

The Voice of Professional and Backyard Beekeeping

Cowlitz Beekeepers Association Newsletter



Dedicated to Preserving the Honey Bee through Community Action, Awareness and Education

June 2021

Issue 6

Next Meeting:

Where: Anywhere worldwide on your computer via Zoom

When: June 17, 2021, 6:00 PM

Speaker: Dr Samuel Ramsey

Topic: Despicable mites

If you live in Cowlitz county or the surrounding area and find honey bees fascinating, then you should consider joining us. Reach us on Facebook by searching for Cowlitz Beekeepers Association or check out our website at:
<https://cowlitzbeekeeping.wixsite.com/website>

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Handmade Proud:

Looking to buy new woodenware at reasonable prices?

- Bottom Boards - Top Covers - Inner Covers - Hive Boxes and more...

Contact **Gerry Herren**

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Samuel Ramsey's enduring interest in insect biology started 23 years ago and shows no signs of waning. Having earned his doctorate from Dr. Dennis vanEngelsdorp's lab at the University of Maryland; His award-winning research on Varroa biology has changed the standing paradigm on how this parasite ultimately kills honey bees leading to opportunities to share his work nationally and internationally. He graduated with a Bachelor of Science in Entomology from Cornell University in 2011 focusing his research on predator/parasite behavior. His current work, aptly named the Fight the Mite Initiative, was funded largely by the beekeeping community. It focuses on the poorly understood Tropilaelaps mite which is rapidly establishing itself as the next threat to apiculture globally. Prior to the pandemic he was based in Thailand documenting the behavior, lifecycle, and vulnerabilities of this parasite, ensuring that in the event of its arrival in the US, we'll have the knowledge and resources to respond effectively.

Dr. Ramsey is being sponsored by your association and Columbia County Oregon Beekeepers. Thanks to our neighbors and friends across the river for their shared vision of learning from the best educational speakers available.

Our Zoom Meetings

Zoom video conferencing is celebrated for its ease of use, high quality video and audio, and collaboration facilities such as text chat and screen sharing. All you need is a computer or smartphone with speakers, a microphone, and a camera.

Join us at our next meeting. Click the link I will send out a few days before the next meeting. If you are not a member but would like to attend a meeting, request the code to cowlitzbeekeepers@gmail.com





Bee School Field Day

21 of us turned out on a nice Saturday in May to go through Dave Scott's hives. We formed up 3 groups with John Ward, John Holmes, and Ken Curtis leading the discussions. Everyone should be better equipped to do a thorough hive inspection now. Also, we demonstrated how to do a mite wash using Dawn Ultra dish soap which is an alternative to using alcohol.

2020-2021 Cowlitz Winter Loss Report by Dewey M. Caron

Cowlitz members were encouraged to complete a web-based survey document in a continuing effort to define overwintering losses/successes of backyard beekeepers in Oregon and Washington. This was the 12th year of such survey activity. I received 163 responses from WA backyarders, keeping anywhere from 1 to 39 colonies; Cowlitz County members sent in 25 surveys, 2 more than last year, reporting on 178 fall colonies.

Overwintering losses of Cowlitz Co respondents =45 %, an improvement from last year (losses last year were 54%) but much poorer than overall losses for Washington beekeepers of 37%. Percent losses, determined by hive types were 26% for Langstroth 8 and 50% loss for Langstroth 10 frames hives (there were 4 times the number of Langstroth 10 frames hives compared to 8 frame hives of respondents – 139 10-framers vs 36 8-framers). In addition, there were 2 nucs (1 lost) and 3 top bar hives (1 lost).

The survey also asked for hive loss by **hive origination**. The members reported 31% loss of previously overwintered colonies, a heavy 67% loss of the 6 packages and 69% of nucs (32 total), while swarm (44%) and split (37%) losses were intermediate. Most impressive was no loss of the 9 feral transfers.

Average winter losses of Cowlitz members was the 2nd highest of all 6 Washington clubs. It was lower than the past 5-year average of 47% colony losses for club members completing a survey. **The attached figure shows Cowlitz losses for past 5 years.** The number below the year in () is the number of survey respondents for the year.

Typical of the statewide data, the Cowlitz respondents are largely new beekeepers. 50% of Cowlitz respondents had 1 to 4 fall colonies while 5 respondents (20%) had 10+ colonies – maximum number for any respondent was 30 colonies. Not everyone had loss. Five Cowlitz individuals (20%) reported total winter survival; but unfortunately 4 had 100% winter loss of colonies.

