

The value of nuclei and their various uses

Margaret Thomas NDB

Dundee 2012

Definition

- BSI (no longer in use) defines the nuc as:
- A quantity of bees occupying no more than 5 BS combs;
- A queen or queen cell;
- Combs with stores
- For preference brood as well

Nucs with queen cells

- A nuc with a queen cell should have brood
- This stabilises the unit
- The presence of brood ensures young bees to replace the old ones to feed and incubate the newly laid brood.

Varying the make up of a nuc

- The size and strength of the nuc will vary with the function of the nuc

Various uses for nuclei

- There are about 12 or more.
- Name some

Various uses for nuclei

1. For increase
2. For queen introduction
Or Re-queening
3. Mating nucs / mini nucs
4. To house a swarm
5. Shook swarm or package as a starter colony
6. To store a surplus queen

Continued various uses for nuclei

7. Boost a colony for a specific crop
8. As a retirement home for a good queen
9. To test a queen
- 10 To draw foundation
- 11 Emergency placement
- 12 Educational

1 - Increase

- Use to increase the colonies in own apiary
- Or to sell
- How to make up a good nuc for the above reasons

The normal nuc for sale or increase

- Normal nuc
 - 4 frames of brood of all stages
 - 1 frame food (sealed if possible)
 - 2 – 4 frames of extra young bees
 - Gentle shake over parent colony to dislodge old bees and good shake into nuc to dislodge young bees as old bees will fly home to the parent hive leaving the nuc short of bees
 - Queen – caged if not own queen
 - If home apiary shut in with sappy grass
 - If moving to different apiary age of bees less critical as all bees will remain with the nuc

Advice to the purchaser - beginner

- Once on the permanent site let them fly
- Place into permanent hive once settled
- Add two frames of foundation
- Dummy either side
- Feed to help draw foundation
- Continue to add foundation and feed till all combs drawn

2. Queen introduction

- Always safer to re-queen a colony using the nuc method for a bought in queen
- Why?
 - Bees in a full colony will not accept a strange smelling queen and will kill her
 - Direct introduction of a new queen can only be done in the early spring or late autumn

Nuc for queen introduction

- 1 frame of brood and young bees from colony to be re-queened
- 1 frame of food
- The travelled queen in a cage – quick release
- Close it in with sappy grass
- Leave for a week
- Check the queen is OK
- Method to re-queen

Method 1 – re-queening

- Having check queen OK in nuc, cage again or put into centre of nuc box - leave open
 - to encourage her to move into the dark between the frames
- Kill queen in old colony or remove into spare nuc box on frame she is on – insurance
- Push frames to one side
- Spray with water/**dilute** syrup
- Spray nuc frames with water/dilute syrup and
- without separating the frames place in colony gently
 - queen safe between her own brood frames
- Leave for week and check

2. Re-queening using newspaper belt and braces method

- Move nuc into full sized box, add some frames
- Remove queen from colony to be re-queened
- Place newspaper over brood chamber and queen excluder over newspaper – why?
 - To stop the newspaper blowing away.
- Nuc in new brood chamber on top of old box
- Newspaper then queen excluder over top of new
- Supers back
- Roof on and leave for a week
- Shredded newspaper at entrance a good sign.

3. Full frame sized **mating** nucs

- Smaller is better
- Queen mates faster from small units
- What type of queen cell should go into the nuc?
 - well sealed, sculptured and 1¼” long
- How should it be made up?

Full sized frame mating nuc

- 1 to 2 frames of brood and young bees
- Ripe queen cell
- Close up temporarily – how?
 - Sappy grass

Mini nucs

- What are the advantages of mini nucs?
 - Less bees (cup full)
 - Relatively cheap
 - Fun to play with
- What are the disadvantages?
 - Difficult to manage so need regular attention
 - Abscond readily
 - Get overfilled with bees
 - Get overfilled with honey
 - Loose bees so queen cell does not emerge

Making up a mini nuc

- Feed – candy or dampened granulated sugar
- Starter strips
- Cup full of bees
- Ripe queen cell
- Store closed in the dark and cool for one to two days

Mini Nucs



Mini Nucs





Mini nucs - what is the problem?



