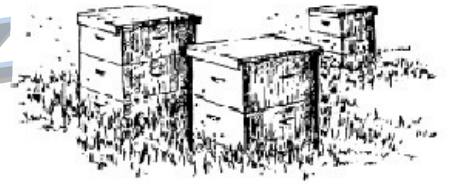




Fort Bend Buzz

newsletter of the
Fort Bend Beekeepers Association

fostering safe, responsible, successful beekeeping



November, 2017

The Fort Bend Beekeepers don't meet in December, so our November 14 meeting is the last one for 2017. It will be held at 7:00 pm in Fort Bend County's "Bud" O'Shieles Community Center, 1330 Band Rd., Rosenberg, Texas. For our meeting program, Gene deBons will be discussing properties and the processing of beeswax. Our November meeting is probably our most important meeting of the year since our plan is to elect officers for the coming year. Visitors (and new members) are always welcome (membership dues are \$5.00 for the calendar year). The Association provides coffee and lemonade for meeting refreshments. (If you arrive early, please volunteer to start the coffee.) Members can also bring snacks to share. The meeting will be called to order at 7:30 after 30 minutes of social time.

Ask a dozen beekeepers...

Here is this month's Q (from one of our members) and an A:

Q: I'm worried about one of my hives. The others seem to be doing fine as winter approaches, but this one seems to be queenless. There is no brood and I can't find a queen. Otherwise they seem to be ok. I've called around looking for a new queen but I guess that it is too late in the year. What should I do?

An A: With winter just around the corner, honey bees are busy with their final preparations and it is good that you are observing their progress. Adequate honey resources are especially important during cold weather since bees stay warm by forming tight clusters inside the hive and flexing their flight muscles to generate heat. This burns a lot of "fuel". They will also be needing protein rich pollen stores to start brood rearing in early spring; they need to have a work force ready for the coming blooms. The beekeeper's varroa management is important too, lowering the parasitic burden and increasing winter survivability.

Since their role has been fulfilled for the year, the colony ejects drones to conserve stores (their replacements will be raised in early spring). The queen also slows her egg laying and worker numbers drop as cold weather approaches. There needs to be enough bees to maintain their winter cluster but each one is a mouth to be fed.

It is indeed too late in the year to be shopping for a queen. Soon, if not already, drones will have been ejected and a new virgin queen would have a very difficult time finding mating partners.

Your hive is not necessarily queenless since it is not all that unusual for brood rearing to stop completely as winter approaches. It would seem that colony survival would be better served if there were always just a few eggs around so the bees could raise a new queen in an emergency, but the lack of drones makes that strategy unlikely to succeed.

It is better to leave the hive closed with cold weather approaching, but if we have a nice warm fall day, you can give finding the queen another go. If you don't see her, you can give them a frame of brood from another hive. With eggs or tiny larvae available they can try to raise a new queen. A queenless colony will have capped queen cells after 10 days. You can check if the weather cooperates again. After that, keep your fingers crossed.

If the colony does ok through the winter, you can check for brood in early spring (again with cooperating weather). Introducing a brood frame at that time gives them a chance to raise a queen before a new one is available for purchase.

If you are convinced that the hive is queenless and it appears that they will not likely to survive winter, you can combine the bees with an-

other colony. A "newspaper combine" is easy to do.

One final word of caution: hive inspections this time of the year should be avoided except on warm still nice days when activity is good at the entrance.

Election Time

We plan to elect officers for 2018 at our November meeting. Volunteering to help and taking a leadership role are important to our organization. Please contact Gene deBons for details if you can serve (home 281 341-7135, office 979 793-2900 or help@fortbendbeekeepers.org).

October Meeting Notes

Be sure that you register at the back table at our meetings since the sign in sheets are an important club record that supports our use of County facilities. We had 53 members and guests that signed in at our October meeting.

After 30 minutes of social time, President Nancy Hentschel called the meeting to order. Vice President Tracey Grimme gave an invocation and led us in the Pledge of Allegiance.

First up was Harrison Rogers, a club member and District 5 Director of the Texas Beekeepers Association. He reminded everyone of the upcoming TBA annual convention, November 9 - 11 in Temple, Texas. The event promises a full agenda of

presentations and educational sessions. Keynote speakers include Dr. Dewey M. Caron, Jerry Hayes, and Jennifer Berry.

