" on Collier Arbor Care. The pesticide company drew fire for misapplying the neonicotinoid dinotefuran (Safari) to linden trees blooming in a Target parking lot in Wilsonville, killing 50,000 bumblebees. A fine of $555 was handed down to the company collectively, as well as to each of four employees. Collier Arbor Care is appealing; meanwhile, the ODA is working to "better educate commercial pesticide companies," requiring a recertification with questions testing "knowledge of pollinator protection." Oregon is the first state to prohibit pesticides with imidicloprid and dinotefuran from use on trees of the Tilia species, which contain "their own natural toxicity" and is requiring label language about the chemical interaction.

To read more, visit: http://earthfix.nwpr.org/flora-and-fauna/article/penalties-in-for-wilsonville-bee-deaths/

"Beekeeping Industry Challenge to EPA: Reevaluate Toxic Bee-Killing Pesticide" ("Catch the Buzz" *Bee Culture* e-zine, Dec. 2013)

The Pollinator Stewardship Council (formerly, the National Pollinator Defense Fund), National Honey Bee Advisory Board, American Honey Producers Association, the American Beekeeping Federation, and

three individual beekeepers are taking the EPA to court for approving Sulfoxaflor, one of a new sub-classification of neonicotinoids acknowledged by the EPA as "highly toxic." They charge that EPA "violated the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (which "requires the EPA to "determine that a pesticide does not pose an unreasonable risk to the environment or to economic interests") by granting the pesticide full registration for most crops, dismissing the input from their risk assessors that the field tests supplied by the manufacturer Dow Chemical were insufficient to adequately determine pollinator safety." Among other concerns, the groups have targeted EPA's labeling requirements for providing inadequate protection to bees and not taking into account the cost/benefit risks to both the beekeeping industry and the crops it pollinates.

Above, honeybee with bulging pollen sacs and coated with yellow pollen dust visits Gaillardia flowers blooming in a Franklin County flower garden in Pasco, WA (photo, Bob Brawdy, Tri-City Herald/MCT)

"Environmental advocates target possible flaws in EPA pesticide system," 17 Dec 2013, *Tri-City Herald*

The General Accounting Office (GAO) has joined those scrutinizing the EPA's system for approving pesticides: "conditional registration," which green-lights products for sale before adequate testing has been completed. As early as 1986, the GAO criticized the FDA's "confusing recordkeeping system for tracking pesticides." Conditional registration started in 1978: as a condition of speedy approval, it requires companies to report by a date certain that the pesticide does not pose "any unreasonable risk to the environment" and "the use of the pesticide is in the public interest."

With each manager at the Office of Pesticide Programs responsible for keeping track of 800 of the 16,000 pesticides registered with the EPA, the agency's record-keeping is not systematized, so the GAO learned that the agency couldn't actually give current, accurate information. While the EPA can only grant conditional registration if "public interest" exists, some question how "public interest" is defined, while the Natural Resource Defense Council, which sued the EPA

over nanosilver products in 2012, argues that "treating ourselves like guinea pigs" runs counter to that interest. The 9th U.S. Circuit Court of Appeals agreed with NRDC that no "substantial evidence" supported the EPA's claim that nanosilver products were safe.

In the case of clothianidin, a neonicotinoid that has been a prime suspect in sublethal effects on honey bees, Bayer CropScience got conditional registration in 2003: after missing their deadline for required data by three years, Bayer still got full registration for clothianidin in 2010. Both Bayer's and the EPA's websites state that field-realistic studies have yet to be conducted to determine this neonicotinoid's effects on pollinators.

To read more, visit: http://www.tri-cityherald.com/2013/12/17/2733806/environmental-advocates-target.html

"Accused of Harming Bees, Bayer Researches a Different Culprit," 11 Dec. 2013, *The New York Times*

Meanwhile, at the Bayer CropScience Bee Care Center in Germany, the company's "strategic messaging" officer, Gillian Mansfield, reports that "Bayer is strictly committed to bee health" while producing clothaniadin and other neonicotinoids. Bayer, Syngenta, and BASF are suing the European Union to overturn its temporary ban on these pesticides. In the U.S., the EPA has said that it shares European regulators' concerns – in fact, "[a]n internal E.P.A. document leaked in 2010 said the "major risk concern" of one of the pesticides, Bayer's clothianidin, which is used to coat cotton and mustard seeds, "is to nontarget insects (that is, honey bees)," calling it "highly toxic" – but the EPA has not moved toward stricter regulation.

Above, model of a varroa mite on a bee at Bayer's Bee Care Center (photo, Joanne Nottebrock)

Though most scientists now think that a combination of factors, including pesticides, has caused the massive honey bee die-offs of the past 7 years, Bayer argues that varroa mites, not pesticides, are the leading threat to bees. The corporation funds studies on mites – and markets "CheckMite."

