

A Guide For Sideline Beekeepers

Better Beeyards

Larry Connor

Colony Placement

The first rule of locating one or more beehives is to avoid harm to the bees or to other animals, including humans.

Make sure you look around a potential site for possible problems. That bubbling brook may become an expanding pond every few years, and the entrances of the hives may be underwater and put the hives at grave risk. In the apiary shown in the photos, one of the colonies was never found again, washed downstream. An open field in March may be a crowded campsite on July 4th, filled with nervous mothers, drunken fathers, and curious children. Nobody wants to endanger fenced animals, so make sure you discuss land use throughout the season with the property owner before you consider putting bees in a location.

Design

Commercial beekeepers often move their colonies on four- or six-unit pallets, so the key aspect of colony placement is level, solid ground where a large truck can be loaded and unloaded with a bobcat or some other equipment. Groups of 24, 48, 72 and 96 colonies are not unusual with commercial beekeepers because of the economics of labor and diesel fuel make it impractical to set out one pallet at a time. While the operator may have a momentary thought about which way the colonies will face, most of the time the bees on pallets are put down where they fit and where they are out of harm's way. There is often little concern which way the sun rises and sets or



Bobbing for Beehives. As hive bodies float away from the apiary, the beekeeper regrets the convenient location by the bubbling brook. (Becky Jones photo)

the direction of the prevailing wind. When large numbers of pallets are placed into one area there is considerable drifting of foragers as the bees experience difficulty with hive orientation, especially after a recent relocation.

In pollination rentals (sometimes in apples and frequently in almonds) growers may insist the bees be placed in the row of trees that produce the pollen for cross pollination, called the pollenizer cultivar. I guess growers must think the bees will “push” the pollen out of the pollenizer trees and into the trees they want pollinated, but it does not make sense in terms of bee foraging biology, that suggests that pollenizer pollen is mixed within the colony, rather than from tree to tree. But since the beekeeper is providing a service for a fee, the bees will be placed where the grower wants. It is part of the service.

In sideline and small commercial operations not using pallets, there are two designs I like for colony placement, and one I don't. That is the one that puts colonies in a single line against a fence row. It is a pretty picture, and I have tried to write about this sort of thing in a creative streak, but I find one must carry everything *behind* the colonies in order to efficiently work them. This may be fine for a stand of two or four colonies, but is tedious for an apiary of 24 colonies. Plus, that straight-line arrange-



High water mark. The gentle slope save some hives in this Farmington, CT flood in 2007. (Becky Jones photo)



Ted Jones labors to pull a colony out of the newly formed swamp and muck of a formerly dry apiary. (Becky Jones photo)



Lush weed growth around colonies restricts forager flight. It might eventually require the beekeeper to keep looking for the colonies after frost.

ment is prone to drifting, resulting in beekeepers wanting to select the end colonies that produced the most honey as their breeders the next season. Some beekeepers just don't seem to get it, do they?

The first design that I like uses two parallel rows, (perhaps one facing East and one facing West, but not necessarily), that permits you to drive the car or truck between the two rows. The entrances face outward. When there are a large number of colonies (more than eight), I strongly suggest you separate the groups some distance so the colonies are not evenly spaced. A simple 2 x 6 or 2 x 8 foot hive stand will put three or four hives on one hive stand, and foragers orient pretty well in this arrangement. If you place the hive stands a few dozen feet apart from each other you will have to move the vehicle to each cluster of hives, but that works well when doing intensive bee work like making splits, honey removal and requeening. You may further minimize drifting by directing flight away from each other. The somewhat straight arrangement makes it easier to mow or spray for grass/weed growth.

The second arrangement is a modification of the first, but where you back the vehicle into the apiary and the colonies are in a upside-down U or an open circle (a dozen colonies each facing out toward a different number on the clock-face). This works well when you have a compact area or are against a hill or grade you do not want to climb. Drifting is rarely a problem in this arrangement. For weed growth, many beekeepers rely on the herbicide Roundup® or some other weed control agent to keep the hive entrances clear and permit free flight of the foragers. Nothing is as frustrating as an apiary with weeds up to the hive top and foragers required to *walk* down weeds or grass the last 18 inches before reaching the entrance of the hive.

Other weed control ideas: My brother Mike over-wintered colonies with top insulation made of hay or straw in an empty super placed over a screen. The organic material collected hive moisture and in the early spring the mass was placed at the entrance of the hive to prevent weed growth until midsummer. Other beekeepers cut lengths of discarded carpet into strips and place them in front of the hives. Depending on the thickness of the carpet, this keeps the weeds down for a few years. Others have used roofing paper, construction materials and landscape cloth. Of course a scythe or corn knife will work when used by the well-veiled beekeeper. . . Over 100 years ago A.I. Root lectured beekeepers about the importance of

a well-trimmed apiary, making the claim it reduced the amount of nectar the colony would produce during the season.

The second rule should be about nectar production. For small operators this is rarely the case.

