

Three Rivers Beekeepers

Making and Overwintering
Nucs as part of the Nuc
and Queen Initiative

Agenda

- Workshop Purpose – Nuc and Queen Initiative
- Reason for Overwintering Nucs
- Equipment Needs
- Making/Creating Nucs
- Adding the Queen
- Fall Management
- Over Wintering
- Spring Management

Workshop Purpose

- The goal of this workshop is to provide strong nucleus colonies each spring that are in line with the TRB Nuc and Queen Initiative.
- Our climate generally prohibits raising queen for use in early spring. In an attempt to break the cycle of importing bees and queens from outside our area, the TRB Queen and Nuc Initiative was commenced.
- This workshop is designed to provide instruction on making and Overwintering Nucs for your use or for sale to new beekeepers next year. We encourage the use of local queens which are available in the summer months. These technique takes advantage of local conditions to produce inexpensive but robust colonies

Nuc and Queen Initiative Goals

- The Three Rivers Beekeepers Nuc and Queen Initiative is an attempt to eliminate our dependency on the importation of southern nucs and queens.
- To facilitate instruction in sustainable resource management techniques, including summer and spring nucs and queen production.
- To facilitate sales and distribution of Initiative nucs to TRB beginning beekeeping students and members

What is the TRB Nuc & Queen Initiative?

1. This is an initiative started in 2011 by Three Rivers Beekeepers to provide locally raised nucs and queens for local use. The purpose of the initiative is to have local stock that is available for new beekeepers and our own use.
2. Each Initiative participant is committed to the availability of a certain quantity of nucs. This can be from one to many.
3. Nucs can be either 4-frame or 5-frame deeps or mediums.
4. Nuc pricing is at the discretion of the nuc supplier. However, the recommended pricing is \$100 for a 5-frame nuc, and \$85 for a 4-frame.
5. All sales revenues go to the nuc provider. The club through the website provides a market place for you to let others know of your nuc availability.
6. We ask that all nucs will be available first to TRB beginning beekeeping class students, then TRB club members, then open availability.
7. It is the intention of this Initiative that all queens be of local stock and locally mated.
8. To meet the Initiative demands, we waived local queen requirements as long as all mated queens originate from **ABOVE THE 36th PARALLEL** ("Rule of 36").
9. All nucs must contain new or like-new frames with fully drawn foundation
10. All nucs must contain a minimum of three (3) frames of brood covered with bees with a healthy laying queen. A minimum of two (2) frames of brood is required for a 4-frame nuc.

Why Over Winter Nucs?

- By overwintering Nucs we are able to use local queens and bees. By mid to late July the honey flow in this area is generally over. By creating Nucs we are able to use these local bees when local queens are available. By this time the Beekeepers season has slowed and he has available time to devote to queen rearing and nuc creation at a low cost.

Definitions

- A split is the process of separating two hive bodies of a colony (where deep hive bodies are used); and providing a queen for the queenless portion
- A nuc is a fully balanced colony in miniature consisting of two to ten frames. We will look to a standardized five frame nucs for the Queen and Nuc Initiative.
- An increase is simply adding to the number of colonies that you have through a split, swarm capture, nucs, packages, etc

Why Over Winter Nucs?

- Overwintered nucleus colonies provide a resource for northern beekeepers in the spring. These nucleus colonies can be used to help provide beekeepers with early season queens, used to replace dead out colonies, used to increase the number of colonies in your apiary or provide nucs for sale to beginner beekeepers.

Bee biology:

How it helps us make nucs

- Nurse bees/young bees are not aggressive and are loyal to the queen
- Nurse bees have a specific area on a brood frame that they tend to
- Young nurse bees prefer nectar over honey
- Bees have a natural tendency to swarm in the spring
- Queen cells can make excellent queens
- Workers from different colonies do not fight when moved into a new box together. You may take nurse or worker bees from separate colonies and put them together in a new box. Nurse bees added to a colony or nuc by shaking will adapt to their new conditions.

Some basic “rules”

- It is easiest to make nucs/splits during the middle of the day when most of the field bees are out of the hive
- Try to keep the nuc in progress covered; too much sunlight is detrimental to open brood
- Use a minimum amount of smoke. You might want to have a spray bottle with light sugar water in it to help control the bees if necessary
- All nucs should have reduced entrances

Equipment Needs

- Any sized equipment may be used. You can use the equipment that you have on hand or invest in several 5-frame nuc boxes.
 - bottom board
 - hive body
 - inner cover
 - telescoping cover
 - entrance reducer,
 - a bee brush,
 - frames of foundation or drawn comb, and
 - a feeder that fits the equipment being used.

Timing

The best time to create Nucs for overwintering is late July after the honey flow. By mid August it may be too late for the bees to have sufficient time to:

1. Organize the hive
2. Build-up stores
3. Build-up the appropriate number of bees for winter.

Any sooner you may run into overcrowding.

Where do you get the Bees & Brood

What makes a good donor hive?

- A weak hive that has not performed and is in need of a replacement queen.
- A very strong hive, generally we are in a nectar dearth at this time of the year so a reduction in population does not create a loss of production.

