

# Stahlman beekeeping notes

## for 2021

### Issue # 49 Honey bees are adaptive creatures

I marvel at the small brain that is plugged into so many remarkable features and abilities of a honey bee.

The honey bee is mismanaged in so many respects and still it seems to be able to adjust to many of the things we have done to keep them. We have removed wild bees from bee nests in comfortable environments such as houses and trees. We catch swarms that had scout bees looking for an ideal nesting site and put them into thin walled hives of many designs. We remove them from a managed hive, transport them in wood or plastic cages to be installed in a hive in a different climate zone. We demand straight comb by providing frames to support the comb or in the case of a top bar hive, expect them to build comb straight down from a bar. We requeen colonies at our chosen time. We manage them not to swarm (which by the way, is a natural way bees adjust to over-crowding within the nest). We force them to build queen cells – often many cells for commercial queen rearing operations. We use queen excluders to prevent the queen from moving within the nest. And many other instances – like setting up a bee race to entertain an audience or wear them as a bee beard.

We can even manipulate bees to spell words. How remarkable is that? They have a brain which has been studied extensively. Thus, we have learned that --they can detect odors – somewhat like bomb sniffing dogs. We have learned that they are sensitive to color and see things that we cannot see. They communicate within a dark hive (very little light). They carry out many tasks and have a number of very specialized glands. We even make them work harder than necessary – provide them with honey supers above a queen excluder and move them about to provide pollination services. Still, they go about business as usual.

### Some issues connected to the management of honey bees.

#1 Queen excluders: This is a controversial subject! Beekeepers have various views on this subject. The major reason to use them is to prevent the queen from moving up in the hive where honey will be stored. The major reason not to use queen excluders is they promote congested brood nest which in turn cause honey bees to swarm.

**#2 Hives should be elevated above ground level.** Have you noticed that bees prefer to nest higher up in trees? Trees are better insulated than hives. The cluster is protected during winter and is cooler in summer. Wild bees can be observed sometimes hanging outside a tree or nest when they are about to swarm. During very hot summers this is often seen in managed hives – the hive is too congested and hot so unemployed honey bees leave the nest to allow air movement within the hive (Called bearding). Swarming is a natural way for bees to have brood breaks – a good natural way for bees to interrupt the Varroa mite population cycle. It is very rare to find a feral colony nest near the ground or located in an area without shade.

**#3 Hives should be spaced out some distance from each other.** I am usually asked how far apart bees should be placed in an apiary? Wow! This is where we as humans have really messed up our bees. I think COVID has provided us with an understanding of what too close means.

Generally, we as beekeepers place our bees on platforms or hive stands very close to the ground. We place them in rows very close together. Commercial beekeepers place 4 to 6 hives on a single pallet – often with just inches separating hive entrances. Isn't it remarkable that honey bees are like homing pigeons finding their way back to a home? On occasion, some bees become confused and enter the wrong hive.



With this many hives in a single location (60 hives), what is the chance that diseases and pests are easily spread? Most of us have only a few hives. The current thinking is that hives should not be arranged in rows and that they be spread apart as far as it is possible. Drifting usually does not happen when 2 or 3 hives are spread 6 to 8 foot apart facing different directions within an apiary.

Wild feral bees establish nests some distance from each other. Feral bees seem to be making a comeback in our woods and forests. Yes, some are dying but the laws of nature are still working and many of the surviving colonies are building resistance to diseases and pests. I think it is on the order of something called "herd immunity".

**# 4 Honey bees practice natural birth control.** In wild feral hives, there is an ebb and flow in the egg laying rate of a queen. It all depends upon nectar and pollen being brought back to the hive. In managed hives, bees are often pushed/fed to encourage brood production.

**#5 Feral bee nests are at the mercy of many common problems of managed bee hives.**  
Diseased and weak colonies do not survive. The wax moth for instance is a common sign in a colony unable to defend itself and on the verge of death or collapse. In the wild, wax moth destroy comb, thus eliminating the spread of disease.

**#6 Feral hives are not multiplied by making splits.** Swarming is a natural way for colonies to survive. Depending upon the nest location and size, some feral colonies swarm often – more than managed hives. The feral hives that do survive are the ones that have young queens, a lot of stored honey in the right area in the nest, and a small or non-significant Varroa mite population due the isolation by distance from other bee colonies. See "The Lives of Bees - The Untold Story of the Honey Bee in the Wild" by Thomas D. Seeley.

The answer of too many colonies occupying a particular area is solved in nature by many colonies dying thus reducing the pressure on the remaining surviving bees to have food. The colonies that die fail to protect their honey stores and the food they stored -- is stolen (robbed) by stronger colonies.

When a responsible beekeeper treats for disease **and a neighbor does not**, the use of resistant strains of bees, chemical or chemical free methods to control disease or pest will never go away or solve the problems faced in managed colonies. The diseases and pests of honey bees are developing resistance to almost any chemical used to control them. In fact, bees that become robber bees contribute to the problem. But by far, it is the beekeeper who must share the responsibility for hive losses **by over populating an area with bee hives.**

Something to think about –

Bee yard locations need to be researched. Some areas provide poor foraging opportunities. Some areas are already over populated with bees!

How much thought goes into selecting bee hive placement other than where to place it and which direction to face it?

Beekeepers often over-look the bee pressure on available honey producing plants. They also are unaware of bee hives and feral bees in the area.

If a person is managing honey bees for honey production, consider the impact bees in the foraging area will have on the per hive honey production average. More competition equals less honey per hive!