

# The Local Buzz

August 2020



## President's Message, Amy Hustead

### A Hive's response to Disease

When you live in crowded conditions with 40,000 of your sisters, it would be challenging at best to keep disease from spreading like wildfire. Bees have developed several methods to keep diseases at bay. These can be divided into two groups: Social behaviors and individual immunity.

Individual immunity is composed of responses that occur within the individual. These responses are similar to human responses to disease and occur at the cellular level.

Social immunity occurs at the colony level. Some methods are prophylactic, like imprisoning hive beetles in propolis, while others occur in response to a potential invader. For example, bees infected with certain viruses are not allowed back into the nest, eliciting aggressive behaviors by guard bees at the entrance to the hive.

The construction of propolis is a major hive-level behavior that prevents disease. Propolis forms a protective antibiotic layer around the nest, keeping unwanted bacteria at bay.

Hygienic behavior is another social response to disease. Nurse bees remove diseased brood from the nest before it can develop. This behavior has the added bonus of interrupting the life cycle of the varroa mite if it happens to be the cause of the disease.

Bees can also work together to increase the temperature of their nest cavity, making it intolerable for nosema, chalk brood and mites.

Infected bees will even sacrifice themselves, leaving the nest to die away from the other bees to avoid spreading infections.

Bees are eusocial insects, meaning that they cannot survive without each other. The health of the colony is so important that bees are willing to give up their own lives to protect it.

**August 3rd Meeting – NO MEETING — NO FAIR**

## Bee Bits

Submitted by Randy Oliver

As we struggle to build our colonies started with nucs up this season to wintering condition, I'm finding that I'm not the only commercial beekeeper who is having trouble. We sold our first 1000 nucs to other beekeepers, so ours got a late start. By chance, the timing of those wonderful spring rains then fell each time that a good bloom came on, so the building colonies kept starting up, then getting slammed back to the start. Those of you with strong overwintered colonies likely fared better.

Robbing has been more of an issue this season than normal. Nectar flows have varied greatly from yard to yard, in response to soil moisture. You may wish to pull honey early, and feed back syrup for winter stores.

We've performed well over a thousand mite washes so far this season, and strongly recommend that you check to see what your mite levels are. You can still save a hive with high mites if you act soon.

We're very happy with using Dawn Ultra for mite washes. If you allow the bees to set in the liquid for a minute or two prior to agitation, little agitation is then needed to drop all the mites.

Despite the tough season, we've got two large-scale field trials underway, and are starting a third. We've got ~250 hives in a test of summertime mite treatments, 80 hives in a trial of the two probiotic formulations on the market, and 126 colonies now set up for a test of the six major pollen subs. For those interested in helping, I can often use a hand.

I'm just now collecting midpoint data on the mite treatments, and am impressed with the performance of oxalic acid in glycerin, applied on Swedish sponge cloths. We'll soon have a better idea as to the optimal dose, but it initially seems that a low dose works well.

It occurs to me that covid in the human population is analogous to Deformed Wing Virus in the hive. We can thwart the transmission of the virus in our community by wearing masks, washing our hands, and avoiding indoor grouping. We can thwart transmission of DWV by keeping the varroa level in the hive to below 2%.

As a biologist, it's frustrating to see the dismal performance of our federal leadership (or lack thereof) in response to the coronavirus. We could have done much better. The first wave of the pandemic is only now beginning in Nevada County – we're about to see a lot of people get sick. Young folk generally recover quickly, but a quarter of our population is over 65 -- a group with an expected death rate between 5 and 10% if they get infected. I'd hate to see our hospital reach the point where it needs to start turning away sick patients.

I'm very glad to see the number of people caring for our community by wearing masks and practicing physical distancing. The virus does not care about one's political views – please think of others and do what you can to minimize the transmission of the virus.



## In The Yard

Submitted by Brion Dunbar

This was a good year for foxglove, *digitalis purpurea*, in our yard. Most years are. It is a non-native and spreads prolifically; each plant can produce over a million seeds. The scientific name means "finger-like" and refers to the ease with which a flower can be fitted over a human fingertip. This plant is a biennial – in its first year it puts out a rosette of leaves close to the ground. The following year a flower spike arises which may reach 5 feet in height. Buds on the spike open into thimble-shaped bells with freckled interiors. The freckles are 'honey guides' which act as signs for bees landing on the lower lip, pointing the way to the nectar at the back of the thimble. Honeybees do not usually forage much on them, but many native bees do.

The plant is somewhat toxic so beware planting if young children or livestock are around. The plant is the source of a family of medicines for treating heart conditions, including a arrythmia and atrial fibrillation.

When the Foxglove nods its head it was believed in days of old, in Wales and Southern England, that this was to acknowledge that a fairy was passing by.



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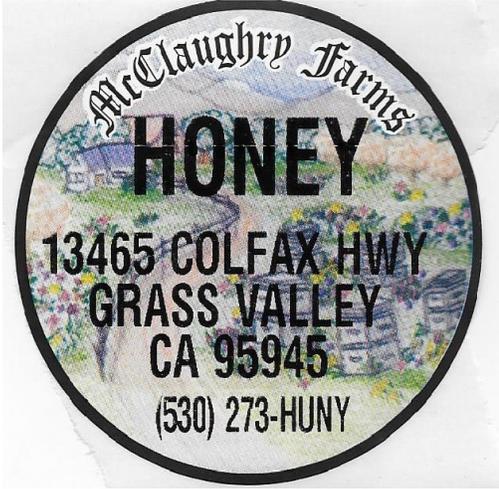
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The Nevada County Beekeepers Association is dedicated to apiculture education and promotion of the art and science of beekeeping among beekeepers, agriculturists, and the general public. This is a “not for profit” organization. Donations are welcomed.

Meetings are held the first Monday of each month at 7 PM at the Grass Valley Veteran’s Memorial Building at 255 South Auburn Street in Grass Valley. All visitors are welcome. Use the back entrance.

The newsletter is published monthly as a service to the membership. Articles, recipes, commentary, and news items are welcomed and encouraged. Contributions should be received by the 20th of the Month to be included into the next issue. Submit to [garyg@newpress.com](mailto:garyg@newpress.com)

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**Nevada County Beekeepers Association**  
[www.nevadacountybeekeepers.org](http://www.nevadacountybeekeepers.org)



c/o Janet Brisson  
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First Class Mail

August 3rd Meeting -  
**NO MEETING — NO FAIR**

## Nevada County Beekeepers Association

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