"In October, a study in the Proceedings of the National Academy of Sciences examined how Bayer's clothianidin "adversely affects the insect immune response and promotes replication of a viral pathogen in honey bees bearing covert infections." Bayer's response to studies like this: "they are, at the end of the day, laboratory results" without replication in the field.

To read more, visit: http://www.nytimes.com/2013/12/12/business/energy-environment/accused-of-harming-bees-bayer-researches-a-different-culprit.html?_r=0

"Bee killing pesticides may also harm human brain development," 18 Dec 2013, *Salon.com*

A new study by the European Food Safety Authority (EFSA) suggests that neonicotinoids "may adversely affect the development of neurons and brain structures associated with functions such as learning and memory." EFSA urges that dosage maximums be reduced until more is known. The study focused on acetamiprid and Bayer's imidacloprid. Research done on newborn rats showed that rats exposed to imidacloprid "suffered brain shrinkage, reduced activity of the nerve signals controlling movement, and weight loss. Another rat study found that exposure to the other pesticide, acetamiprid, led to reduced weight, survival and response to startling sounds." The EFSA "concluded [that] 'neonicotinoids may adversely affect human health, especially the developing brain.'" For acetamiprid, EFSA recommends that the "acceptable daily intake" and "acceptable operator exposure level . . . should be cut by two-thirds," and that the "acute reference dose – the amount of a substance that can be ingested over a day without an appreciable health risk – should be cut by three-quarters." EFSA urges cutting imidacloprid's operator exposure and acute reference levels by a quarter.

Though temporarily banned in the EU, these chemicals, conditionally approved by the EPA, are on sale at Home Depots across the U.S. as the agency waits for "conclusive evidence" (see story above).

To read more, visit:
http://www.salon.com/2013/12/18/bee_killing_pesticides_may_also_harm_human_brain_development/?source=newsletter

"North Dakota develops honey bee protection plan," Dec 2013, Associated Press

While the EPA awaits conclusive data on pesticides, North Dakota, U.S. honey production leader, has become the first state to answer the National Association of State Departments of Agriculture's call to bring beekeepers and farmers together to develop guidelines to protect bees from pesticides and "other farming practices while minimizing the impact of doing so on agricultural production." The 8 page plan, based on "best-management practices," is "non-regulatory" and "voluntary."

Forage poses a particular challenge for North Dakota's bees because of monocrop agriculture and cattle range land. Thus the "Pollinator Plan" stresses that "beekeepers work more closely with landowners on hive placements to ensure they are in prime spots for honey production while not disrupting crops or rural roads. The plan encourages farmers to seed plants that bees like, and to help ensure that applications of any pesticides do not harm hives. Commercial chemical applicators are coaxed to make bee safety a priority."

To read more, visit: http://home.ezezine.com/1636/1636-2013.12.24.12.48.archive.html

"Who's Best At What, When and Where Finally Gets Measured," 10 Dec 2013, "Catch the Buzz"*Bee Culture* e-zine

Scientists at North Carolina State University have suggested guidelines "for assessing the performance of pollinator species in order to determine which species are most important and should be prioritized for protection." Their goal has been creating "a set of metrics" that allow researchers to compare apples to apples when they evaluate pollinator efficiency across crop types and agricultural regions.

These metrics are: "First, single-visit efficiency, which measures the number of seeds produced when one bee visits one flower. Second is abundance, which measures the number of each type of bee observed in a study area. Third is inclement weather behavior, which tracks how active a bee species is during cool, cloudy and/or windy weather. Fourth is visitation rate, or the number of flowers that a bee visits while foraging, and the amount of time it spends at each flower." Lead researcher Hannah Burrack commented, "The perfect bee would produce a lot of seeds and visit a lot of flowers, even in poor weather – and there would be a lot of them. But as far as we know, the perfect bee doesn't exist."

Blueberry bushes were the target crop for the pilot study: it found that though native bees "had extremely high single-visit efficiency rates and were active during inclement weather," their visitation rates were relatively low, as was their abundance. NC State Entomology professor David Tarpy notes, "This highlights the importance of incorporating multiple metrics. Because researchers looking only at visitation rates or abundance may think the small native species are unimportant, when they actually appear to be important pollinators for blueberry growers."

The paper is titled "Multiple Criteria for Evaluating Pollinator Performance in Highbush Blueberry (Ericales: Ericaceae) Agroecosystems," published online Nov. 25 in the journal Environmental Entomology.

To read more, visit: http://home.ezezine.com/1636/1636-2013.12.10.09.12.archive.html

There's lots more bee news, but in the interest of space, I'm saving some for February, including a story on bees potential to sniff out cancer and how to use bees not just for honey harvesting, but elephant wrangling (no kidding). Stay tuned…..

HOT HONEY DRINKS TO WARM UP YOUR NEW YEAR ☺

From the National Honey Board: Winter Flavors, with Honey!