Reasons for Colony Loss/Acceptable loss

We asked of individuals that had colony loss to estimate what the likely reason(s) might have been, Multiple responses were permitted. Nine individuals (45%) of those having losses said Varroa mites, 30% said weak in fall, 5 (25%) indicated queen issues, 4 individuals said poor winter conditions and 3 indicted yellow jackets.

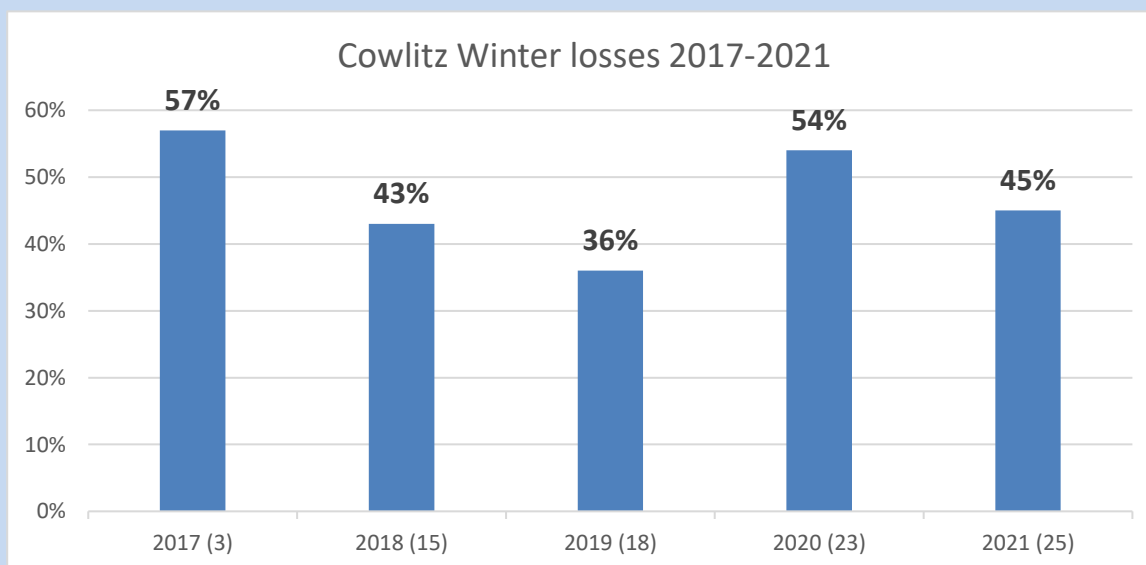
Why colonies die?

There is no easy way to verify reason(s) for colony loss. Colonies in the same apiary may die for different reasons. Examination of dead colonies is, at best confusing, and, although some options may be ruled out, we are often left with two or more possible reasons for losses. There is a good deal of variance in opinion as to what might be an acceptable loss level. We are dealing with living animals which are constantly exposed to many different challenges, both in the natural environment and the beekeeper's apiary.

Major factors in colony loss are mites and their enhancement of viruses especially DWV (deformed wing virus) and declining nutritional adequacy/forage and diseases. Pesticide exposure in the agricultural environment weakens colonies. Yellow jacket predation is a constant danger to weaker fall colonies, Management, especially learning proper bee care in the first years of beekeeping, remains a factor in losses. What effects our changing environment such as global warming and other factors, play in colony losses are not at all clear. There is no simple answer to explain the levels of current losses nor is it possible to demonstrate that they are necessarily excessive for all the issues facing honey bees in the current environment.

Management selections and losses

I will be preparing a report of how managements affected winter losses similar to earlier years. A full report will be posted to pnwhoneybeesurvey.com for the state respondents along with a **Cowlitz individual club report** when that analysis is completed. I thank all Cowlitz members who sent in a report. Please get in touch directly if you have questions or comments. dmcaron@udel.edu



The Buzz on Two-Queen Hives

by John Holmes

The purpose of using two-queen hive management is to produce more surplus honey for the beekeeper. This is accomplished due to the increase in the number of foragers. Research has shown large colonies devote as much as 9.5% of their population to foragers while smaller colonies as low as 4.3%. This larger forager population also provides a greater information gathering capacity, allowing nectar sources to be found more quickly and to select the most productive sources.

