



The Buzzzzz

The Monthly Newsletter of the Gilroy Beekeepers Association

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Getting to Know Each Other!

by Vicki Basham

We're featuring my Prune-tuscany neighbor, Matthias Kim, for this month's "Getting to Know Each Other" column. Matthias keeps his ten hives in his backyard, where the bees can enjoy the multitude of fruit trees and flowering plants that he grows.



Matthias has been keeping bees for ten years. That's when he moved to Prunedale from San Jose, and noticed that his new trees weren't producing much fruit. He thought he would try to keep bees to see if that would help. He started with two packages his first year and another package his second year.

Since then, he has never had to purchase bees. He's been able to increase his apiary steadily by splitting his hives every year in the late spring. Ideally, Matthias would like to have around 20 hives.

Matthias makes a little money with his hives. For the last two years, an almond grower in Sonoma County has used Matthias' hives for pollination and will most likely use them next spring as well. He would like to sell the honey that he gets, but he never has enough after giving it to his friends and relatives, especially those in Korea. He says that folks in Korea don't like to buy honey sold in their country; they're concerned that it isn't actually real honey. And they absolutely love the honey from Matthias' hives!

When asked if he has problems with Varroa mites, Matthias says he simply keeps an eye on the number of mites and treats when he feels the number is too high. He likes using the stems of the yarrow plant as a mite deterrent, but lately, he hasn't been able to find any, so he recently treated with ApiGuard.

Matthias was lucky enough to work with a mentor that he had met through a contact at the Monterey bee guild. His mentor also introduced him to the Gilroy bee guild, and he's been a member since 2004. He advises new beekeepers to join a club and to "jump right in -

don't hesitate!" He also strongly suggests reading books and taking a look at the internet sites available on beekeeping.

When asked about his most memorable moment, his wife, Theresa, chimed in to say that she remembers his bee stings! "He always comes in with the puffy face!" she said. Matthias added that although he does seem to get stung often, he deeply enjoys sitting near a hive for as long as a couple of hours, watching how the bees behave. He recalled seeing a cluster of bees completely surround an invading yellow jacket and "cook" it till it died. "You can learn so many things just by observing bees. I've heard that the bees can generate heat at just over 143 degrees, the temperature needed to kill a yellow jacket." Matthias hopes to continue learning from his colonies for many years to come.

Guest Column Hygienic Behavior

For generations, individuals involved in agricultural pursuits have selectively bred for key traits they want in their livestock. Beef producers have bred for more muscling, dairymen for more milk production and the poultry producers for higher egg production. The beekeeper is no different. Queen producers now look for and select traits such as honey yield, temperament and overwintering ability as key qualities in their queens. Perhaps the most important of these desired traits is hygienic behavior. Hygienic behavior in honey bees can be defined as the tendency of the bee to identify and remove diseased and dead larvae and pupae from the brood comb and hive. A hygienic bee will do this more efficiently than the norm.

In the beekeeping world, the recognition of hygienic behavior is a relatively new concern. The 1993 edition of *The Hive and the Honey Bee* does not include an entry for hygienic behavior. In all fairness, however, breeders have for much

longer been selecting specific traits. For example, Brother Adam, at Buckfast Abbey in England, developed a bee which is genetically resistant to tracheal mites, and scientists at the University of Minnesota have done extensive work trying to develop a bee with resistances to varroa. Arguably, hygienic behavior has become the most studied genetically determined trait of honey bees, especially in the control of Varroa. However, hygienic behavior goes much farther than mite control.

Undoubtedly, Varroa are the greatest bane to bees. However, the actual mechanism by which the bees succumb is often related to infection by other diseases such as Nosema, chalk brood and sac brood. For years, American Foul Brood (AFB) has been a credible fear of beekeepers and European Foul Brood has also caused concern. All of the above, as well as tracheal mites, can be controlled by selecting hygienic behavior as a dominant trait in our bees. Yes, we can treat all these maladies with chemicals, but isn't a more natural approach better for the bees?

