

# STAHLMAN BEEKEEPING

## NOTES FOR 2023

Issue # 25 August 12, 2023 Heat & Honey granulation



I am finding it hard to work up the effort to get out to inspect my bees in this hot weather. As I get older, it seems like I can not take much time in the sun without shade.

With reported deaths in Texas and other areas, my wife reminds me that I need to be aware of the signs of a heat stroke.

The hallmark symptom of heat stroke is core body temperatures above 104°F. But feeling light headed and almost fainting is a sign that things are not going well for you.

It is a sign your body is giving to you that the body has reached its limits. The brain may say, I only have a few more hives to check – keep working. Or take a drink of water and a brief break!

I remember working with a younger beekeeper installing over 60 packages of bees in Georgia a number of years back. I was hurting, hot, sweaty, and just putting one foot in front of the other just trying to keep up with my helper.

I reached a point when I indicated that I couldn't continue on! My helper said, "Thank God! I kept working because I thought I had to keep up with you!" I can also add - that helper probably saved my life. I reached the vomiting stage, exhausted, and dizzy. He took me to a near by stream and put me into moving water. I was done for the day! In fact, several days.

I realize that hot weather is hazardous to one's health. Signs to look for:

- Throbbing Headache
- Dizziness and light-headedness
- Lack of sweating despite the heat
- Red, hot, and dry skin
- Muscle weakness or cramps
- Nausea and vomiting
- Rapid heartbeat
- Rapid, shallow breathing

### IMPORTANT POINTS

Heating honey to filter debris such as bee legs and wax particles from honey is often going to result in some degrading of honey.

Some beekeepers are very careful to extract honey only when frames of honey are kept in a warm room.

Warm honey flows readily thru filters while cold honey does not.

Prime conditions for honey to granulate are temperature ranges of 50-60°.

Thus, honey is an exceedingly variable and complex material. (Quote from "The Hive and the Honey Bee" a Dadant publication.)

**Honey in its natural state is considered raw honey. To get the maximum health benefits from honey, it should not be heated or finely filtered!**

**Overheating honey destroys its texture and color.**

**Honey contains pollen grains and other organic materials that are beneficial to the body.**

- Confusion, disorientation or staggering
- Seizures and unconsciousness

Symptoms listed of heat exhaustion and death can come very rapidly according to the news report warning people about heat hazards.

Just work smart!

You can help your bees in hot weather conditions by:



- Making sure water is available to your bees. This is one time the boardman feeder can be used effectively to provide water at the hive entrance. It can also be set on a cement block next to hives to provide water. The advantage of the boardman feeder is:
  - One can see how much water the bees are using on hot days
  - The bees have access to water very near the hive.
  - One can add small amounts of sugar, Honeybee Healthy, or salt to the water to encourage bees to use it.
  - And one other point – If the beekeeper has neighbors complaining about bees visiting their water sources, the bees can be encouraged to use water closer to home.



Water can also be placed in standard feeders used to feed sugar syrup. This includes top feeders as well as division board feeders. I have even been told sprinkling water on and around colonies is helpful in hot weather. A standard water sprinkler can make a big difference on hot days.

- My yard has shade trees. They benefit me as well as my hives.
- I also leave hive entrances open unless robbing becomes a problem. Most bee books will advise that one make sure the entrance to the hive is wide enough to provide proper ventilation.
- Use a slatted rack during the hot season. C.C. Miller was an advocate for deep bottom boards and the slatted rack. It is not much seen in today's bee yards but it is another effective way to help bees that tend to beard outside a hive on hot days.
- Another solution is to use 9 frames in a 10 frame hive. This opens up the passage way for



air circulation between frames during hot weather. Or if using 8 frames hives – use 7 frames.

- The screened bottom board and screened summer inner cover can be used effectively in hot weather.
- Upper entrance can also be used. This reduces bee traffic at the bottom board entrance.
- Fresh air flow can be introduced into a hive by creating an opening –between two adjacent chambers – not big enough for bees to pass thru into the hive.
- And shade cloth can be purchased at Harbor Freight to create shade for hives exposed to full sun. Shade cloth is used in greenhouses to reduce heat build-up.



**Other Issues beekeepers might have at this time of year:**

**What about honey that has started to granulate?**

Several beekeepers in the Raleigh area have mentioned that their early honey crop has granulated already.

Most honey will granulate over time – a few do not granulate for a long time. One such crop is tupelo.

Sourwood also is slow to granulate. But Canola which is being grown in the Wake County and Franklin County area does granulate quickly. It is a very early spring plant and bees will get a good amount of honey from it. I started noticing it on Rt. 98 east of Wake Forest as I visited my beeyard in Franklin County.

As most of us know, granulation is natural to many honey varieties and nothing is wrong with honey that granulates! Some in the general public including some friends, think that granulated honey is honey that has gone “bad.” They may throw it away.

As far as working with granulated honey, two questions come up!

- How do I get it out of a bucket so I can put it into jars to sell?
- Jars showing signs of crystallized honey to a certain degree are not attractive to buyers of honey. Beekeepers need to find ways to liquefy the honey for customers.

How does one re-liquefy granulated honey?

Honey that crystallizes generally is made up of large crystals. Creamed honey another honey product is similar but carefully made by using what is called the Dyce method. This method involves some techniques of heating and cooling honey that is mixed with a starter of very fine crystals of granulated honey. The major factor in using creamed honey is the ability to spread it on toast and sandwiches.

However honey granulated in a jar is usually rejected by customers.



This is semi-crystallized honey in a jar. Usually the crystallization takes place toward the bottom of jars while some honey may be liquid near the top.



And here are two jars of honey in pint jars.

The jar on the left is crystallized (the honey has granulated). The jar on the right is liquid honey. Both honey samples were extracted in the same year from different bee yards.

I would suggest that hobby beekeepers bottle their extracted honey as soon as possible. Usually beekeepers with only a hive or two, have no easy ways to liquefy honey other than placing the jars into a pan of hot water or microwave the jars. Next week I will share ways to liquefy honey including putting honey jars into a pan of water or microwave. I usually have five gallon buckets of honey to liquefy. Harm can be done to honey heated too much. A good thermometer is required beekeeping equipment!