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February 2017 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: secretary@lcba.community or call 360 880 8130

UPCOMING EVENTS

January 31: Application Deadline to list your farm business in LC Extension's "Fresh from the Farm" Guide

Beekeepers ~ Consider Listing Your Honey or Pollination Services!

Lewis County Farm Bureau, working with WSU Extension and Discover Lewis County, is producing a brochure titled "Fresh From the Farm" – an up to date map of Lewis County producers. The map will go live on the web in March and the print brochure will be available in April. The web map will have direct links to producers' websites, and will be searchable by product and by month of the year.

The idea is that producers will be able to advertise free of charge to consumers and consumers will be able to find local producers. Should be a win-win for everybody. There is no charge/advertising fee and there is no required membership. Extension is doing this as a service to Lewis County producers.....and consumers from a broader area.

The application link is on the front page of WSU extension website, www.lewis.wsu.edu. Questions? Contact Maureen Harkcom, President, Lewis County Farm Bureau, Maureen.harkcom@gmail.com 360-515-6129



Friday, February 3: Exploring the Waggle Dance with Dr. Danny Najera

When: Feb 3, noon to 1 p.m.

Where: Centralia College, Walton Science Center, Room 121, 701 W. Walnut, Centralia 98531. If you missed Dr. Danny Najera at LCBA's November 2016 meeting, here is your chance to hear him (or hear him again!) Danny heads the Green River College Honey Bee project. He will explore the waggle dance that honey bee foragers do to persuade other foragers to try the food sources they have found; in swarming, bees use a version of the waggle dance as the colony decides between possible bee homes. This talk is part of Centralia College's "Rising Tide" STEM Science series; there will be an opportunity to talk with Dr. Najera after his presentation. Free & open to the public! Photo of Danny, above, by Ross Coyle of the Kent Reporter.

Feb 4 & Mar 4: Small Farm Success: 2 workshops on Business Plans & Marketing Basics offered by Lewis County Extension

Saturday Feb 4 & March 4, 9:30 am to 3:30 pm, at the old Courthouse in Chehalis. For more details, prices, & registration information, visit: <http://extension.wsu.edu/lewis/wp-content/uploads/sites/13/2013/08/2017-lew-cow-small-farm-success-regis-brochure-1.pdf>

Thursday, February 9 ~ LCBA Monthly Meeting:

New Long Langstroth & Observation Hive Designs – John Edwards, Ruhl Bees



WHERE? ~ ONE TIME LOCATION CHANGE

CENTRALIA COLLEGE, WALTON SCIENCE CENTER, ROOM 121

When: 6 – 8:45 p.m.: Social Time, 6 to 6:30 p.m.; 6:30-7:30, presentation; 7:30, break; 7:45-8:45 business meeting & Beekeeping Q&A.

What: John Edwards of Ruhl Bees will share some new designs for long hives, observation hives, and more. John is now coordinating the education programs for Ruhl's. Also, Beekeeping Q&A. At our business meeting, we'll have details about bee orders, report from our 2016 audit committee, update on our club apiary, and a question for our members about our Holiday Potluck – should we shift it to a Saturday? The board would like your input!

Also ~ LCBA 2017 dues are due! We will have membership forms at our Feb 9 meeting

March 9 Monthly Meeting – Package Bee Sales.

More Details Coming in February newsletter & at our February 9th meeting!

Also on March 9 – Bill Barr, LCBA Community Outreach Coordinator, & Peggy Hammer will speak about their first year as beekeepers – what they learned & what tips they would offer to first year beekeepers!

January 12 Monthly Meeting Notes

Vice President Bob Harris organized our meeting, as President Kevin Reichert was home sick with that miserable cold that so many of us have suffered this season.

Some changes on LCBA's Board of Directors: Bob announced that our Mentorship Coordinator, Martin Stenzig, had a very eventful 2016: not only did Marcelle have their first baby, but Martin's business took off – and takes him out of town often. For these reasons, Martin asked to be released from his board position. Bob commended the great work Martin did coordinating our records into a database – not only our membership records, but our records of mentors and mentees, swarm & colony “team,” and more. Dan Maughan, who hosted most of our 2016 workshops, has agreed to take on the Mentorship Coordinator position; Bill Barr, who has pitched in as a volunteer for our summer and holiday potlucks, as well as on our apiary development committee, has volunteered to take on the Community Outreach Coordinator position vacated by Dan. President Kevin appointed both with the blessing of the board. All present welcomed Dan and Bill in their new roles.

Bob also announced that Jon Wade, LCBA's treasurer from 2012 to 2014, has passed away after a battle with pancreatic cancer. Bob announced a Celebration of Life for Jon the Saturday following our meeting. There is an obituary for Jon later in this newsletter.

