Urban, Suburban And Country Bees

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Some tips for safe beekeeping no matter where you are.

Once Upon A Time, all beekeepers kept their hives on the family farm, perhaps behind the barn, out of the way, or in the apple orchard, or by the squash and cucumbers. That fairy tale has really changed, and more and more beekeepers are keeping colonies in places that were considered inconceivable not so long ago.

Something else is changing too. The old rule was that you started with one hive and let it build until the supers were bursting with honey. Now over half the single colony beekeepers are NOT able to keep that sole colony alive for a full year. The solution: Start with two beehives and a nucleus. Why? The extra bees will give you protection against bad luck, poor queens, mites, and a range of diseases. By having an extra colony in your apiary you can save a colony that has a queen problem or failure. By keeping a nucleus with a laying queen, you can quickly replace a queen that is failing or just not doing her job. This can make the difference between making a honey crop and no honey crop. It also increases the chances of getting the colony through Winter or a dearth period.

The nucleus hive can be started during the initial season and kept small by removing bees and brood periodically but with a viable queen ready to perform her duties in a full sized colony. Many beekeepers have had excellent success wintering these small colonies in cold areas, so it makes sense to have one as backup in case one of the big colonies dies over the Winter.

My goal is to develop a certain level of new beekeeper confidence as well as increase their chance of getting bees through a full year of beekeeping, not to increase sales at the bee supply company. Most of us who keep bees have poured a lot of cash into our beekeeping, and I hope to help with facing the harsher realities.

Beehives on a New Jersey roof.

City Lights

Beekeepers keep bee colonies in big cities using rooftops, small garden plots, and community garden sites. Keep these concerns in mind when you set up an urban apiary (beeyard):

1. **Do No Harm** – Do not let your bees fly into the walkway, sidewalk, or garden where people (and their pets) may be in the way of their flight path. A solid fence is a nice way of deflecting bee flight up, up and away, into the air where they want to fly instinctively. Use a shrub hedge. Even a row of large garden pots filled with tall plant material will provide screening. Lacking that, fasten wood lathe, woven willow branches (or some other sort of natural screen material) together to create a fence. A piece of burlap fastened between fence posts or parts of two structures may work as well. Any of these solutions will work to deflect flight and to protect the bees from strong winds, especially on rooftops.

2. **Buzzin' in the Sunshine** – If there is any doubt in your mind, position the bees in the sun, facing East or South, so they get full morning light and the heat of the day. There is good science that two pests, *Varroa* mites and small hive beetles reproduce at a lower rate when colonies are kept in warm, dry locations. In fact, the small hive beetle experiences a much slower reproductive rate when humidity is below 50%.

3. **Give them a Drink! –** Those sunny locations can get hot and the bees increase fanning to ventilate and cool the hive. They will be forced to gather quite a bit of water to evaporate inside the hive for a little natural air conditioning. You can help by:

   a. Put **water containers or pots** on the rooftop or in the urban garden. Bees seem to like bright green and blue containers filled with slightly salty water. If you have a water feature in the garden, maybe one area can be filled with large stones to provide bees with a nearby water supply.

   b. Use an **entrance feeder** (Boardman Feeder) filled with water (no sugar) whenever it might be hot (mid Spring to late Summer). I found that the bees remove water until sometime in early September, indicating to me that these sunshine hives need the water, and a lot of it!

   c. Install **follower boards** (dummy boards by

some) inside each hive body, along the outside walls, and in the honey super so there is a ventilation space between the inside of the hive body and the frames of bees. True, this reduces the volume of the hive by one or two frames (depending on how thick the follower board is), but it provides more insulation by creating an air space. It will reduce the bees need to ventilate as much inside the hive. There will be fewer bees clustered at the entrance in the afternoon and evening. The bees will produce an airflow using these spaces and space itself is a thermal buffer from the heat.

d. Give each hive a **sun shade**, a piece of rigid plastic, corrugated metal or piece of plywood, covering the entire top of the hive and hanging over as much as you can get away with. Use a big rock or cement block to keep it from blowing away in the wind and creating an additional hazard.

e. Try to keep the bees **away from nighttime lighting**. I don't know if this disturbs them, but bee colonies did not evolve around flashing or flickering neon and mercury lamps. Then again, neither did humans, and look at our nightlife!

f. **Watch out for zoning rules** that restrict your ability to keep bees in the city limits. Most cities have relaxed their rules, but if you have a less-than-progressive environment, plan on joining the ranks of the underground beekeepers.

