

# STAHLMAN BEEKEEPING

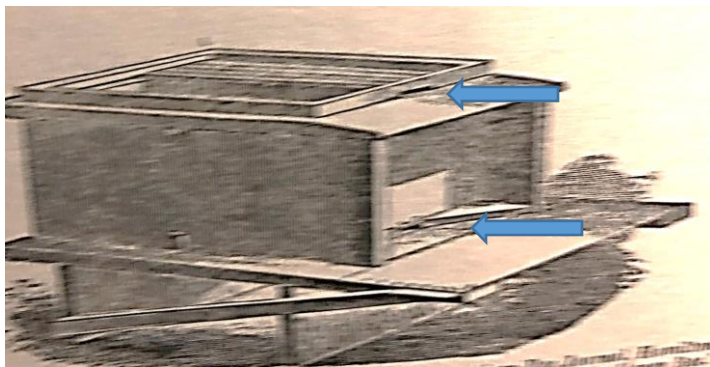
## NOTES FOR 2023

Issue # 25 July 14, 2023 Ventilation

I have revised this weeks article almost completely due to weather conditions found in the U.S. and Europe. It is hot – hotter than normal. We were seeing temperatures in Europe in the 90's. We thought and packed for cooler temperatures.

Hive design caught my attention because those that I saw were mainly square hives using deep frames. It is interesting to me the variety of methods used to give the bees comfort from heat.

The Langstroth hive “as we call it” has changed considerably from the hive developed by Langstroth’s patent in 1852. His fame rests on the fact that he recognized what is called the “bee space” not the development of frames. Beekeepers use the principle of “bee space” but hive designs using frames come in all sizes.



This hive had a porch with a wind screen. It had both upper and lower entrances. We are well aware that honeybees will close off large entrances and seal cracks to make a hive tight. Here in the U.S. we have reduced the Langstroth hive to a box of simple design. Most do not support drilling a hole to allow for bees to have an upper entrance in our hive boxes. Upper entrances in cold snow areas are beneficial if the bottom

### IMPORTANT POINTS

How honeybees pass the summer season:

During this season beekeepers are balancing hot weather conditions, feeding, mite control, pest control (wax moth/small hive beetles), and checking local floral sources for bees to gather necessary food for survival or for late summer honey flows.

Some locations are great for summer honey flows. This is not the time to sit back and relax.

Bees should be strong – hive populations reaching 40,000 – 60,000 individual worker bees covering the surface of all frames in a hive.

Remember it takes bees to gather a honey crop but if a hive has no honey flow, honey stored to feed the existing population in the hive must be supplied by beekeepers. Robbing and starvation are real summer problems.

Look for signs that could lead to hive failure well before fall arrives.

entrance is blocked by snow. One will notice that bees do not propolize the round hole in the inner cover lid while they seal all other holes – even sometimes the entrance to the hive leaving a small entry into the hive. Some beekeepers allow for an upper entrance during the summer – allowing foraging bees to deposit nectar in cells without it being carried up by bees thru the bottom entrance.

We do observe something like this during hot summers. When the inside of a hive becomes too crowded, bees will cluster outside the hive. If the hive is elevated, they form beards. Air is circulated within the hive by the bees depositing drops of water – evaporation cools and the air is circulated by the



bees fanning wings. Thus, there is a flow of air in and out of the hive. The space between frames must be cleared for air to circulate.

I received the following picture from a beekeeper I mentor.



I was asked if it is normal for bees to hang outside the hive. The answer is yes.

I would like to point out that during summer, hives that are weak need only one opening to prevent robbing. Strong hives can defend larger openings.

So what can we do as beekeepers to help bees during hot weather like we are now experiencing?

**Some methods that may be helpful:**

- **Provide sufficient space within the hive -- add a super to provide more room for the bees.**
- **Provide shade for the bees.**
- **Provide some form of upper ventilation – a small nail between the inner cover and top hive box. Just enough room to allow hot air to circulate out of the hive but not large enough to allow bees to enter – such as robbing bees.**
- **The top cover can be set back (telescoping cover) allowing air from the inner cover hole to escape. Summer inner covers designed with screens also serve the purpose.**
- **Keep undergrowth blocking the hive entrance cleared away.**
- **Slatted racks set on bottom boards may help air circulation – allowing bees to cluster below the frames.**
- **Staggering supers.**
- **Build --as seen in some Southwest beekeeping operations—permanent shade structures.**

**If moving hives during the summer hot weather, hive entrances should never be closed off! Moving screens placed at the entrance or screens placed over the hive – replacing solid inner covers should be used.**

**Bees begin to die quickly if exposed to heat above 108°F. Wax in comb will sag or begin to melt if air space is not provided above frames. Hives placed in direct sun are most at risk in hot weather conditions.**

**Just keep these facts in mind:**

- **Bees lower temperatures by leaving the cluster. During the winter season just the opposite happens, they tighten the cluster to keep warm.**
- **Their activity such as moving, rushing about the hive, being alarmed, all cause heat to be generated by the bees in the hive. Thus, working bees during very hot weather may cause the bees to generate unnecessary heat.**
- **Hives will be more defensive.**