“Life as a Migratory Beekeeper”: Speaker, Gottfried Fritz



Above, Gottfried with his 2016 Youth Scholarship mentee, Josiah, as they inspected some of Gottfried's bees in Mossyrock.

“Follow the Nectar”: Gottfried put this talk together not based on library research, but his own first hand experience. In the 1950s, his mentors and his brother showed him the ropes put this together not from library research, but his own experience. In the 50s his mentor and also then his brother showed him the life of migratory beekeeping – in that life, Gottfried said, “You are always looking for the mother-flow,” rather like prospectors, seeking the nectar all year long.

Reasons for Migration: Migratory beekeepers benefit from taking their bees to milder climates, where it is more feasible to produce their own queens & control requeening. In those milder climates, they have a longer time to build up colony strength. Then, the beekeepers get greater summer yields from these stronger hives, and they can harvest more of their reserves in fall. By taking bees to the nectar even in the winter months, they avoid those long winter months of

inactivity. Finally, the additional income from pollination and citrus is a boon! This latter point is a major motive for migratory beekeepers today. Gottfried's 3rd mentor gains half his income from pollination. Bob asked if this migration is strictly southern: Gottfried said that it is, with California and Florida as key states, along with south Texas.

Issues in Migration: These benefits come at a cost, Gottfried noted. Hiring trucks – see the photo below to get an idea of the size of truck needed – means lots of expense, along with the stress of transport. Worries about the safety of the bees – will they die? – means stress to the beekeeper! You net the bees so as not to lose them in travel while still giving them access to air, but if you stop, the scouts will start going and you will lose bees. This means that the beekeeper tries to go nonstop. Also, bees get exposed to disease & pests. Then, maintaining two locations for your bees means additional expenses. You need some extraction capacity at your winter location, and you need to be sure your summer facility is cared for during winter. Of course, there is wear and tear on equipment and woodenware.



Follow The Nectar!

Local migration: Gottfried divided his talk into three segments: local migration, long distance migration (1000+ miles), and large scale operations. Local migration usually means travelling less than 300 miles, using medium (2.5 ton) trucks for transport and harvest, and moving about 200 to 500 colonies. In a local migration operation, all extraction and processing takes place in one location. Some beekeepers who worked this way did extremely well. As an example, Gottfried showed a photo of Dorothy Ryder, a woman beekeeper who never married: she and her sister-in-law set a record in the San Joaquin Valley for processing 45,000 pounds of honey in one year! Back then, Gottfried commented, the hot set up was to have a winch on the back of your truck to lift bee boxes.

Gottfried's local migration experiences were in California's Central Valley in the 1950s. They worked the almonds from early February to early March, moving from the lower valley, around Bakersfield, up to Fresno. Gottfried recalled how the almond blossoms smelled overwhelmingly sweet, "like being in a lady's house who loves potpourri." (See photo below for the blossoms.) 80 percent of the world's almonds are produced in the Central Valley of California, and between 1.6 and 1.7 million hives of bees work the crop. However, almonds are not a heavy nectar crop – they offer bees mainly pollen – so migratory beekeepers typically move their bees to the citrus next, to help them build up the colony nutritionally.



The almond crop of Central California

The citrus crop is based mainly in Fresno, Tulare, and Modesto, where the bees spend mid-March to mid-April. The citrus honey is highly sought after.

After the citrus, from late April through July, the bees move to the cotton and alfalfa crops in the mid-central valley—the Hanford and Shafter area. One major problem here is pesticides: also, they often cut alfalfa before it blooms, so there is less forage. Next, the bees are moved to sage and buckwheat that just grows wild in hills, not planted or commercial. This sage gives that light honey that Gottfried’s mentor Ray said was the best you could eat, almost clear. Bob asked whether buckwheat honey is dark: Gottfried said that it was, and that buckwheat is left as a reserve for the bees.



Above left, a bee on buckwheat; right, a bee on alfalfa.

Long distance migration: Gottfried defined long distance as travelling a thousand miles or more; a medium size operation would have 500 to 1200 colonies that were transported by two 2.5 ton trucks, plus one flatbed 1 ton pickup. Usually there would be two full time and two to four seasonal workers. Gottfried did this for five summers during the mid to late 1960s: his older brother was 25 years old, and Gottfried was 15. They would drive the trucks - loaded with 120 double hives per truck - 1900 miles, from the Canadian to the Mexican border, along U.S. Highway 281. This took 29 hours if they made their best time – more like 32 hours if anything happened. They ended up in Macalomb, Texas, which Gottfried said was the third warmest city in the U.S.: “the last 200 miles felt like being wrapped in warm towel,” but it was a great growing area for bee forage.