Pleasant Valley

Oh, sweet suburbia! From large suburban estates to tiny, chain-link enclosures reflecting a developer's nightmarish push for less for more, we need to pay attention to many of the suggestions about hive placement listed above in City Lights. In the 'burbs you need to pay attention to the following concerns as well:

a. **Avoid** anything that will put **water** between you and your bees, or that will force your bees to float away when that bubbling brook becomes a raging torrent. If you are saying "Oh, I would never be that stupid," think about the speed the local stream or river can get to in a matter of a few minutes! Check with the locals about flooding.

b. When it is cold and it **snows**, you may not be able to get to the bees to check them for food and to give them feed. Position the hives so they are not receiving the full blast of the Winter (or Summer) winds. Give them a break – a windbreak. If you are freezing your ears off because of the wind, so are the bees! If you haven't provided a sufficient windbreak, you may have to move the bees into a more protected area.

c. If you are surrounded by huge, **well-manicured lawns** you are probably in a really poor place for bee colonies. Why? Lawn grass plants use more chemicals (fertilizers, herbicides, fungicides) than any other single plant in the United States. What? More than corn or beans? You are dealing with both the risk of chemical contamination of the bees and the beehive, as well as reduction of forage for the bees to collect for food. The grass in my little city lot has not seen any chemicals for years, and a city planner was brilliant enough to plant basswood and other bee-friendly forage trees along the streets as shade. I still worry about neighbors applying pesticides stupidly, in violation of the label, but my cookie-cutter neighborhood does not have many large lawns – it's the big suburban lawns that scare me, where the owners or lawn crews spend days mowing. As a corollary, it should be obvious that you should **never put bees on the edge of a golf course**.

Perhaps too much shade in this setting.

We do not need to use lawn chemicals on our lawns. There is no economic reason to do this, and it comes at a huge environmental cost in terms of soil and water contamination and unknown sub lethal effects! Let the clover and dandelion plants grow and provide natural food for honey bees and other beneficial insects. The clover will help fix nitrogen with their roots so the grass around the clover plants will be greener.

Farm Bees

If you are a beekeeper who keeps bees on a farm, you are dealing with a mixed bag of issues, some good and some bad, concerning your colonies. In general, a farm location is great for bees, but consider these points:

a. Bees in the country should have a **diverse floral buffet** to select the best forage for both pollen and nectar. Look at a satellite photo of your potential or current apiary and see how much diversity is in the area. Are there waterways (riparian zones) where trees and shrubs and wild flowers are allowed

Full sun, lots of forage, and easy to get to are good qualities for a country beeyard.

to grow? This is a good thing. Are there woodlot and fence rows bordering fields of agricultural crops? This is also good.

b. Are farmers using **chemicals** that might harm bees, or are there organic farms, or others who restrict chemical use?

c. Are you surrounded by a **monoculture** of field corn and soybeans? There is a lot of concern about **GMO** (genetically modified organisms) crops and the use of sub-lethal systemic insecticides that may or may not have a negative impact on honey bee brood rearing, chemical communications, learning and a whole host of suspected issues. As a general rule, I feel that colonies will avoid exposure to problems on their own, but since their evolution did not include exposure to either GMO materials or sub-lethal toxins, we must ask ourselves how would they have developed detection systems and avoidance behaviors?

d. The best thing you can do for bees is to set them near fields and forests of various plants, shrubs and trees that are excellent food sources for bees. Lets look at some of the more important flora. This is not a comprehensive list, but a good starter point for where you should position hives if you have the opportunity.

Important Flora:

- **Sweet clover** is a legume with yellow and white species. It is the biggest nectar source we have, and produces protein rich pollen
- **Alfalfa** is not as attractive as the clovers because of its floral design, but it is still an important honey source.
- **Apple**, **cherry**, **plum**, **almond and other fruit and nut trees** are attractive to bees, **BUT** they are often produced in such a manner that you should not keep the bees in the area unless the farmer is all **organic** and has diverse alternative forage.
- **Basswood** (**Linden**) is a tree with excellent nectar production.
- **Black Locust** is an invasive tree that spreads via root shoots. The white flowers produce lovely nectar when the weather cooperates, which is a nice way of saying that beekeepers do not get a crop from the flowers every year.
- **Raspberry/Brambles** are cane producers with white flowers and a rich source of quality nectar and pollen.
- **Spotted Knapweed** (**star thistle**) is my favorite nectar and pollen source, but people say it should be eliminated because cattle cannot eat it and it blocks growth of other plants.
- **Sourwood** is a tree of the mid-south that has a narrow production zone. The honey created from these trees is excellent.
- **Sumac** is a clonal shrub found in abandoned fields. It blooms with the clovers, and I suspect much of the honey from sumac is labeled clover. Beekeepers cannot follow every bee!
- **Christmas Berry** in Hawaii and **Brazilian Pepper Bush** in Florida is the same plant, flowering in late summer and fall. It is a good nectar producer in these subtropical regions.
- **Citrus** in subtropical areas is a good source of nectar, but watch for sprays in the shouthteast.
- **Mesquite** if important in dry areas of Texas and the southwest and Hawaii. There are various species.

Some plants only produce pollen or are known for their pollen production. Rich pollen sources are what the bees need for good development and colony growth.

Prolific Pollen Producers:

- **Willows** come in many species flowering from winter to early summer, depending on the region.
- **Alder** is a wind-pollinated plant that is visited for pollen by honey bees
- **Asters** produce both nectar and pollen, but the pollen is essential for fall forage in many areas. There are many species of asters.

With these tips in mind, any beekeeper, both novice and experienced, may consider themselves well armed against the hazards of another year, with high hopes for sweet success! BC

Robert Muir helped in the preparation and editing of this article.

If you plan to attend the ABF Conference in Las Vegas, stop by the Serious Sideliner Symposium (Thursday and Friday) and the Wicwas Press booth in the display room. See how Dr. Connor has figured out how to be in two places at one time!