There are two types of two-queen hive management, vertical and horizontal. Historically, early use focused on the vertical system. In its simple form a colonies are established on the bottom and the top of the hive separated by honey supers and/or a queen excluder. Floyd Moeller, a researcher at the Madison, Wisconsin bee lab, showed in a 6-year study from 1967-1974 an average increase of 112 pounds of honey with two-queen versus one-queen hives. He favored using only medium boxes, 4 for brood and 6-7 for honey. This points out the disadvantage of the vertical system. Hives can grow so high that the use of a ladder is needed and heavy work required to do any hive manipulation. The advantage of the vertical system over the horizontal is it has more efficient convective flow, aiding heat transfer and pheromone distribution. It is theorized that exposure to increase queen pheromones may reduce the tendency of a colony to swarm.



Using the horizontal system is more practical but still requires more management and better suited for hobby and sideline beekeepers, it is not used in commercial beekeeping. The goals are to have colonies set up 8 weeks prior to the main nectar flow and to build up the colonies to have a large forager population at that time. Success depends on both productive forage, and accurate timing of the main nectar flow. The colonies utilized can be obtained from varied sources: a strong overwintered colony that was split early, overwintered nucleus colonies, strong yard splits, or early packages placed on drawn comb and feed so they build quickly. Two colonies are placed side by side so they can share a common set of supers. Migratory covers will be needed during the spring buildup prior to adding honey supers. When ready a queen excluder is placed in the center, covering half of each brood box. Half inner covers and outer covers will need to be made to fit tight against the supers. By using medium or shallow boxes for supers, frames will be filled and capped more quickly, allowing honey to be rotated out. The important advantage of the horizontal system is that the brood boxes are accessible without the need to remove the supers. Management of the brood boxes is possible, especially if single boxes are used. An uncongested brood area can be maintained by removing frames of brood, which in turn can be used to benefit other colonies. Drone frames can be utilized for varroa control. Assessing the colonies for strength and health can be performed.



This spring I performed vertical splits on my Langstroth hives using Snelgrove boards. Now with the blackberry nectar flow beginning, I'm replacing the Snelgrove boards with queen excluders creating two-queen vertical colonies. One possible advantage of this experiment is it may allow for colonies of unequal sizes to be used. My plan after honey harvest is to separate the colonies back to single queen hives for over wintering.

William Hesbach <https://www.beeeculture.com/the-horizontal-two-queen-system/>

Ray Nabors Ph.D., Comparing Two-Queen Colony Management Methods, American Bee Journal, August 2016.

Out in the Bee Yard

Bill Holmes

Today I tested a honey bee given. One of those beliefs we accept as true. I went out to do an inspection on 2 hives to verify a laying queen. At the hives I got my smoker and fuel out of the carry all and discovered the lighter was missing. So back to the house, only about 200 feet away, I went. The search for the missing tool put me in the kitchen. Hmm it's getting close to lunch maybe I should have a little snack. I saw a banana on the counter collecting black spots and I thought I should eat it before it turns to mush.

Halfway into my tasty snack I remembered "don't eat bananas before visiting the bees". Too late, so I just finished the smiley yellow fruit and remembered to pick up the lighter. So, what happened? Nothing, the bees just went on as usual. But I don't recommend the practice of breathing alarm pheromone smellalikes on bees without further testing.

Last month I left you hanging on the results of using the queens throne that I built using plans from bluegreenhorizons.org. That effort led to disappointment. The bees would not go in. I ended up capturing the swarm using the traditional bucket on a pole and dumping into a hive body. Fortunately, the branch they were on was accessible and responsive to that technique. The story continued a week later when a swarm went into a Sequoia and a bucket was not option. They were about 22' high and had to be approached at an angle. Perfect for the throne. This time I prepped the inside of the throne with a larger piece of brood comb and rubbed wax on the inner surface. I set it up using an 8' step ladder to support the pole and weighed the ladder down with some handy big rocks and pushed the throne into the swarm with the entrance hole contacting bees. I went back in the morning and moved the throne away from the tree. About half the bees remained on the branch, and the other half was stuck to the outside of the throne. We were on our way to Costco so I lowered the throne to 12' and left. The bees could go back up to the limb or the limb bees could come down to the throne. Up to them. When I came back later that afternoon I was surprised to see the bees from the limb and the attached bees had all moved into the throne and bees were coming and going like they lived there. Success! And now the throne smells even better after having 24 hours of occupants.