On the Road with Bees

Gottfried and his mentor and brother had gotten a little discouraged in 1963, but then had a better hear in 1964 – and then, the year after, they heard about south Texas being akin to the Salinas Valley in California, with a major harvest, then gleanings. The climate was essentially tropical, with citrus crops. They went to the King Ranch, with many square miles of range land and plants that bloom during the winter months. When you take the bees there after fall rains, Gottfried noted, a lot blooms, giving good forage for bees so that they can build up in December and January.

In January and February, they turned their attention to queen rearing. Gottfried’s mentor Ray had done queen rearing in California: he got into grafting queen cells and started producing his own queens for the springtime. Gottfried noted that for grafting, a moderate climate is necessary. They would take the bees to the citrus – the pink, star grapefruit, among others - for buildup in March and April, and in those citrus groves, they would make splits and graft in new queens.



Above left, Gottfried, 20 years old, is eating lunch with one of his nephews; right, a bee on a dandelion.

Next, they would reverse their trip and move the bees northward again. Because the first load would have to deal with uncomfortable conditions, they would choose strong hives. By May 1, they would try to get the bees to the dandelions of the grasslands of South Dakota, where there were large areas of soil banks on the fringe of cultivated crops. The government would pay to leave these areas uncultivated, and “that was utopia for beekeepers,” Gottfried said. There was yellow and white sweet clover: a wonderful honey plant 3 to 6 feet tall, with tiny flowers on long spikes: bees love them.

Alfalfa in July and August was great bee forage when the farmers let it briefly go to seed. In Texas, they don’t cut as often as in California, where they cut as much as they can; in Texas, there is usually one main cutting, possibly two.

Harvesting and shipping took place July through September. Gottfried showed a photo of a gusher of honey, like a fire hose: the honey was sold wholesale in 50 gallon drums.



Above left, the honey gusher; right, the Tweedy family of long haul beekeepers: Joe Tweedy is on the left, with his grandsons and son-in-law.

Large Operations: Gottfried noted that large scale operations – moving 5,000 to as many as 10,000 colonies! – got going in the 1990s and are still going strong. The California to Minnesota trek spanned 1,870 miles. They used medium size trucks and forklifts or bobcats for moving hives; semi trucks and trailers are used during spring and fall moves. They would hire 3 or 4 people full time, plus seasonal workers.

Joe Tweedy, of Oakdale, California and Eagle Bend, Minnesota, is now retired, but multiple generations of his family moved bees along this route. *National Geographic* ran a special about the Tweedy family operation. Gottfried did the California to Minnesota run with them, and still sees them in California when he goes back to visit.

They would take the bees back from Minnesota to California in mid-September to mid-October with a travel time of 30 to 35 hours, crossing two mountain ranges – the Rockies and the Sierra Nevadas. Their route was Minnesota to North Dakota to Montana to Idaho to Nevada and finally to California.

In December and January, they would feed the bees and build up the colonies, as well as raise some queens, preparing for the next stage



Above left, the pallets for loading bees; right, the Bobcat loading them for the long haul

. . . . the almond pollination. Their average fee was \$175/hour! 1,600 beekeepers came from all over the country, bringing bees. However, the honey production in the almonds is not so good, as the bees are regularly moved short distances for almond pollination: see photo on left, below.



As these long distance pollinators worked their way back to Minnesota, their next stop was the citrus in the Central Valley, and manzanita in the foothills. The right photo, above, shows a manzanita blossom: manzanita is closely related to an important Washington food crop, the blueberry. Next, they moved the bees to the upper central valley of Stockton and Lodi, California, to pollinate the cherries, and apples, and to make splits.

Then, northeast to Eagle Bend for the dandelion bloom in the first week of May. For Midwestern beekeepers, the dandelions are critical to success: they yield lots of pollen, but also substantial nectar. The nectar is dark honey not pretty but great for bees to build up. The main nectar flow, in late May through July, is the basswood and the white sweet clover, as well as linden, which we have here in Washington, also. Finally, honey removal and extraction would take place from mid-July to early September, with huge volume.

Memories of migratory beekeeping: What really sticks in Gottfried's memory from those days of his late teens to early twenties was how they would switch off driving – it was “drive and drive and drive till you couldn't take it any more” – then pull over, and a sleeper would have to drive so you could sleep. “I'm just thankful that we're here,” Gottfried said. They memorized the towns. He remembers the peanut butter and pinto bean sandwiches - they don't spoil, and they're not bad if you put in a little chopped onion!

