



CENTRAL COAST BEEKEEPERS NEWSLETTER

June 2022

Issue number 71

NEXT MEETING June 22, 2022

This Month: Change in Meeting Location and Time

We will be meeting this month at OSU Lincoln County Extension Office on **Wednesday June 22nd at 6:00PM. The LC Extension Office is at 1211 SE Bay Blvd., Newport, OR 97365**, on the Newport Bay front, just beyond the Embarcadero on the opposite side of the street.

This month's meeting will focus on honey extraction and all the things you need to do to make sure you'll have lots of honey to extract!

There is plenty of parking at the Extension Office, including 3 spaces for disabled parking. Spaces are available beside the building, across the street, and in the liquid gas parking lot (the business will be closed when we are meeting, but do not block their loading dock). See you then!



PRESIDENT'S MESSAGE

By Pat Wackford

The Board of directors met on May 25th prior to the General Club meeting. We discussed meeting dates and meeting times. There was consensus that we should change back to monthly meetings as every other month was too large of a gap especially during the spring and summer months. We felt that since we do have several new beekeepers in the club, it would benefit them to be able to ask questions of other beekeepers. Starting this month, we will meet monthly. The next meeting will be June 22nd. Also, we discussed meeting times. The majority of the Board felt that club members that work were not able to attend a 4PM meeting. This earlier time was chosen as the Newport Library had changed its hours due to staff shortage. This month's meeting will be held at 6PM to 8PM. Thus we needed to change our meeting place. Several suggestions were made. I felt the best place to start was at the OSU Lincoln County Extension Office. The people there were very accommodating and welcomed the club to use their meeting room. There will be no charge for its use. There is no mask requirement but those who wish to wear masks are welcome to. There is a small kitchen and we will need to take all garbage with us. We will be given access using a key card. I contacted all Board members after visiting the Extension Office and all were in agreement to have meetings there.

Secretary/Treasurer Judi Irving gave a Treasurer's report. We have \$3,387.04 in the general account and \$281.23 in the OSU Fund for Research which is donated to the OSU Bee Lab in October.

At the General Meeting, the topic was testing and treating for Varroa Mites. We discussed the treatments available and mite testing options. The web site www.honeybeehealthcoalition.org is a great source of information. There will be some updates coming to this site soon.

We had a discussion about swarming as the season is just around the corner or already here. We talked about how to spot swarm activity and how to prevent

swarms. Some members shared their swarm stories and success or not of catching them.

Journey Level Rick Olson was our speaker. His topic was raising queens. Rick brought in some of the tools and a frame he uses to start queen cells. He has had fairly good results and has had extra queens available to club members.

This month's meeting is a good time to talk about getting those honey supers on. We will also have a discussion about methods of honey extraction.

We will also discuss the need for a club librarian, and whether we want to have refreshments. We will need volunteers for both.

We will have a signup sheet for volunteers for the Lincoln County Fair. The Fair is July 1st, 2nd and 3rd. Please set some time aside to be at our display table. We will also need help for set up and take down.

Hope all your hives are doing well.



Opportunity to understand honey bee swarm biology via participatory research / citizen science

Honey bee swarms are fascinating. Have you ever wondered what percentage of worker bees leave the parental hive during a swarm? You have probably read in bee books or a couple of journal articles that about 50% of the worker bees will swarm along with the old queen to establish a new nest. One study published in 2012 (Rangel and Seeley, *Insectes Sociaux* 59, 453- 462), suggests that 75% of worker bees leave in a swarm. The percentage of worker bees leaving in a swarm could vary depending on the time of the year (April, May, June or July) and a few other factors. We (OSU Honey Bee Lab) are interested in exploring this interesting and not so well understood aspect of swarm biology with the help of citizen

scientists (our passionate beekeepers) by examining as many swarms as possible. If you would like to be a part of this research either this year or next year (2022), then please read the study process below.

Study process / method: If you witness a low hanging swarm that can be easily accessed and captured without any risk / hazard, and you also know for sure the source of that swarm (parental hive), then you can be a part of this study. Once the swarm is settled on a branch or other substrate, that swarm needs to be hived carefully in a single-story hive with eight or ten frames (frames can be empty or with some honey and pollen). Then the worker bee population should be estimated in both the captured swarm (in the single-story hive) and the parental hive (original hive that swarmed). We can help you estimate the worker population by providing step-by-step instructions. Please call us (Ramesh Sagili: **979-739-9347** or 541-737-5460; Carolyn Breece: **541-224-3589**; Heike Williams: **541-740-7877**) if you happen to successfully capture a swarm and know the parental hive from which the swarm was issued.