My next swarm project was to build a better bucket. Mandy Shaw from Portland Urban beekeepers spoke at Columbia County beekeepers May meeting. I picked up a couple ideas from that meeting. One was from her but another was from member and VP Paul Vincent. His idea was to put a boat hook in his swarm kit. You can pull a branch down with it for better trimming or bee access. Since I had one collecting dust, I unburied it so it's at the ready. Mandy used a 5-gallon water bottle that you can buy all over. I got one at Walmart for about \$9 and cut off the bottom which is now the top. I used a couple PVC fittings and pipe along with some duct tape and voila a bucket I can see through. It slips onto my 24' pole and will work on those nice hanging swarms.

Since I treated in November and January all my hives with Oxalic acid vapor I didn't expect mites to build up substantially before I removed my supers at the end of July. I have been checking 24-hour mite drops regularly though. One hive kept getting higher drop counts each time so I went ahead and did a mite wash on that one. I got 35 mites on 269 bees (I counted them). That's 13% or way beyond any treatment threshold and into dia de los muertos country. I threw on a dose of Formic Pro and am hoping things go well for them. Bill

Good Beekeeping Records Matter

Article assembled from Carolina Honey bees, Beekeeping for Newbies, and my own thoughts

When you start beekeeping, recording information may seem overly burdensome. After all, you've only got one or two hives. How much could you possibly have to track? No need to write anything down, right? Maybe.

Keeping records is a habit that's much easier to start when your apiary is small and your goals are simple. Record keeping serves as both a learning tool and a management tool. Keeping records will help you learn about beekeeping in general and your bees.

Good hive notes promote a better understanding of the dynamics of the hive. Record keeping can really help you learn about your bees and manage your colonies more efficiently. Track anything that is important to you in the format that works best for you. Over time you will have a written account of hive inspections and beekeeping techniques that worked! As well as plans that failed miserably.

While you may think you will be able to keep track of the date when you last inspected your hive or which hive you saw the queen, likely you'll forget by the time you need to know.

It is important to have an inspection plan before opening the hive. This is difficult to do if you are not 100% certain of colony conditions from the last visit.

Anytime you see something that concerns you, make a note to recheck soon. A quick glance at your notes will prepare you for today's inspection.

Hive Records Facilitate Quick Inspections

Review your notes before going to the bee yard. You may just need to take a quick look inside. A strong healthy colony does not need a deep inspection often. Reviewing our notes gives us an idea of what to expect. Did this bee colony have a possible problem during the last inspection? Did you notice a problem with equipment? Do I need to have an extra frame on hand?

Creating Your Own Hive Inspection Format

Your hive inspections sheets can be as simple or as complicated as you wish. Over time, a beekeeper learns which factors of hive management are most important. However, there are some basic hive conditions that every beekeeper needs to know.







1. Does the colony have a Queen?
2. Brood Pattern – Is the queen laying a good pattern of worker brood?
3. Is the colony bringing in pollen and nectar?
4. Any signs of pests or disease?
5. Has the colony been tested and/or treated for mites? When? With What?

Technology has arrived in the world of beekeeping. Many beekeepers enjoy using online hive management software or apps on their phones. Electronic records have the advantage that you can add pictures or even video.

All you really need is just a notebook or journal. All the major supply houses have preprinted hive inspection books. A google search of honey bee inspection record templates will return enough hits for you to settle on a format that might work for you. But you may not want a 2-page form of check boxes for every hive on every trip to the colonies. That may work for you, but they waste a lot of paper with things you didn't look at during an inspection. Taking a digital voice recorder to the bee yard allows recording notes that can then be transcribed into a journal.

Another important benefit of good records is being able to Participate in surveys. Various agencies and not-for-profit groups conduct surveys on survival and beekeeping practices. The more people that help fill the databases the better our understanding of best practices to keep our colonies strong and healthy.

BEEKEEPERS CALENDAR OF SEASONAL ACTIVITIES*Suggested Activities for Beekeepers in the Coastal range from Washington, Oregon and Northern California...***Prepare Hives for June**

-  Make sure your bees have a good supply of water, they don't mind if it has a little character. Use small pans or if you have many hives, use a child's swimming pool and float wood or pieces of carpet on the water for the bees to stand on when hydrating...VERY IMPORANT ...
-  Check for capped brood and good brood patterns. Spotty brood pattern may mean there's a problem in the hive
-  Check your supers often. Add supers as needed.
-  Monitor mite levels and be prepared to treat if thresholds are exceeded.
-  Check for Swarm cells it is still swarm season.
-  Be ready for Swarms: have a spare Nuc or hive body with drawn comb, ready to go at a moment's notice. Also, an 8'x10' lightweight tarp, branch clippers, 8"x10" piece of cardboard (can be used as a bee ramp or scoop), smoker (with fuel and a lighter), bee suit, spray bottle of sugar water, bee brush, a roll of duct tape...