Gottfried also noted that any time you stopped, you'd try to find a hose and start spraying down the bees with water. You'd jump on top of stacked hives and spray, in cutoff shorts and no shirt, and try not to get stung. If you had to stop, the bees just got agitated. One time a bee flew up his nose and stung him.

Gottfried shared his impressions of the states they travelled through. Nebraska: it seemed like all they did was raise cattle and produce lots of hay. Kansas: they saw miles after miles with fence posts made of limestone, cut stone slabs – not much wood, but plenty of limestone. Oklahoma: the “Trail of Tears” and a lot of native American pride. Texas: he remembers hill country and lots of jackrabbits: driving nonstop, “it felt like a suicide squad, nailing jackrabbits that came out so fast, so many, and you couldn't stop. If a deer came out, you tried to slow down, but....”

Finally, Gottfried shared his greatest experience in migratory beekeeping: three unpredictable days in Texas with Beulah. Now, don't think he was an out of control youth: look up 1967, and you'll find Beulah – not a woman, but the third largest hurricane of 20th century! “Fortunately bee hives are pretty heavy,” Gottfried said. Back then, the weather forecasts were not accurate. They had to unload netted bees in a 60 mph wind: “if a scout came out, say bye bye! One of those experiences you think it can't get worse and it does.”

Everyone appreciated Gottfried's sharing his experiences as a migratory beekeeper!

January Business Meeting Notes

Winter Bee Management: Dan Maughan noted that bees are going through their honey stores a lot more quickly this year and are running out of reserves. Dan and Bob suggested that the first day the weather is in the mid-40s, if you can add sugar candy to your colonies, do it.

Youth Scholarship Drawing: A number of people could not make it to LCBA's Holiday Potluck last December because of the blizzard, so we had a few items saved for a drawing at this meeting. In the absence of Treasurer Rick Battin, who was at the American Beekeeping Federation conference, Dan ran the drawing. Chuck Ament won a \$50 Reichert's Choice Meats certificate. Reta Fleming won a nuc box made by Dan. Dan himself won next and took home the 50 pound bag of sugar from Reichert's Distributing. Chris Arhutek won the Applebee's gift certificate, and Gottfried won a bee travel mug donated by Bob. All in all, the drawing raised an additional \$112 for our Youth Scholarship Program.

Because the rain was becoming torrential, we cut short the business meeting so that people could safely travel home.

Obituary: Jon Wade, 1995-2016



Above, Jon demonstrating uncapping technique at LCBA's first honey spinning workshop in 2012.

Jon Wade, LCBA's treasurer from 2012 – 2014, passed away on December 29 after a battle with pancreatic cancer. Jon was a dedicated member of our club who pitched in on everything from workshops to board meetings. While working toward his Journeyman beekeeping certification with Olympia, he volunteered to shepherd LCBA's own first Journeyman group as coordinator, since at that time we had no WASBA-certified Journeymen. This was a characteristically generous act.

Jon was a hard-working man with a big heart. He worked at the Centralia Steam Plant for 38 years and was the guiding light in bringing greater collaboration into the union/management relationship there with his fair-minded approach to serving as shop steward and on the IBEW bargaining team.

Jon leaves behind his wife, Corie, and children, Matt, Jamie, and Jonny. If you feel so moved, the family asks that "donations be made to the Lustgarten Foundation (lustgarten.org) for pancreatic cancer research, or to the Washington State Patrol Memorial Foundation (wspmf.org), an organization that over-whelmed Jon by providing unexpected and generous monetary support to assist with flood recovery in 2007."

Jon was buried at Claquato Cemetery is under the direction of Newell-Hoerling of Centralia, WA. To read his full obituary, visit: <http://www.newellhoerlings.com/notices/Jon-Wade> .

GOOD FOOD AWARDS FINALISTS

By Guest Columnist, Dr. Dewey Caron

With over 2/3rds of honey sold in US imported, a growing movement is to produce and label local honey. Artisan honey is local honey produced in a “natural”, organic manner; some prefer to label their product raw, others natural. It is a niche market that can be profitable, offering customers the opportunity to experience honey just as produced by the bees from their very own locale.

The GOOD FOOD AWARDS program recognizes local honey excellence. Fireweed honey from Dan & Judy Harvey of Port Angeles, WA, Olympic Wilderness Apiaries, 3 honeys, Lavender, Saffron Spun Honey + Blackberry Honey from Buddy and Meg DePew of Sequim Apiary (Sequim/Port Angeles) are 2017 finalists along with Harlan: Bigleaf Maple & Harlan Wild Blackberry from Old Blue Natural Resources, an apiary in Philomath, Oregon. Last year, the first year honey was included as a judged category, there was a single Washington winner, Sequim apiaries of Sequim/Port Angeles, plus two winning Oregon honey entries: Sarah Red Laird, Ashland (Bee Girl Honey) and Damian Magista of Bee Local, Portland, with two honey entries, Sauvie island and Coastal Oregon honey (Bee Local still is in business, but has been sold to Ben Jacobsen).