Appreciate your help in increasing the body of knowledge regarding swarming.

Ramesh Sagili Oregon State University Honey Bee Lab

Feeling Lucky?

The Tillamook Beekeeper Association is raffling a handcrafted horizontal beehive during the Tillamook County Fair. More details are at <https://tillamookbeekeepers.org/>



OSU study will provide insight into optimal nutrition for bees

By Kym Pokorny

CORVALLIS, Ore. – A new grant will allow Oregon State University researchers to study the nutritional value of more than 100 bee-pollinated crops, native plants and commonly used ornamental plants, a project that could help scientists better understand the global decline of bee populations.

Certain plants attract bees more than others, but whether those flowers contain the optimal nutrition needed for the insects has yet to be determined. The grant will allow researchers in the Honey Bee Lab led by Ramesh Sagili, OSU associate professor of apiculture and OSU Extension specialist, and Priyadarshini Chakrabarti, former OSU research assistant and new assistant professor at Mississippi State University, to begin to fill that knowledge gap.

With the \$500,000 grant from the U.S. Department of Agriculture's Agriculture and Food Research Initiative, the team hopes to improve bee nutrition by building a database of macro and micronutrients found in the flowering plants used in the study. Poor nutrition due to agricultural monocropping and loss of habitat is an important factor in bee declines and the researchers anticipate alleviating this problem by providing better forage choices for bees backed by science-based results.

In addition to beekeepers, land managers, conservation groups will benefit from the data base. The public also will be able to use the information to choose the most nutritious plants for both native and managed bees.

With global decline in both native and honey bee populations and given the importance of honey bees for commercial pollination of hundreds of crops, choosing the best supplemental forage can help mitigate poor nutrition in bees. Well-nourished bees can also better withstand things that plague them like Varroa mites, pesticides, parasites and loss of habitat.

“If you look at it from the human side, the healthier you are, the better you can fight off diseases, parasites and other health issues,” Sagili said. “With a better immune system, you’re stronger and more resilient. It’s the same with bees. Nutrition is their first line of defense against stressors.”

Optimal nutrition has been shown to enhance resistance to stressors and increase survival and longevity, according to Chakrabarti. Even though there has been much research done to determine the causes of honey bee decline, few studies have addressed the underlying problems of bee nutrition.

For the past few years there has been a significant movement to improve nutrition and increase habitat for bees and to provide better forage, Chakrabarti said. For farmers, it’s important to understand the nutrition contained in pollens from significant crops like almonds in California, a \$7 billion industry that relies on honey bees for pollination.

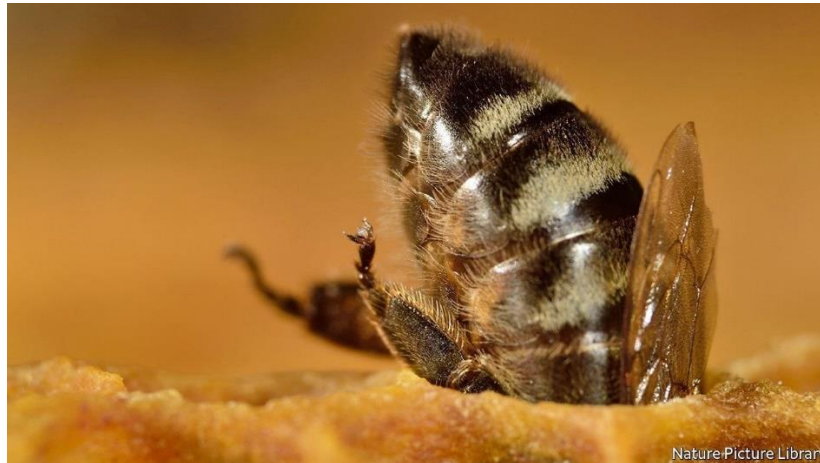
“There are efforts geared toward farmers so that they can plant supplemental forage adjacent to their orchards or fields to provide the additional nutritional resources that bees need,” Sagili said. “Seventy-five percent of honey bee hives managed by beekeepers in the United States go to California’s Central Valley in February to pollinate the almonds and they need forage before the almonds come into bloom. That’s a big, big problem. There might be some wild mustard or dandelion, but it’s really meager and there is no other source of pollen for bees.”

