

Northern Nuc System – A Summary by Adrian Quiney. Revised June '18

This is a “how-to” guide for the Northern Nuc system that I have been developing since 2010 in Hudson, WI. I make increase nucleus colonies that are intended to overwinter in a 5 over 5-frame configuration. It is based on a combination of the methods of Melvin Disselkoen (MI) and Mike Palmer (VT). I use brood breaks and drone brood removal for mite control. I advocate for a brood break in a freshly started nuc whenever possible. A brood break is a period during which all the mites are on the outside of the bees - there is no brood containing mites.

I cannot emphasize enough that our biggest enemy is varroa. Even though I don't use chemical treatments, those who do should see that because a nuc colony is quite easy to treat and because the mites are phoretic, chemicals could be very effective.

Method A - Whole Overwintered Colony to Nuc Method.

In April add a medium foundationless frame to the bottom of the brood nest for drone comb removal and, at subsequent weekly inspections cut out only the sealed drones.

In Mid-June (up to July) remove the queen from this colony which by then should be in at least a double deep 10 frame hive, have 8 or more frames of brood, and be packed with bees and stores. The mother queen can be killed, or saved in a separate nuc with a small patch of brood and some shook-in bees and stores.

It is easier to find the queen if she is marked. This maneuver turns a queenright colony into an emergency cell-building colony at the time of year the bees want to make queens.

On 6 frames, notch 24-hour old worker larva cells to give the bees more choices of larva to convert into queens. Please see

www.mdasplitter.com for more details on how and why this is done.

One week later the colony is divided into nucs. Each nuc needs a frame with no more than 2 large healthy queen cells on it, and at least 2 frames of brood and bees, a frame of honey and another frame to fill the box – preferably drawn. Cells can be purchased, or swarm cells can be used, as can big emergency cells. If you don't like your own stock and use cells from another source all emergency cells will need to be broken down.

The nucs are arranged around the site of the parent colony to allow for a fairly even distribution of foragers. Use a mish-mash of colors and cap the colonies with different logs, rocks, or bricks to aid in the virgin queens orientation. Entrances are reduced to the smallest opening, and robbing screens may be needed in high-bee areas. As the population develops, entrances are increased as needed. Because these splits are made when there is natural pollen and nectar available I have not needed to feed them until August.

Three weeks post-splitting there should be a mated queen laying, if not, wait one more week to be sure. Give the newly laying queen a small pollen patty. When the new nuc has several frames of brood, raise one of them up into a second 5-frame box and undrawn frames. Put an undrawn frame in the spot it vacated.

Feeding should start in Mid-August when the main flow subsides. I find I need 2-3 gallons of heavy syrup or Prosweet to feed the 5 over 5-frame colony to my target weight of 50 pounds of feed and bees by Mid-September. Less feed will be needed if there is a Goldenrod flow.

Method B – pulling brood from production colonies to make traditional-type nucs

Raise a couple of frames of brood above an excluder on a queenright hive for a week before you plan to make a nuc. On splitting day, take these frames of brood, adhering bees, and a shake of bees and add them to a nuc. Add a purchased or home raised queen cell or queen and fill the box with drawn frames. When these nucs are made a small amount of syrup is added to encourage acceptance of queen cells. These nucs will need to be fed and watched more closely than those in method A as they burn through stores and have no foragers to feed them. I suggest that you make several this way as the heat from sister colonies (boxes are squeezed together) is an integral part of overwintering them. For growing on and feeding follow the principles from method A.

Method C – Honey then bees (Understaffed Nucs)

This method is similar to method B. This method is best timed to start from the end of June up until the middle of July. The difference is that you use just enough bees and stores to get the queen mated, and then brood is taken from your production colonies in early August to boost it to wintering strength. If you are using 5 frame boxes use a frame of feed and about half-a-frame of brood and adhering bees. Add a queen cell or a mated queen. Undrawn frames can fill the space in the box. The difference in this method is that your initial intention is just to get the colonies established with a laying queen. I plan to break down almost all of my production colonies and distribute their frames of stores and nurse bees in early August. On the original site I leave the queen flying bees and only a frame or so of brood and the parent colony is also put into a 5 over 5 frame colony. I aim on boosting each of the understaffed nucs by the equivalent of 2 full frames of brood. In our area I find that the flow is done by August, and that is when I pull honey. Pulling honey at this time means that

feeding can start when it is still warm and the bees can process it rapidly. The understaffed nucs will need more feed than the nucs that were started earlier and stronger. However, I dislike trying to get foundation drawn at this time of year and much prefer to add drawn combs.

Overwintering

When the colonies are up to weight they are inched towards their sister nucs in groups of 3 to 5. I raise them on to knee-high stands to keep them out of the snow. Each box has a $\frac{3}{4}$ inch auger hole that is drilled 3 inches from the top. The bottom auger hole is closed off completely, and the top auger hole is reduced by half with a segment of plastic wine cork when the temperatures stay below 40 degrees. I use a feed bag inner cover (FBIC), and 2 inches of Styrofoam as an outer cover on top of the FBIC.

Squeeze nucs within each group together, ensuring that at least the top boxes of each nuc are touching those of her neighbor. Inadequacies of joinery are overcome with cardboard – lately I have found that “reflectix” is better.

At Thanksgiving add two more pieces of 2 inch Styrofoam as end caps and cover the top of the colony with a piece of plastic to stop the wind whistling between the FBIC and the Styrofoam. If mice are an issue in your area a top cover which excludes them will be needed. Do not obscure the top entrances. Shelter them from the north winds. I have mine all facing south.

Spring

I operate on a “do-not-disturb” basis until March. On a warm day in March I check the colonies for stores. I have found that 50 pounds will not last all the way to Dandelion bloom. In March I feed sugar slush or replace empty frames with frames

of honey if I have them. I add a pollen patty after Maple has bloomed to keep protein deficits minimized. I move them into 10 frame equipment on the fruit/dandelion bloom for honey or sell them a few weeks before that if there are 4 or more frames of sealed brood.

A Beginning

This system has allowed me to keep bees without mite treatments. I would like it to work for other beekeepers, but do not claim to have all the answers. Adept beekeepers can adopt and adapt this method to suit their needs. A critical point I will make is that I believe that a broodbreak is vital if one is to make this system work – especially if you intend to go chemical-free.

Internet Based Resources.

Mel Disselkoen

www.mdasplitter.com

Michael Palmer

<https://www.youtube.com/watch?v=nznzpiWEI8A>

Adrian Quiney

<https://www.youtube.com/watch?v=MatoOA9TapA>