Apple, Pineapple and Honey Cider (makes 4 servings)

Ingredients:

- 3 Tb. Honey
- 2 medium apples, chopped
- 1 cup pineapple, chopped
- 1 tsp. ginger, grated
- 2 sticks cinnamon
- ½ tsp. ground nutmeg
- ½ tsp. ground cloves
- 4 cups water

Directions:

- Place all ingredients in a medium-sized saucepan and heat over medium heat.
- Allow to boil for an hour.
- After an hour has passed, test fruit with a fork; fruit should be very soft.
- Break apart the fruit with the fork to integrate the fruit's pulp into the cider.

- Cook for another 15 minutes and serve hot.

Spiced Mandarin Orange Tea with Honey (makes 4 servings)

Ingredients:

- 4 Tb. Honey
- 12 mandarin oranges - juice, with the pulp
- 4 mandarin oranges - rind
- 4 cups water
- 4 star anise pods
- ½ tsp. nutmeg, ground
- ½ tsp. cinnamon, ground
- 1 cinnamon stick
- 1 tbsp.-vanilla extract
- extra cinnamon sticks (optional garnish)

Directions:

- Place all of the ingredients in a medium-sized saucepan.
- Cover with lid and heat over high heat & stir every so often ~ bring to a boil
- Turn the heat to low and boil for another 30 minutes without lid, until all the flavors are well combined and the aroma of the spices is strong.
- Before serving, strain the tea to remove the pieces of rind and any residue. Serve hot and decorate each cup with a stick of cinnamon if desired.

Above left: Coconut Cream Honey Eggnog; right, Caramel Caramel Coffee

Coconut Cream Honey Eggnog (makes 4 servings)

Ingredients:

- 3 Tb. Honey
- 1 cup coconut milk
- ½ cup condensed milk

- 1 cup evaporated milk
- 2 egg yolks
- 2 tsp. cinnamon, ground
- 1 cup – rum (optional)

Directions:

- Place the three milks, the cinnamon and the yolks in a blender and blend.
- Next, pour the mixture into a medium-sized saucepan and cook over low-medium heat for about 5 minutes.
- Add the rum and cook for another 5 minutes. (can be left out for an alcohol-free version)
- Remove from the heat and strain to eliminate any solid residue.
- Store the eggnog in the refrigerator for 5 to 8 hours before serving.

White Chocolate Mocha with Mint and Honey Cream (makes 4 servings)

Ingredients:

- 2 Tb. Honey
- 2 ½ cups whipped cream
- 2 cups milk
- 1 cup white chocolate chips
- 1 cup espresso coffee
- 1 tsp. mint extract
- crushed mints (optional garnish)

Directions:

- Add the milk and 2 cups of the whipped cream into a medium-sized saucepan and heat over high heat. Bring to a boil.
- Add the white chocolate chips and one tablespoon of the honey.
- Turn heat down to medium-low and add the espresso coffee and the mint extract.
- Cook for another 5 minutes.
- For the honey cream:
    - add ½ cup of the whipped cream and 1 tablespoon of honey to a small bowl and mix using an electric mixer.
    - Keep beating until peaks form when you lift the beater.
- Pour the white chocolate mocha into mugs and top off with the honey cream. Garnish with crushed mints.

Honey Caramel Coffee (makes 4 servings)

Ingredients:

- 4 Tb. Honey
- 1 Tb butter
- ¼ cup heavy cream
- 1 dash salt
- 4 cups milk
- 1 cup espresso
- 1 tsp. vanilla extract
- whipped cream (optional)

Directions:

- To make the honey caramel:
    - add honey and butter to a small saucepan and heat over medium heat.
    - Once the mixture dissolves, add the heavy cream and salt.
    - Bring to a boil, stirring until mixture becomes a creamy caramel. Keep warm.
- In a separate saucepan, heat milk over low-medium heat and bring to a boil.
- Add espresso and allow to heat through.
- Pour drink into four separate mugs.
- Add one tablespoon of the honey caramel into each drink and stir.
- Top with whipped cream if desired and drizzle more honey caramel on top of the whipped cream before serving.

CALLING READERS: SEND US YOUR "BEEKEEPING NEW YEAR'S RESOLUTIONS"!

With our bees snug (we hope) in their clusters, we have a couple of months to contemplate what we think we did well as beekeepers last season, what we want to try this coming season, and what we may be vowing never to do again! What are YOUR Beekeeping New Year's Resolutions? Or, put another way, what do you wish you'd known a year ago that you know now, and what are you planning to try as a result? Bee as serious or as humorous as you please, but please send your reflections to Susanne.beekeeper@gmail.com!

ANNOUNCEMENTS & HELP WANTED

WSU Apiary Honey Available at Lewis County Extension: The Creamery at WSU is now selling honey from the university's apiary. It's going for $10 for a pint jar – only three are left, so call Kim at 740 1212 soon if you'd like to try some.

Want to put some bees on other folks' 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 these potential foster homes.

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 seeks help to attract children's interest to bees.

January 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.

January 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.

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

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