Beekeepers feed the honey bees with sugar syrup and protein supplements when natural forage is unavailable, which is not the optimal diet but can sustain bees for the short term.

The impacts of certain fungicides – called sterol biosynthesis inhibitors or SBI – will also be investigated to determine their effect on the availability of pollen sterol and bee health, Sagili said. Pollen sterols are a type of lipids that are required for development and growth of bees. Findings from examining the impacts of SBI fungicides on sterol availability in pollen will not only show how these widely used fungicides may affect bees, but also

demonstrate for the first time if this group of fungicides could compromise the quality of pollen.

Sagili and Chakrabarti are looking for community scientists to help with the study. Those interested in participating can contact Sagili at 541-737-5460; or ramesh.sagili@oregonstate.edu, and Priya Chakrabarti at priyadarshini.chakrabarti@oregonstate.edu).



Glyphosate (Roundup): Negative Impact on Bumblebees

The decline of insects, and in particular pollinating insects, threatens ecosystems and economies around the world. The dimensions are staggering: Between 1989 and 2016, the biomass of all flying insects in Germany decreased by 76 per cent, according to the Krefeld study (2017). The ever-increasing use of pesticides in agriculture is considered a driver of this phenomenon. The world's most widely used herbicide glyphosate may contribute more to this development than was previously known, according to a new study by researcher Dr Anja Weidenmüller from the Cluster of Excellence "Center for the Advanced Study of Collective Behavior" at the University of Konstanz (published on 3 June 2022).

The biologist is studying the ability of bumblebee colonies to regulate the temperature of their brood. Bumblebee colonies that have sufficient nectar available as 'fuel' keep their broods at a constant temperature of about 32 degrees. "Just as we humans keep our body temperature constant, the animals in a colony collectively show homeostasis in the temperature regulation of their brood," says Weidenmüller. This joint thermoregulation is of outstanding importance for colony development. Only at such high temperatures does the brood develop quickly from egg to bumblebee and the colony from a single

queen to a colony of several hundred individuals. The current study shows a clear impact of glyphosate on the collective thermoregulatory capacity of bumblebee colonies.

Time pressure for bumblebee colonies when resources are scarce

"When resources become scarce, you see very clearly that the collective thermal behavior of colonies that have been chronically exposed to glyphosate is affected," says Weidenmüller. "They cannot keep their brood warm for as long." This effect is the main result of her study, which she conducted together with four researchers from the University of Konstanz, the Max Planck Institute of Animal Behavior in Konstanz and the University of Otago, Dunedin, New Zealand. "Bumblebee colonies are under really high pressure to grow as quickly as possible within a short period of time," says Weidenmüller. If they cannot maintain the necessary brood temperature, their brood will develop more slowly or not at all. This limits the growth of the colony. "Only when they reach a certain colony size during the relatively short growth period are they able to produce the sexually reproductive individuals of a colony, i.e., queens and drones."

Reproduction endangered

In times of resource scarcity, however, bumblebee colonies contaminated by glyphosate are less able to keep their brood warm, if at all. Due to the predominant agricultural landscape in Germany, fewer wild flowers are available to insects, resulting in increased resource scarcity. "The combination of resource scarcity in cleared agricultural landscapes and pesticides can therefore pose a massive problem for colony reproduction," says Weidenmüller.

Rethinking the approval procedure for pesticides

"It's worth taking a closer look," Weidenmüller emphasizes. So far, approval procedures only test how many animals have died after being fed or coming into contact with a substance after 24 or 48 hours. "Sublethal effects, i.e., effects on organisms that are not lethal but can be seen, for example, in the animals' physiology or behavior, can have a significant negative impact and should be taken into account when pesticides are approved in future," she says. In her study, the bumblebees exposed to glyphosate also lived an average of 32 days, thus reaching an average bumblebee age.

Glyphosate is currently approved for use in the EU until 15 December 2022, according to information from the European Food Safety Authority (EFSA). The Glyphosate Renewal Group (GRG) applied for renewal in 2019.

In principle, Weidenmüller's research approach can be applied to all pesticides. For many of the commonly used pesticides, such as other herbicides and fungicides, we still know next to nothing about their effects on wild bees and other pollinators, she says. In our discussion of future agricultural approaches, test procedures used for assessing the risks involved with our heavy use of chemicals should be reconsidered.

[Materials](#) provided by [University of Konstanz](#).



Club Info

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