

Managing Honey Bee Swarms

Sweet Success

Beekeeping is growing in popularity. Many rural and urban residents are trying this craft.

The honey harvest is a tasty, nutritious and profitable reward for successful management.

Managing honey bees to reduce the chance of swarming is one of the greatest challenges to beekeepers. Despite their best efforts, swarming will occur.



Managed honey bees can be a beneficial addition to any farm or garden. The bees' pollination services will increase fruit set (transition from flower to fruit) on cucurbits (melons, squash, etc.) strawberries, cherries, apples and other crops. The honey harvest is a tasty, nutritious and profitable reward for successful management. However, beekeeping is a complex skill. Honey bees follow predictable patterns of behavior, but they cannot be trained in the same way that humans have domesticated animals, such as dogs or cows.

The bees are driven by instinct, and reproduction is one such instinct. In the spring when the nectar supply increases, a healthy honey bee colony will naturally reproduce by rearing a new queen and dividing itself in two. The newly hatched queen stays in the hive with some of the bees; the older queen leaves the hive with about two-thirds of the bees and flies to a new home. The older queen and her accompanying bees are called a swarm. The bees in a swarm do not fly directly to their new home. Instead, they settle in a beard-like cluster on a tree branch where they "stay" for a few hours, or even a few days, while they locate a new dwelling place, such as a tree cavity. Once the bees have chosen a place to live, often a mile or two away, they will launch into flight and travel swiftly to their new home.

Swarms are a natural occurrence, but beekeepers work hard to interrupt the swarming cycle in their managed hives. Swarms are to be discouraged for several reasons. The colony's diminished workforce cannot gather as much nectar as it would without swarm-



ing. Swarming normally results in lower honey yields at harvest.

Swarms appear frightening, but they are generally not dangerous. Because the bees do not have a hive to defend, they are docile. Unless the swarm is violently disturbed, they are not likely to attack you.

Successful swarm management uses a variety of techniques, from clear-cut to difficult. A relatively simple option is to create an artificial swarm. This can be done by splitting the brood nest, the place where all offspring are cared for at one time. It is a cost effective way to increase the number of managed honey bee colonies. To do so, remove two to three of the wooden frames (rigid rectangular structures similar to a photograph frame) that supports the brood honeycomb filled with honey and pollen to create another managed colony. Another practice is to clip one of the queen's wings so that she cannot fly away. Experienced beekeepers use several methods in combination and at the proper time. However, even with these measures, swarms will escape. It is possible for the beekeeper to place a trap and capture the swarm. Bait hives, also known as swarm traps, are attractive to honey bees as a nesting site.

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Researchers have found that when the honey bees are given a choice of various shapes and locations of nesting cavities, they consistently select a home that meets certain spatial requirements. A bait hive is designed using the preferred measurements. It is placed at a height that is known to be attractive to honey bees. A five-frame nucleus colony box is an attractive home for a swarm. It must be watertight, with a sturdy, removable lid and a 3/8" x 2" entrance at the front of the box. One of the problems with bait hives is that water can get in the lid and kill the bees or cause them to fly away. It should be 6 to 10 feet above the ground; it should face south in full shade and at least 100 yards from bee yard. Inside the



box are five frames filled with a wax foundation.

Adding a frame of empty drawn brood comb (the beeswax cells where the queen bee lays eggs and where young bees develop) is a good idea because its scent attracts the bees. If no brood comb is available, drawn honeycomb (comb ready for storing honey or that can be used for brood) works well, too. In addition, bees are

attracted to the smell of lemongrass; dabbing lemongrass essential oil on the entrance can draw them to the trap.



The traps will attract swarms from managed and feral colonies.

The bees are free to leave the box at will to forage or drink; if the queen is safely inside, then the new colony will stay there. Check the trap regularly during swarm season, typically in the spring. Transfer the bees from the bait hive within a week or so of when they are noticed. In the evening, when most of the bees are back in the box, cover the entrance with a screen (so the bees inside do not suffocate or overheat) and remove the box from its perch. Move the bait hive to your apiary, and then transfer the bee-covered frames into a prepared full-size hive. By capturing the swarm, the beekeeper has now established a new colony.

The beekeeper can either build a bait hive or buy a pre-made bait hive from various honey bee supply companies. Below are plans for a build-it-yourself five-frame bait hive that is made from one-half-inch thick plywood (see photos). ■



How to Build a Swarm Trap

Description and Dimensions:

Sides: 10 1/4" x 19 1/8"

Top: 9" x 22"

Bottom: 8 1/2" x 20"

Front: 7 1/2" x 9 1/2" (then cut a 3/8" x 2" entrance for the bees at the bottom center of the front) (See A)

Back: 7 1/2" x 9 1/2"

Hive Cleat (serves as a handhold): 8 1/2" x 2"

Top Cleat (serves as a handhold): 8 1/2" x 3/4"

First, place a fine line of wood glue where the pieces meet; then nail the sides together. Paint the box to protect it from water damage.

Hold the lid using bungee cords wrapped around the box and fasten. Bungee cords also work well to secure the box on a stand or in the "V" of two branches in a tree. ■