For details on the Good Food Awards see the Bee Culture Bee Buzz http://www.beeculture.com/catch-buzz-america-best-announcing-good-food-awards-finalists-2017/?utm_source=Catch+The+Buzz&utm_campaign=521841592e-catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-521841592e-256239509 Note: Sharon Schmidt, Medford, Cascade Girl and OR Honey festival organizer, was one of 18 honey judges.

The Oregon finalist, Henry Storch, a migratory beekeeper has been keeping bees since 2006. From the beginning, he has focused on building up his hive numbers by catching swarms of feral bees, rehoming bees that have been thriving without chemical treatments in bee trees and barns, and splitting his own hives and raising his own queens to propagate Northwest-adapted honeybee genetics. Their website indicates they are actively preserving and improving Northwest-adapted honeybee genetics by raising and breeding their own queens, using isolated mating areas to propagate resilient, feral-based stock suitable for both migratory pollination and honey production in Oregon.

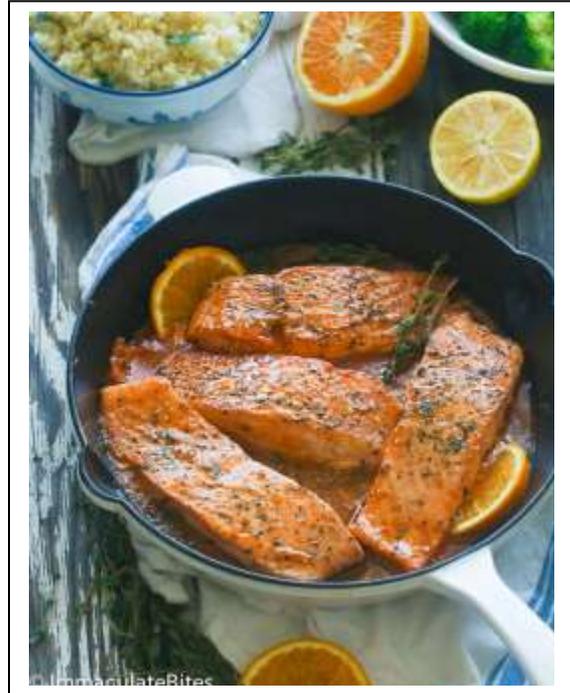
Olympic Apiaries are a well-known regional queen breeder, improving local bee stock for 20 years. Sequim apiaries have been in bees since 2014, though backyard hobbyists for several years. All three keep bees in more isolated areas and move colonies to obtain their distinctive products. Old Blue and Sequim sell their honey online as well as at local markets. Olympic Apiaries does not report if their honey is available. In the case of Old Blue in OR, customers are supplied information about specific honey varieties along as details about their beekeeping practices. Each bottle is labeled with the harvest date, apiary location, and primary nectar source(s) as well as extra information about apiary ecology and nectar source plant characteristics.

RECIPE OF THE MONTH: HONEY & ORANGE GLAZED SALMON

Prep time, 10 mins; Cook time, 20 mins; Total time, 30 mins ~ From Imma at “African Bites,”
<http://www.africanbites.com/orange-honey-glazed-salmon/>

Ingredients:

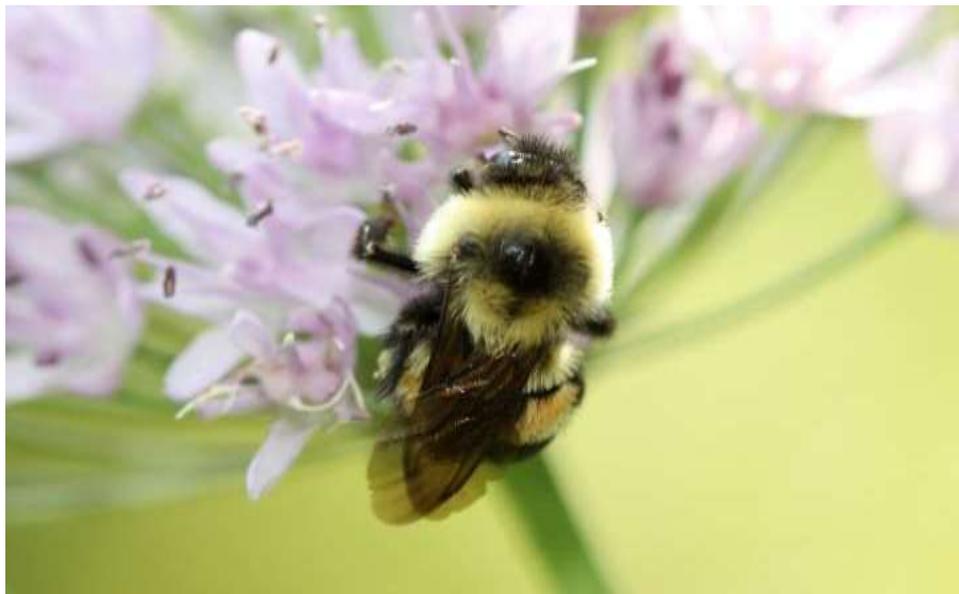
- 2-3 Orange (about ¾ cup orange juice)
- ½ lemon about (1 tablespoon juice)
- 1 Tablespoons olive oil
- 4 salmon fillets (about 6 ounce each)
- 1 teaspoon minced garlic
- ¼ cup Small onion diced
- ½ teaspoon cumin
- ½ teaspoon paprika
- 1 Tablespoon honey
- 2 teaspoons fresh thyme
- ½ teaspoon cayenne pepper (optional)
- ¼ cup broth or more
- 2 teaspoons corn starch
- Creole Seasoning or Salt and freshly ground black pepper