So, how does it work? What do we want the bee to do? There are three components to hygienic behavior that need to be considered. First, does the bee find dead or damaged brood quickly? Secondly, will the bee uncap dead or damaged brood? Finally, will the bee remove the dead or damaged brood from the cell and hive? Obviously, a bee that demonstrates all three components has the genetic behavior we want to promote in our hives. You must keep in mind that the above traits can be affected by the time of year, size of the hive, and number of bees of various ages. Some associated behaviors to consider are how well the bees "polish" the cells prior to the queen laying, how well they clean bottom boards and frames, and are they grooming one other.

As we begin to talk about how to determine the hygienic behavior of our bee, all of the above need to be taken into consideration.

There are several ways to determine if our bees have good hygienic behavior. First, if we are buying bees, always buy from a supplier that is willing to provide confirmation that

hygiene is one of the criteria for which he or she has selected. This is not an unreasonable request. If the supplier is unwilling, look elsewhere.

There has been much work done on finding strains of bees that display a resistance to one problem or another. The Russian bee has shown the ability to control Varroa, the Buckfast bee has genetic resistance to tracheal mite, and the Minnesota hygienic stock have shown the ability to remove mite and disease infected brood. This does not mean that these are the only strains of bees we want. The bottom line is that we want bees, regardless of their origin, that display good hygienic behavior.

The simplest way to determine the hygienic behavior of our bees is to do nothing at all. Most likely, any hive affected with the diseases and parasites mentioned above will succumb. Therefore any hive surviving, especially through the winter, is demonstrating an acceptable degree of hygienic behavior. In fact, any hive that survives at least eighteen months would be considered an excellent candidate for splits or perhaps even breeder queens.

There are three tests we can do to determine the hygienic behavior of our existing hives. If we want to use these hives to increase our number of colonies, it is important that we select for the best genetics. Performing any one of these tests allows us to do that.

The first test involves cutting a small section of comb, with brood, and freezing it overnight. The comb is then replaced in the frame and evaluated after twenty-four to forty-eight hours. At that time, the bees should have cleaned out any dead brood and prepared the cells for the queen to lay new eggs. Obviously there are some major drawbacks to this method. It won't work with plastic foundation and is very stressful to all the bees, not just the ones getting frozen.

The second test is a similar test, but is less detrimental to the bees. It involves using liquid nitrogen. A small can, similar to a soup can with both ends removed, is placed over a small section of brood comb. The liquid nitrogen is sprayed into the can, freezing the brood.

Observations are again made at the end of a twenty-four to forty-eight hour period. Major disadvantages of this method are the cost of the liquid nitrogen and the danger of freezing human body parts if not using due caution.

The last method involves the most "grass roots" approach. About one hundred brood cells are selected in the center of the brood pattern. A sharp object such as a pen is used to puncture each cell, killing the pupae. As above, the cells are again evaluated. They should be cleaned and ready for the queen to lay. The only disadvantage to this method would be our lack of desire to harm our bees.

The importance of good hygienic behavior in our hives cannot be overstated. It benefits us from both a moral and monetary position. First, we don't want to be responsible for spreading disease and parasites. If we have disease or parasites in our hives, they can be easily spread by the natural activities of bees. Bees drifting from one hive to another can readily spread mites and foul brood. If we choose to split a non-hygienic hive, we are just perpetuating the problem. Monetarily, if we chemically treat a colony, we are encumbered with the price of the chemicals. If we don't treat, we stand the real possibility of losing the colony. With American Foul Brood we not only lose the colony but must destroy all the equipment. Demanding and insuring that we maintain good hygienic behavior is a simple solution to the problems.

November in the Beeyard

The daily temperatures are finally beginning to cool and the bees are preparing for winter. The drones are being kicked out and brood rearing is approaching its yearly minimum. In cooler areas, the bees have begun to form their winter clusters around brood and the queen. The beekeeper must be very careful not to break this cluster. Other than feeding pollen substitutes and sugar syrup as needed, it is best not to enter the hive.

If you still have time before the bees cluster, consider reducing the size of Langstroth boxes

with follower boards. Any empty frames should be removed and the bees centered in the middle of the box. Reducing entrances will help the bees maintain temperature and reduce the late season predation by yellow jackets.

Moisture condensation may also be a concern. Water dripping on the cluster is detrimental. Leaving a slight gap in the top cover might be beneficial. A winter project might be to work on a more permanent solution!