Our dwindling number of commercial beekeepers in the United States profess that the most important part of colony management is *location-location-location*. The closeness of a nectar source is paramount to their ability to move bees to a crop and produce a large amount of honey. This is especially true after their spring pollination contracts are filled, and they find it is critical for their seasonal management to get the colonies into an area where they will have abundant nectar to replenish supplies of food and rebuild the colony that has dwindled due to poor forage during pollination in crops like blueberries and cranberries, and later in the Summer on melons, cucumbers, and pumpkin/squash.

The second rule also requires that every good beekeeper must be a good botanist.

Too few beekeepers know where their bees are going to get the nectar crop they are gathering. In order to place colonies into an area for nectar production, you better have a very good idea what is going to bloom in that area during the next few weeks and months. Part of this may be done by inspecting the fields and roadsides in a radius of a one to two miles around the potential apiary. If the location has nothing but field corn you probably will have a poor nectar crop. Unless setting bees in an area of known nectar-rich monoculture (like a section of alfalfa) I seek areas of diverse floral biology and varied ecological classifications. Look for Spring buildup plants like alder, willow, elm, dandelion, mustards and maple. Look for the nectar-producing tree species like cherry, plum, apple, black locust, tulip poplar and basswood. In the Summer months seek hayfields and pastures filled with clovers and spotted knapweed. As the Summer continues, look for abandoned fields with milkweed and a wide range of wildflowers. Look in the wet areas for purple loosestrife. In late summer look for goldenrod and aster. Specialty crops like sunflower, oilseed rape (canola), peppermint and other plants should be on your search list.

These examples are typical for the north central and northeastern part of the United States. In other parts of the country you need to learn your local nectar sources from the bee club or your beekeeper mentor. Where you

do not have sprawling asphalt, Mac Mansions and box stores, look for a diversity of plants but with a few key nectar producers that almost always produce a crop for the beekeeper.

Develop a year-long search for nectar plants. In the Winter you can identify tree species that are potential nectar producers. During the growing season, learn to identify clover and alfalfa plants before they bloom. Search out the growing fields of goldenrod and aster months before blooming starts. Developing these skills may take some time, but are worthwhile investments of your time. Plus, they give you a fine excuse to walk an area and enjoy nature.

Leave them or move them?

Every beekeeper will face the dilemma of needing to move colonies at the end of the season or leaving them in the same location for Winter. Is the location high risk for Winter? Will the colonies have extreme wind exposure, or be subject to hunters and snowmobiles? Will you be able to drive a four-wheel truck into the apiary in February or will you need to borrow that snow machine to feed the bees? Are you set up to move 10 to 24 colonies? Do you have the truck, ramps, motorized tailgate or other equipment that will make moving easier? Is there a chronic problem with bears causing problems in the Fall and Spring? (not that you will have protection by putting bees near a building in many parts of the country).

If you leave the bees in a distant out yard you will need to check wind exposure, leave excess stores, and perhaps wrap the colony for further protection. A snow fence or artificial windbreak may help protect the bees from cold winter blasts. A few beekeepers cluster their hives during the Winter, waiting until late November or December to tightly group the colonies after routine bee flight is finished for the year. By placing the full sized hives together, insulating the tops and wrapping with roofing material, they create a microclimate within the group of hives arranged this way in an effort to reduce stores consumption and increasing winter survival. Others group nuclei hives for over-wintering into groups of four or stacks of eight to conserve energy use during Winter.



Ed Nowak's home apiary (just a part of it) shows the straight line arrangement and the hives stands. Forager bee orientation is helped by the different sizes of the hives, the colors of the paint, and the background vegetation (and Summer shade). Nowak is a beekeeper in Livonia, Michigan and teaches many beekeepers in this apiary.



Night moves of bee colonies requires solid roadbeds and a clear workspace. This does not always happen in the field. The pallet keeps the hives off the ground. The colored boxes create unique patterns for forager orientation.

The home yard

The home apiary too often becomes a dumping ground for sick and weak colonies. Weak colonies are like bills – deal with them immediately and reduce the number of times you handle them. If you split a weak colony in the Spring or early Summer and give the parts a new queen, you have eliminated the nonproductive unit with something of increased potential (especially if you boost the new units with brood and bees from a stronger colony). With sick colonies use this test – if you are able to medicate the colony in the apiary, do so, and don't move it. If the colony needs to be destroyed due to American foulbrood, do this at a remote location – not the home apiary – where the risk of exposure is somewhat reduced.

Either way, avoid the introduction of a group of weak and sick colonies to the bees in your home apiary. The bees kept in the home apiary are mostly breeder stock and queen production colonies, so you can produce queens in the late afternoon and evening and not need to drive to an outyard. If you teach beekeeping to novice beekeepers a few gentle colonies in the home yard are a convenient way to providing instruction without excessive transportation. Keep gentle colonies at home and remove or requeen any colony that shows any sort of personality disorder. Keep these colonies well fed and provided with an excellent water source – such as a rainwater pond, made from the runoff of the roof, and filled with rocks, gravel and aquatic plants to attract the bees. **BC**

The author's latest book Bee Sex Essentials is at the printers and is due to be delivered about the time this article appears. For pricing and delivery options, contact Dr. Connor at ebeebooks@aol.com.