Instructions:

1. Squeeze juice from lemon, and orange juice. Then set aside.
2. Heat a large cast iron or non-stick pan with olive oil.
3. Season salmon both sides with creole salt or salt and pepper to taste
4. Then add seasoned salmon – brown both sides – about 2 -3 minutes per side.
5. Remove salmon and transfer on a plate.
6. Add garlic, onions, thyme, paprika, cumin and cayenne pepper(if using) to the cast iron pan and sauté for about a minute, then add ¼ cup chicken broth and simmer for about 2 minutes
7. Pour in citrus juice and honey.
8. Whisk cornstarch and about 1-tablespoon water/broth with cornstarch.
9. Stir cornstarch paste into pan, and then bring to a boil. Let it boil for about a minute stirring frequently. Adjust seasonings to taste with salt and pepper. You may add more liquid if needed.
10. Return salmon to pan, spoon sauce over salmon. Let it cook for another minute.
11. Then serve with steamed broccoli and/or couscous.

BEES IN THE NEWS



Rusty-Patched Bumblebee: © Sarina Jepsen/The Xerces Society via AP. This 2012 photo provided by The Xerces Society shows a rusty patched bumblebee in Minnesota.

U.S. Puts Bumblebee On The Endangered Species List For 1st Time: NPR, January 17, 2017

U.S. Fish and Wildlife announced that a bumblebee once common in the continental U.S. is now on the endangered species list. USF&W called this listing a "race against extinction." The bumblebee has suffered an 87% decline in numbers since the late 1990s. Today, only 13 states have rusty-patched bumblebees, and they are in small, scattered areas.

Bumblebees are important pollinators: among the crops they pollinate are tomatoes, cranberries and peppers. However, habitat loss, pesticides, and changing climate have sent their populations into a free-fall.

The rusty-patched bumblebee is the first of any bee species to be declared endangered in the continental U.S. This news follows last September's classification of seven native Hawaiian bee species as endangered.

To read more, visit: <http://www.npr.org/sections/thetwo-way/2017/01/11/509337678/u-s-puts-first-bumblebee-on-the-endangered-species-list>

ANOTHER BEE THEFT AT YUBA CITY, CA – from Fran Bach's "Items for Beekeepers," January 19, 2017

"Last week, we passed on a CATCH THE BUZZ item about bee rustlers hitting Strachan Apiaries at Yuba City, CA. This week, another hit in the same area has left more beekeepers reeling.

“The Cunniff family of Beeline Honey in Choteau, Montana, had just put their bees down in a holding yard prior placing them in the orchards, when a very well organized group of rustlers with forklifts and flatbed trucks loaded up all 488 hives and disappeared. (See related published stories at <http://www.latimes.com/local/lanow/la-me-ln-stolen-bees-northern-california-20170120-story.html> and <http://www.greatfalls Tribune.com/story/news/local/2017/01/18/choteau-beekeeper-victim-california-thieves/96739972>).

“Anyone noticing a beekeeper with a sudden, miraculous increase in the number of hives is asked to please report it. Someone knows who is responsible. Losses are a crippling blow, both financially and emotionally. Every year, beekeepers and their pollination clients are taking hits of this kind.

“In this case, the 488 colonies represents 100% of the Cunniff bee business. A family member has set up a gofundme site (<https://www.gofundme.com/beelinehoney>). Any and all help would be deeply appreciated.”

