Why every beekeeper should use a nuc

February 15, 2011 By Rusty Burlew Honey Bee Suite

The term “nuc” is short for nucleus colony. A nucleus colony is just a very small colony of a few thousand bees and a queen. A beekeeper can find many ways to use a nuc.

Nuc boxes, the structures that hold a nucleus colony, come in all shapes and sizes. Usually you see five-frame deep boxes, but they also come designed to hold medium frames. The width varies too. I have seen two-, four-, five-, and seven-frame nucs, both single story and double story. One of my favorite nucs is a standard-size deep box with three dividers that gives you four two-frame sections, each with its own entrance. Or you can remove one or more of the dividers to make bigger sections. It all depends on what you want.

Reasons for maintaining a nuc:

- If one of your hives goes queen less, you have another queen ready to go. If you wait for your colony to re-queen itself, the population will drop such that you won’t get any surplus honey for that year.
- You can re-queen at times of the year when queens are unavailable to purchase.
- You can use the bees in a nuc to boost populations of a weak hive. If you don’t want to re-queen, you can just transfer some of the frames from your nuc into the weak hive.

In addition, having an empty nuc box on hand is useful for catching swarms or removing extra bees from an overcrowded colony.

So how do you raise queens in a nuc? The simplest way is to take a frame of brood with a swarm cell from a populous hive and put it in a nuc. The frame should have lots of nurse bees covering the brood to keep them warm. Put a frame of honey or an internal feeder next to the brood. Fill any extra space with drawn comb or empty frames, then close the lid, add an entrance reducer, and let the bees do their thing.

This works fairly quickly. You can do the same thing without a swarm cell if there are plenty of eggs or very young larvae on the brood frame. This takes a long time, however, and after a week or two you may not have enough nurse bees left to raise a good queen.

Here’s an example from my own apiary on how I use a nuc.

- Last spring, I had one hive that built up early and looked like it was ready to swarm. I didn’t want it to swarm, so I took out four frames of brood. Each frame had at least one swarm cell on the bottom and lots of nurse bees covering the brood.
- I put each frame in a separate two-frame nuc and gave each one a frame of honey reserved from the year before.
- After about four weeks, I checked the nucs and found three had produced laying queens. I combined the queen less one with one of the others, so now I had three nucs.
- After a few more weeks I transferred the two-frame nucs into five-frame equipment so the colony would continue to expand.
- I kept entrance reducers in the small colonies to protect them from robbing bees and yellow jackets.

- At the end of the fall, I transferred each five-frame nuc into ten-frame equipment.
- I stacked the three nucs, one atop the other. I put the strongest on the bottom, and put double-screen boards between each nuc so the warm air from the largest colony would help to keep the smaller ones warm.
- In December, I found a dead queen on the landing board of one of my regular hives. Using a piece of newspaper, I combined one of the queenright nucs with the queen less hive. This left me with two nucs.
- As of today, the hive to which I added the queen and the remaining two nucs are all thriving.
- We still have a number of weeks to go, but if the two remaining nucs are not needed before the first honey flow, I will set each of them up as a separate hive.

As you can see, having a nuc available gives you many management options that you wouldn't normally have. You can think of a good nuc as an insurance policy against the loss of a queen.

Http://www.honeybeesuite.com

Installing a Nuc in a Nutshell

By IQI Director – Lonnie Langley

A nucleus hive, or nuc, is basically a starter colony of honey bees consisting of 5 frames. There are typically 2-3 frames of brood (eggs, larvae, and pupae), and frames of honey, nectar, and pollen, along with a queen and enough bees too cover the frames. IT is highly recommended that you purchase your nucs from local sources within Illinois. Locally, produced bees are more adapted to your area for disease and pest resistance, along with being adapted to the local environment (both climate and flora). In addition, you avoid any chance of obtaining bees with genetics from the Africanized Honey Bee.

All bees within the state of Illinois must be registered with the Illinois Dept. of Agriculture within 10 days of locating your hive, and there is no charge for registration and the inspection service the IDOA provides.

Equipment and tools you will need to hive your new bees are: duct tape, utility knife, hive tool, gloves, veil, bee suit, a 8 or 10 frame hive, feeder, and pollen patties. The duct tape is recommended for transporting your bees. It is **not** recommended that you transport them within your vehicle. It is best to secure them in your trunk or the bed of a truck. Transport them immediately to their new location.

STEP 1: Do not leave you nuc(s) unattended in your vehicle. Remove them and place them in your bee yard in a shady well-ventilated area.

STEP 2: You nuc should be transferred into your new hive late in the day before it gets dark. Have your hive set up at its permanent location with a syrup feeder and pollen patties ready. Have your smoker lit; a little smoke may be necessary when first removing the nuc's cover.

STEP3: There are two methods for removing the frames from the nucs to transfer into their new hive.

FIRST METHOD: If your bees are in a cardboard nuc, use a utility knife to carefully cut two top corners on one side of the box. Fold the cardboard down to expose the top and sides of the frames for easy removal. Using your hive tool, remove the frames in the order that they are in the nuc to the center of your new 10-frame hive. Fill the empty space with frames of foundation. Frames of nectar, pollen, and honey should be outside the brood frames. If the nuc frames are completely filled, you may place a frame of foundation between the brood frames and the food reserves.

SECOND METHOD: After removing the lid from the nuc with your hive tool, slowly and carefully pry the frames apart being careful not to harm any of the bees. Lift each nuc frame straight up and place it in the order they are removed into the center of the new hive, arrange as in STEP1, and if using a frame feeder, insert it outside the brood nest frames. A frame of foundation may be placed between the brood and reserve frames.

STEP4: Begin feeding as soon as the bees are transferred to the new hive using a 50-50 sugar water syrup. There are several syrup feeders on the market and your nuc provider can assist in choosing which model works best. Pollen substitute patties may also be given at this time, [lacing them on the tops of the brood frames. These should be replaced weekly since Small Hive Beetles will want to lay eggs in them if the opportunity arises. You may want to use a beetle trap to help control this pest.

STEP 5: In about a week check your hive and start becoming familiar with the inner workings of a bee colony, especially the expansion process. As the brood nest expands, add more foundation frames between the brood and food reserves.

STEP 6: If all goes well and the bees fill out the first box a second box should be added. Bees will work upwards into the top box and begin filling out the frames. You can discontinue feeding when you see several frames filled with honey reserves or the bees stop taking the syrup from the feeder. Never use honey or frames of pollen from unknown sources to feed your bees as you run the risk of introducing unwanted disease/pests. If you bees fill the first two boxes and there is enough time before winter, a super may be added for honey reserves. There will need to be a sufficient quantity of sealed honey to get your colony through the winter.

Finally: Your nuc provider can act as a mentor and assist you with recommendations for the proper management of your bees.