If you are so inclined, it's not too late to combine weak hives. You do not want to combine a weak hive with a strong hive as this might spread disease.

Drippings From The Extractor

(Notes from the Editor)

Hopefully you've noticed that this month's "Message From The President" is missing. There's a very good reason. President Bubba underwent knee replacement surgery on October 30th. We wish him a most speedy recovery. In his absence, please direct any Gilroy Beekeepers Association queries to me at dave.stocks@yahoo.com.

This month's guest column talks about testing for hygienic behavior. This is perhaps a new idea for many of us. Please remember, do not be afraid to ask for help. The Gilroy Beekeepers Association is a very diverse organization.

There is someone who can help you.

On October 12th, I attended a class on treatment free beekeeping taught by Serge Labesque. There were four GBA members present, and the class was well attended. Serge presented some great ideas on hive management that can be used by both treatment free and conventional beekeepers.

I also attended the Western Apicultural Society's annual conference in Santa Fe, New Mexico. There was a wide spectrum of speakers covering different subject areas. From my perspective, these were some of the highlights. Dr. Eric Mussen spoke about pesticides, including mite treatments, and their

effect on bees. In regards to pesticides, many that claim to be safe for bees, in fact have never been tested on different stages of brood. Just because it says safe for bees, don't be fooled. The same applies to miticides. Please forgive me because I don't do well with scientific names, but this is the basis of Eric's comments. In addition, a given miticide may be safe to all stages of bees but when used in combination with other miticides, toxic levels can build up in the comb. These toxin levels are detrimental to bees. Dr. Mussen also shared that a parasitic mite used for control of harmful plant predators in greenhouses has also shown success in controlling varroa.

Dr. Gordon Wardel spoke on Blue Orchard Bees. Dr. Wardel is the apiculturist for Paramount Farms, the largest almond producer in the world. He described his work with native bees as a substitute to honey bees for almond pollination. Additionally, he discussed the benefits of planting diverse forage plants within and about the orchard. Paramount Farms is experimenting with the implementation of this idea. His research has been very encouraging. As honey bee colonies decline, the Blue Orchard bee might be able to fill the gaps. So far his research indicates that both can live in harmony.

Finally, Dr Bradford Weeks talked about apitherapy. Almost all products produced by bees, including venom and propolis, can have a positive benefit on the treatment of disease. Visit the American Apitherapy Society website for more information.

I had hoped to do this for the October newsletter, but as you can see, I've had trouble staying home. In the next couple of weeks, I will be sending out, via e-mail, a survey about your bee year. Please respond. It will be interesting to see what kind of year you had. Thanks in advance.

December 10th is our annual Christmas dinner. Remember, any one paying their 2014 dues gets to eat for free. More information will follow.

Calendar of Events

November 2, 2013

Monterey Bay Beekeepers - 8 am
2450 N. Fremont St.
Monterey, Ca

<http://www.montereybaybeekeepers.org/>

November 4, 2013

Santa Clara Valley Beekeepers Guild - 6:15 pm
1292 Minnesota Ave.
San Jose, Ca

<http://beeguild.org/>

Topics:

Dr. Eric Mussen

November 6, 2013

Santa Cruz Beekeepers Guild - 6:30 pm
El Rio Mobile Home Park
N. Pacific Ave
Santa Cruz, Ca

<http://santacruzbees.com>

Film: *More Than Honey*

November 7, 2013

Beekeepers Guild of San Mateo County- 7 pm
1106 Alameda de Pulgas
Belmont, Ca

<http://www.sanmateobeeguild.org/>

Topic:

Workshop: Wax, Candles, Soap and more

November 12, 2013

Gilroy Beekeepers Association - 7 pm
8191 Swanston Ln.
Gilroy, Ca

<http://www.uvasgold.com/gba/>

Topics:

Mead Making w/ Larry Lynch-Freshner

November 12, 2013

Alameda County Beekeepers Association - 7:30
600 Bellevue Ave.
Oakland, Ca

<http://site.alamedabees.org>

Meetings

California State Beekeepers Association

2013 CSBA Annual Convention

Harrah's, South Lake Tahoe, CA

November 18-22, 2013