“Valley farmers aim to provide bees with appetizers, dessert to go with main meal. And, Mechanical Pollination? Really?": Catch the Buzz, Bee Culture, January 26, 2017

Seeds for Bees Supplements Bee Forage in Almond Country:

As beekeepers bring their bees to Central California this month – preparing for the almond pollination extravaganza that will start in February – they are being greeted by growers who have intentionally grown other floral foods for bees to feed on, recognizing that the honey bees need to be bolstered nutritionally. Among the plants the bees will dine on are yellow mustard, vetch, and daikon radish that were planted last fall, specifically for this purpose.

The program is called “Seeds for Bees” and is cosponsored by the Almond Board of California, based in Modesto. Their goal is for bees to “gain weight and immunity from disease thanks to the extra food.” The extra food doesn’t seem to stop the bees from doing a good job pollinating the almonds.

“Research suggests mechanical pollination of almonds not worth the costs”: the following very interesting Bee Culture feature is here presented in complete form:

“Is the mechanical application of pollen a last ditch effort to avert crop disaster or an insurance plan to ensure high nut set? The answer depends on the almond grower asked the question.

“Each year, Elizabeth Fichtner, University of California Cooperative Extension farm advisor at Tulare County, says several almond growers try the mechanical application of pollen, fearing conditions were not just right for a good nut set.

“Insufficient hive numbers or strength, or wet, cold weather conditions during bloom are reasons some growers consider mechanically applying pollen in their orchards.

“Fichtner says achieving a higher nut set may not be a good enough reason to supplement bees.

“There are not enough carbs in the tree to support 100 percent set. In commercial orchards with adequate pollination, typical nut set is around 30 percent,” she said.

“The timing of the application and pollen quality are two major considerations with mechanically-applied pollen.

“There are two different approaches to the application: blowing pollen on trees with a blower or fixed-wing aircraft; or inserts of pollen dispensers into hives.

“The first method relies on bee activity to redistribute pollen since only a small amount of blown pollen will be deposited directly on receptive stigmas. Research studies have shown no benefit from this method as a supplement to bee pollination on nut yield when Nonpareil rows are spanned on either side by pollinizer trees.

“Fichtner noted another study conducted by Robin Thorp at UC Davis in 1978 that illustrated the benefit of an application of supplemental pollen. However, the study was conducted in an orchard with four solid rows of Nonpareil. This orchard design is no longer utilized in the industry.

“Pollen inserts have been found to work in some situations but not in newer plantings. The Journal of Apicultural Research notes that pollen dispensers did not increase fruit set percentage or yield in a 1:1:1 planting design – pollinizer rows planted on either side of the main cultivar rows – with good bloom overlap.

“The dispensers increased fruit set and yield in an orchard design with one pollinizer row, two Nonpareil rows, and one pollinizer row as bloom overlap was lacking.

“In contrast to bee activity which lasts over the entire bloom period, mechanical pollination is a one-time event and only has the potential to pollinate a fraction of the flowers open at the time of the application.

“Fichtner confirmed that the 2014 replicated field trial to determine the potential benefit of mechanical pollination, as a supplement to bee activity, did not significantly affect nut set or yield.

“A 2015 trial with the Monterey variety suggested a benefit of mechanical pollination on nut set compared to bee exclusion. The exclusion achieved only a 1.3 percent nut set while mechanical alone resulted in 17 percent set. A combination of bees and mechanically-deposited pollen resulted in a 57 percent set as measured in May.

“Fichtner said the potential exists for mechanical pollination to set a small crop in the absence of bees, but the decision might rest more on the economics of the practice. The cost for an application by blower was reported at about \$300 per acre in 2016.

“There are also practical considerations. Wet conditions that keep bees from working the orchards can also cause access issues for mechanical pollination machinery.

“Terra Bella beekeeper Roger Everett noted it is difficult to determine if bee colonies did a good job of pollination until it is almost too late for mechanical supplementation.

“He predicted sufficient hive numbers and strength for almond pollination in 2017, but probably not surplus hives. Increase in almond acres has not been offset by orchard removals, he said, keeping hive rental prices steady in recent years.

“The current recommendation is for 1.5 colonies per acre although insurance companies may require two colonies per acre. Depending on frame numbers per colony, 2017 hive rental cost is expected in the \$170-\$200 range.