Gene deBons has again volunteered to seek nominations for our officer elections planned for the November meeting. It is our last meeting of the year and incoming officers will be ready for a fresh start in January. At this point the list of nominees is still incomplete.

Gene also gave the October program, all because of Alan L'Roy. Gene has been helping Alan with his bees and he showed up in August with a jar of honey that had crystallized almost overnight. "What did I do wrong?", he asked. The immediate response was "did you put it in the refrigerator?" since that would cause the problem. Alan was vindicated since his honey had been stored properly. Gene wasn't satisfied telling Alan that all honey will eventually "sugar" so he thoroughly researched the topic for our October meeting program.

In Europe, most honey is consumed as "creamed honey" produced by managing natural crystallization of the sugars in honey. Rather than large crystals and the consistency of sweet beach sand, this honey has the texture and spreadable consistency of peanut butter. Yum! Creamed honey is just crystallized honey, it doesn't contain cream. Some of our members produce creamed honey and report a good demand. Unfortunately, many honey customers see granulated honey as having "gone bad" despite the fact that honey never spoils so long as it does not ferment because its moisture content is too high.

There are three major sugars in nectar and honey: sucrose (e.g. table sugar), glucose (e.g. corn sugar from corn starch) and fructose (e.g. fruit sugar). It gets confusing because they all go by several different names. We'll try to stick with these three.

American honey averages 17.70% water, 40.50% fructose, 34.02% glucose and 1.90% sucrose. Other

ingredients are the various minor components found in the nectar source.

You may have noticed that the sucrose (table sugar) in honey is low compared to the other two sugars. This is due to the "miracle of honey": in processing nectar (and sugar syrup), honey bees introduce an enzyme (invertase) that breaks the sucrose down into two simpler sugars: fructose and glucose. Bees employ sugar chemistry to create "invert sugar" (fructose + glucose) from sucrose!

Alan's honey granulated very quickly, a trait well known for alfalfa honey (but there isn't any alfalfa grown in our area). Tupelo honey, on the other hand, remains a liquid for two years or more (tupelo trees are common in the southeast but pretty scarce here).

Gene presented several graphs to illustrate the solubility of the three honey sugars in water compared to their concentration in honey. The concentration of fructose and sucrose in honey is well below their solubility limits in water. On the other hand, glucose (= dextrose) in honey is at a concentration higher than its solubility limit in water; it is "supersaturated" in honey.

Honey's crystallization rate has been examined in comparison to the ratio of glucose to water content. When this ratio is less than 1.70, honey "sugars" slowly if at all (the ratio for tupelo honey is about 1.40). Honey will crystallize faster if the glucose/water is greater than 2.10. In our area, cotton (2.04) and mesquite (2.15) are known to yield honey that granulates quickly.

If the water content in honey exceeds 18.6%, natural yeasts are able to cause it to ferment. This can be the result of granulation since the water content of the remaining liquid increases as sugar crystals leave solution. Other causes of "spoilage" in honey include overheating or improper storage causing it to darken and lose flavor.

Besides sugar concentrations and ratios, other factors that impact hon-

ey crystallization are temperature shocks, agitation, reuse of comb, tiny seed crystals or air bubbles or dust contamination from the air, etc.

Both the beekeeper and honey bees are concerned with the long term storage of honey as a liquid unspoiled food source. Honey bees have evolved over millions of years alongside flowering plants. Prehistoric bee's attempted to store plant nectar (produced to attract pollinators), but the sucrose limited how much water could be evaporated while remaining a liquid. Their food resource would ferment if not consumed quickly. As bees evolved they began to use the enzyme invertase to reduce the sucrose concentration, thus permitting water concentrations low enough to prevent fermentation.

Gene has earned our special thanks for all his research and carefully crafted program!! Thanks to our door prize donors as well and congratulations to the October winners.

Treasurer's Report

Our October treasury balance was \$3,201.98. Since then we spent \$8.99 to replenish our coffee supply and collected \$5.00 in dues (one renewing member). The resulting balance is \$3,197.99 consisting of \$3,142.99 in our Wells Fargo checking account plus \$55.00 in cash to make change.

TEXAS A&M AGRI LIFE EXTENSION



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