Making up the Nuc

- Be prepared and organized before you start.
- Have all of your equipment on hand.
 - o Nuc Box (bottom board, lid, entrance reducers, replacement frames (5 for each Nuc)
 - o Nuc Box screened if you are going to move them to another site.
 - o Site location set and ready to receive the Nucs
 - o Nucs will need to be feed 1:1 initially and 2:1 as you move into September

Making up the Nuc

- In the brood chamber of the donor hive, look down between frames to see where the bees are hanging out (generally the top brood chamber)
- Go slow and make sure the queen is not on the frame.
- Start with an outside frame.

Making up the Nuc

- Two methods:
 1. Not necessary to locate the queen
 2. Necessary to locate the queen
- Two options:
 1. Maintain Nucs in existing bee yard
 2. Maintain Nucs in an out lying bee yard

Making up the Nuc

- In your Nuc you want to start with a honey frame on the outside.
- Next pull a frame with lots of pollen (generally in position 2 or 3 of the donor)
- **Note:** With all frames taken, include the bees on the frame, but look to ensure you have not taken the queen.
- Next is frames with brood.

Making up the Nuc (Brood Frames)

- Brood frames should have brood on both sides.
- One frame should have open brood. One frame should be capped. Keep all of the bees on the frame.
- Shake in an additional frame of bees particularly if you are keeping them in the same bee yard.
- Add open comb frames to fill out the nuc box.
- Close-up the nuc box.
- Repeat as necessary.

Making up the Nuc (Frame Placement)

- For each Colony add the following:
 1. One frame of Honey (outside wall)
 2. One frame of pollen
 3. One frame of open brood (need open brood to keep the nurse bees occupied). Bees will not abandon open brood. Check to ensure there is bee bread around the edge.
 4. Two frames of drawn comb or one of capped brood and one of drawn comb.
 5. Do not take the queen.

Location of Nucs (Outside the Donor Bee Yard)

- A location away from the donor hive (two miles) will keep bees from returning to the donor hive.
- Once they are at the new location you can remove.

Location of Nucs (Same Bee Yard as Donor)

- Shake in additional bees
- Keep the bees screened in over night.

Adding the Queen

- Wait until the next day to add a queen or the queen cell.
- This will give the bees time to settle down and discover they are queen less.
- Add a queen cage in a way that the screen is accessible to the bees by gently squeezing between two frames.
- Add a cell by resting the cup between two frames with the cell hanging down.

Where are we going to get Queens?

- You may raise your own queen. TRB had a queen rearing class in May, there will be another class at the HAS meetings at UMSL on July 12th, 13th and 14th (three days).
- Buy queens or queen cells from a club member.
- Participate in an order for queen cells with the club. Orders are due by July 14th. Cost is \$8.00. These cells will come from Cory Stevens.

Queen Cell Orders

- **Cory Stevens** has been producing queens in Dexter, Missouri. He implements VSH and hygienic genetics from instrumentally inseminated queens. To insure a hardy genetic stock, he uses no treatments in his colonies. Cory is swiftly gaining wide-spread popularity for his queen breeding operation. He is the current Southeast Regional Director for the Missouri State Beekeepers Association. Cory taught at the TRB Queen Rearing Class.

Care of a Nuc

- Nucs have all of needs and requirements of a full sized colony, such as pest and disease control
- Nucs different than full-sized colonies in:
 - Size - Bee population, Nuc has only 10-25% of the population of a full sized colony
 - Ease of frame manipulation, Less difficult to locate queen
 - Colony difficulties are concentrated
 - They develop more rapidly and need to be managed more intensely
 - Need to remove frames of capped honey to provide room, add a second box with frames, or store for use later
 - Can remove frames of drawn wax to store and use at a later date
 - Can provide brood to boost weaker colonies
 - Can be maintained to produce cut comb and honey for use and extraction,
 - Frames of honey, drawn comb, etc. can and should be harvested individually.

Care of a Nuc

- All nucs need:
 - o A reduced entrance to assist in the defense of the hive.
 - o A method of feeding
 - o Nucs for overwintering have some special needs—will discuss later

Fall Management

- Once the cool weather of September sets in you will want a lot of bees with about two frames of honey so they are ready for the winter. The cluster size should be about the size of a football. In mid-September, if the box looks light, feed 2:1 syrup. Assuming a normal fall, there should be plenty of Goldenrod pollen.
- Add a second story with drawn comb for them to fill out additional frames of honey.

Over Wintering

- Place the hive out of the wind, ensure sufficient stores are on hand. I like to use a double deep with the cluster in the lower box and stores directly above it. In addition, I like to add a candy board or mush in early January. Keep the entrance reduced to about 1 ½ inches

Spring Management

- Congratulations, your bees made it! The task now is to stimulate the bees for spring build-up so they are available to sell to new beekeepers or for your own use. If you are using them as replacements you can move them into a deep hive bodies. Make sure you get them into deep boxes early, because they are going to come on strong... way ahead of any packages. These bees are going to perform as well as your regular wintered hives.