

Orange County Beekeepers Association

Meeting Minutes

June 9, 2022

Nancy Oglesby, OCBA Vice President, opened the meeting and welcomed everyone for the June meeting. The meeting was attended by 55 members (32 via Zoom, and 22 in-person at the Orange County Extension Office in Hillsborough).

Nancy introduced our speaker, **Randy Oliver**. Randy is the founder of [ScientificBeekeeping.com](https://scientificbeekeeping.com), and a commercial beekeeper in northern California. With his sons now running the business, Randy is engaged full-time in beekeeper-funded research projects. Randy uses a scientific approach to beekeeping, collaborating with beekeepers and other researchers around the world and running experiments with the goal of helping to determine best management practices. He happily shares his research as a frequent contributor of articles to bee magazines, his speaking engagements, and on his website [ScientificBeekeeping.com](https://scientificbeekeeping.com).

Presentation:

Randy Oliver presented 2 topics this evening:

1. “A Comparative Trial of Pollen Subs”

In 2020 Randy began a trial comparing 7 different pollen substitutes (“subs”). He tested 6 commercial and 1 “homebrew” formulation, looking at how feeding pollen subs impacted spring build-up. It was a controlled experiment, with 144 hives (18 for each pollen sub, plus a negative control [sugar only patty]), across 3 different bee yards. Colonies were supplied with pollen sub (and syrup) from late Aug through late January, with a break in feeding between mid-November to December. The main readout for this experiment was colony strength, assessed by California-style cluster grading—basically the number of frames of bees. Colony strength was measured before feeding, at the midpoint (November) and at the end (February).

There were clear differences in proportional change of colony strength depending on which pollen sub was used, with 2 out of 7 (including the “homebrew”) being noticeably better. Interestingly, both of these contained natural pollen (but this may have been coincidence). Particular pollen sub performance was not dictated by protein, lipid, or sugar content. Honeybee gut bacteria was also not affected by type of pollen sub.

So what was it about the nutritional content of the top performing pollen subs? A deep dive into de Groot’s landmark 1953 publication on honey bee nutritional requirements (available for download at <https://scientificbeekeeping.com/de-groot-1953/>) suggested the importance of amino acid composition. Extensive analyses by Randy and his collaborators found that the amino acid composition of the top performing pollen subs most clearly resembled that of royal jelly (this makes intuitive sense given that is what nurse bees feed developing larvae!). The pollen subs that performed the worst in promoting colony build-up were very clearly deficient in specific essential amino acids, particularly histidine, threonine and valine.

Based on this research, Randy has developed an amino acid calculator so that beekeepers and manufacturers can check the essential amino acid ratios of their formulations against de Groot's recommendations: (<https://scientificbeekeeping.com/7333-2/>).

2. “Updates on Extended-release Oxalic Acid”

Oxalic acid (OA) is a popular varroa mite treatment that per the label can only be used as a trickle, vaporization, or spray, and may only be applied in late fall or early spring when the colony is essentially broodless. Randy told us about his experiments on developing an extended-release OA/glycerin delivery system that can be applied to the hive for a long-term treatment.

Disclaimer: Randy stressed that this oxalic acid (OA)/glycerin extended-release application method is not yet approved by the EPA. Randy tests this method under an experimental use permit in collaboration with the USDA-Agricultural Research Service.

He has tested a variety of matrix materials, including shop towels, handiwipes, chipboard, acrylic felt, cotton pads, cellulose maximizer pads, and “Swedish sponges”. He absorbed various ratios of OA:glycerin by soaking these matrices, applied the strips to his test colonies, and performed mite counts over time (his trials typical lasted over the summer months). His take home message was that extended-release OA is a promising treatment to control mite populations during hot summer months or when there is honey on the hive (ie, when most other treatments can't be used).As for delivery matrix, Swedish sponges showed the most promise. However, he stressed that this application method is not yet approved by the EPA, nor is OA approved to be used when honey is on the hive. Research is underway to support an application for gaining approval.

For more information on extended-release OA: <https://scientificbeekeeping.com/varroa-management/treatments-for-varroa/>

Club Business:

Membership

No update.

Finance

No update.

Apprenticeship Beekeeper Program

Vikki Robertson, Mentorship Co-director, reported that the student cluster met for the second time (4 young beekeepers, including the 2 apprentices). They plan to continue to meet at one of their apiaries approximately once a month for hive inspections and discussion.

Outreach

Dawn was not available, but a member mentioned they volunteered at the event at Sunshine Lavender Farm, and it was a success.

Other Announcements:

- David Bailey reminded people to come get their door prizes which are being held at the store.
- Jeanne Arnts provided some plants for people to take home.
- Randall reminded people about the upcoming summer meeting of the NCSBA, which will be held in Hickory, NC, July 28 – 30, 2022.
- Club Extractor Rental: Celeste reported that the club's extractor has been reserved almost every day in June and also through a good portion of May and July. Members may reserve for \$5 per day. Sign-up and extractor policy can be found on the OCBA website: <https://theocba.org/resources/extraction-equipment-rental/>
- Randall reminded members that you have to sign up for the listserv (sign-up is NOT automatic upon joining OCBA, although Nancy said there is discussion about changing this).
- At Randy Oliver's request, OCBA will be donating the \$100 speakers fee to Randy's research program. Nancy will also send the link to the listserv so that interested members may support his research program [<https://scientificbeekeeping.com/contact-me>].

Door Prizes

1. Honey bucket + gate: (in person winner)
2. Teapot: (online winner) Peggy Wilson
3. Tea Cozy: (in person winner)
4. 10 deep frames : (online winner) Cynthia Speed
5. 10-frame deep plus frames: (in person winner) Jeanne Arnts

Next Month's Speaker

In lieu of an external speaker, the July meeting will be an "Ask the Experts" panel format.

Erika Wittchen
OCBA Secretary