“The 2017 almond bloom period will see increased demand for hives due to the increase in commercial acres. Acre numbers are slightly offset by the removal of older orchards in high water cost areas, said bee broker Joe Traynor of Bakersfield.

http://www.beeculture.com/catch-buzz-valley-farmers-aim-provide-bees-appetizers-dessert-go-main-meal-mechanical-pollination-really/?utm_source=Catch+The+Buzz&utm_campaign=8cb2f621e6-Catch+The+Buzz+4+29+2015&utm_medium=email&utm_term=0_0272f190ab-8cb2f621e6-256261065

“UW-Stout Professor, students identify bacterium that may kill honey bees”: Bee Culture, January 3, 2017

University of Wisconsin-Stout biology professor Jim Burritt and students have discovered a new strain of a bacterium, *Serratia marcescens*, which may be causing honey bee die-offs as high as 80% in upper Midwest winters. The strain is called “sicaria, which means assassin.”, and Ss1 for short. Burritt is a beekeeper himself: with this new evidence, he “recruited” beekeepers from counties in west-central Wisconsin and eastern Minnesota counties. The two states’ beekeeping associations helped fund testing for 91 hives. 3,219 honey bees and 1,259 Varroa destructor mites were found in the hives between December 2014 and September 2016 – and the new bacterium was in every single county that sent samples. 48% of colonies sampled tested positive for the bacterium; of the hives that died over the winter, 73% were infected. Until now, only viruses were thought to be transmitted to honey bees by Varroa mites: this is the first time a bacterium has been found to be transmitted.

To read more, visit: http://www.beeculture.com/catch-buzz-uw-stout-professor-students-identify-bacterium-may-kill-honey-bees/?utm_source=Catch+The+Buzz&utm_campaign=855bea920b-Catch+The+Buzz+4+29+2015&utm_medium=email&utm_term=0_0272f190ab-855bea920b-256261065

“Organosilicone adjuvant, Sylgard 309, increases the susceptibility of honey bee larvae to Black Queen Cell Virus” Catch the Buzz, January 19, 2017

Sylgard 309, a widely used chemical “adjuvant” that “boosts the performance” of pesticides used on almonds, wine grapes and tree fruits,” has been found to “make[] honey bee larvae significantly more susceptible” to Black Queen Cell Virus, according to Penn State and USDA researchers.

“Based on the California Department of Pesticide Regulation data for agrochemical applications to almonds, there has been increasing use of organosilicone adjuvants during crop blooming periods, when two-thirds of the U.S. honey bee colonies are present.”

The study raised larvae in the laboratory and exposed them to a “low chronic dose of Sylgard 309 in their diets,” along with some viral pathogens. Those larvae that were exposed to the organosilicone had higher BQCV levels.

“When they were exposed to the virus and the organosilicone adjuvant simultaneously, the effect on their mortality was synergistic rather than additive, meaning that the mortality was higher from the simultaneous application of adjuvant and virus than from exposure to either the

organosilicone adjuvant or the viral pathogen alone, even if those two mortalities were added together. This suggests that the adjuvant is enhancing the damaging effects of the virus.”

Because of the prevalence of adjuvants like Sylgard 309, the researchers think that more colonies exposed in the course of field pollination are raising larvae that are dying from BQCV. To read more, visit: <http://www.beeeculture.com/catch-buzz-organosilicone-adjuvant-sylgard-309-increases-susceptibility-honey-bee-larvae-black-queen-cell-virus/>

“EPA Releases Four Neonicotinoid Risk Assessments for Public Comment”: American Bee Journal, 13 Jan 2017

Preliminary pollinator-only risk assessments for the neonicotinoid insecticides clothianidin, thiamethoxam, and dinotefuran, as well as an update on imidacloprid risk assessment, have been published by the EPA.

According to the EPA, “most approved uses” of these neonicotinoids “do not pose significant risks to bee colonies. However, spray applications to a few crops, such as cucumbers, berries, and cotton, may pose risks to bees that come in direct contact with residue.”

When the Federal Register publishes these results – which should happen “soon” – the 60 day public comment clock begins to tick. The EPA says that they “may revise the pollinator assessment based on comments received as well as additional data that we anticipate receiving during 2017. We hope to release the final neonicotinoid risk assessments for public comment by mid-2018.”

To learn more, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=802ff363d3&e=e9ff21e0bb>

ANNOUNCEMENTS

Do You Sell Wax? If you are an LCBA member and would like to be listed on LCBA’s Buy Local Honey page, please email secretary@lcba.community with your contact information, prices, and a photo if possible.

Western Apicultural Society Newsletters: http://groups.ucanr.org/WAS/WAS_Journal. Click on the line in the paragraph on the right as directed. If you’re still getting the old issue, click on "empty cache" in your browser or "refresh" or "reload" under VIEW in your menu bar.

WASBA Newsletter: Pick up your copy online at www.wasba.org: click on "Newsletters."

That’s all for now ~ take care, & bee happy!

~~ Susanne Weil, LCBA Secretary (Secretary@lcba.community; 360 880 8130)