CBA member Robert Norris has some surplus wax foundation with hooks. He has a lot for your deeps but also some for honey supers. \$1 per sheet. 360 274 6709 or peaceinthevalley.greenhouse22@gmail.com

'Un-bee-lievable:' Viral video of two bees unscrewing a Fanta bottle cap sets internet abuzz

The little bees are being recognized for teamwork and intelligence as netizens can't get enough of the video.

While most were surprised, others commented that the insects were always known for their collective efforts and intelligence.

Nature is full of surprises and there's still a whole lot left that humans haven't wrapped their head around. A recent video of two bees managing to unscrew the cap of a soft drink is one such instance. The remarkable video has created a huge buzz across social media platforms, with people wondering at their feat.

In the viral clip that has been watched millions of times on the internet, a person captured the moment when two tiny bees joined forces to take on the cap bigger than their collective size. The video left the person filming stunned and when shared online, it left netizens gaping in astonishment.

According to HuffPost, the unusual moment, which many dubbed as 'bee evolution', was captured in São Paulo, Brazil last week. However, it went viral on Wednesday.

Watch the moment here: <https://youtu.be/FR1Onh6fLrM>



You can promote honey bees in the community, get free bees, and improve their chance of surviving the winter all by joining the swarm list. I get calls from the community and pass them on via text. Some are simple like the one in the video <https://youtu.be/pnvZfsDXFnY> while others are more challenging. Watch several videos, get your tools ready, but join the swarm list. Contact Bill, but this is a members only list.

The Deformed Wing Virus (DWV)

Research released on the 26th of April in the journal *Scientific Reports* has discovered that the rising virulence of DWV is due, in part, to the cannibalism behaviors of the honeybee. When a larval honeybee (*Apis mellifera*) is ill, there is a possibility of a worker sniffing out the infection, opening the cap on the ill larva's brood cell, and feed on it.



Jay Evans, an entomologist with the U.S. Department of Agriculture's Bee Research Laboratory, said: "It's an advantageous behavior, and several beekeepers actively breed for it. It's mostly useful for combating bacterial and fungal infections because workers kill the infection before it makes spores that can pass the infection to the rest of the colony."

Honeybee colonies also make use of this strategy against parasites like Varroa destructor, a mite that attaches to the body of the bee and consumes its fat. Varroa infections can cripple an entire bee colony but behaviors like hygienic cannibalism can keep the mites under control. But it turns out, DWV makes use of the bees' those defenses.

Varroa mites are just the Trojan horses that let the virus gain access to the entire colony. "This virus has been present for a long period of time, but in recent years it has become a problem as it has made this contact with the mites," Evans said. Varroa mites, while a menace on their own since the 1980s have become more dangerous as DWV has developed to make use of them as a vector.

Warm summer expected as Washington state endures 4th-driest spring on record

Lynda V. Mapes

Seattle Times environment reporter

Washington has endured its fourth driest March and April since 1895 — and is heading into a drier and warmer than average summer, forecasts show.

Statewide, Washington got only about half the normal precipitation in March and April, and the forecast for summer includes more of the same, said Karin Bumbaco, assistant state climatologist at the University of Washington.

The freakishly dry weather, in months that usually are wringing wet, has set up a feast-and-famine situation for moisture in Washington. Basins that depend primarily on snowpack for moisture are fat at about 130% of average statewide.

But it's a different story in lower elevation basins that rely primarily on rain and groundwater for water supply.

The Chehalis Basin, which depends on rain and groundwater, is forecast to endure the lowest stream flows in 72 years, said Jeff Marti, water resources planner for the state Department of Ecology.

The Columbia County Oregon Beekeepers meeting on **Thursday June 3rd at 6:00 pm** will feature Ana Heck from Michigan State University who will explain Honeybee Pheromones. "Learn how honey bees communicate through pheromones and how paying attention to hive scents like banana and lemon can make you a better, more effective beekeeper." PM Linda Zahl from their Facebook page or contact Bill for the Zoom link.

I have heard Ana speak and believe you would enjoy this presentation. Bill