4. To house a swarm

- When is the use of nuc box appropriate?
 - For a small swarm

5. Shook swarm as starter colony

- Moving colony onto different sized combs
- For a colony suffering from Deformed Wing Virus where most of the brood is deformed and needs to be destroyed but the remaining adult bees and queen can be saved

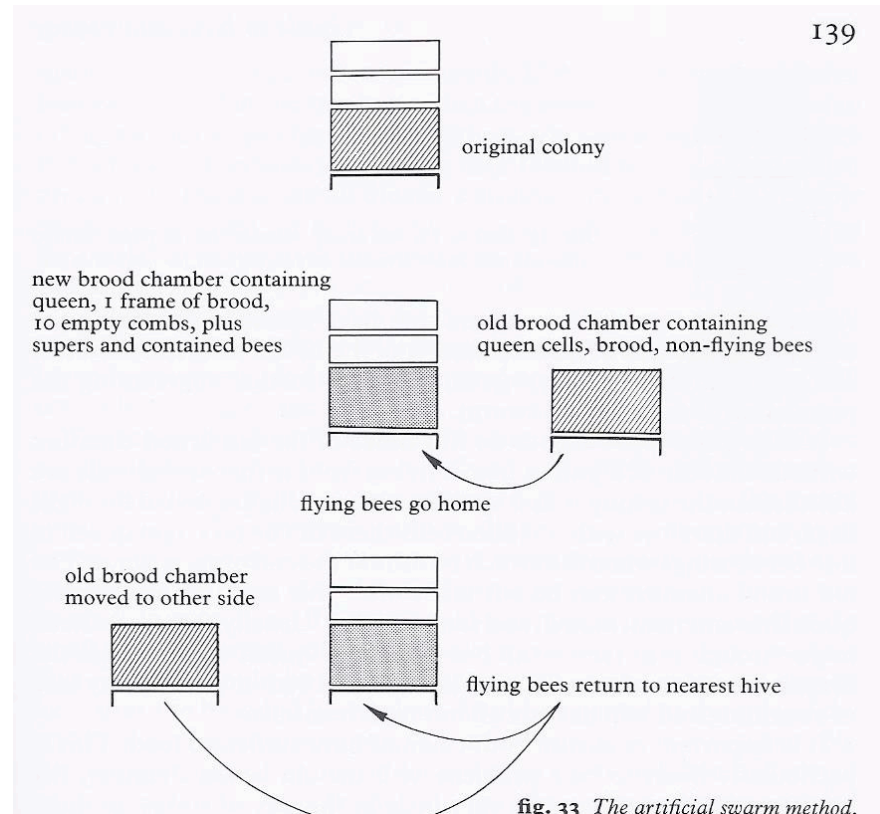
6. Swarm prevention or control

- Prevention - How and why?
- Control – how and why?

Swarm prevention and control

- Prevention: Removed brood and bees from strong colonies to reduce congestion and delay queen cell production as part of queen rearing program
- Control: The artificial swarm or ...
- Remove the queen into a nuc leaving the queen cells in the parent hive

The Pagden type of artificial swarm



7. Store surplus queens

- Good idea to have nucs available for re-queening if a colony 'goes wrong' due to.....
 - Temper
 - Poor brood pattern

8. Boost a colony

- Moving to the heather with a good workforce
- by uniting a strong nuc with current year queen to the de-queened colony
- When?
 - About two to three weeks ahead of the move to allow new queen to settle and time to rearrange brood frames in one brood box

9. Retirement home

- Keep a good breeder queen going for a few extra years
- How?
 - Removing sealed emerging brood and bees
 - Less young potential nurse bees will reduce the amount of food the queen is given to she will lay less eggs
 - But leave enough to make a strong enough nuc to overwinter

10. Test queen potential

- What is a good potential?
- Good even laying pattern
- Steady laying rate and good expansion
- Can this be done in a mini nuc?
 - Less easy to assess in a small unit

11. Draw foundation

- Why are nucs good at drawing foundation?
 - The urge to build up to full size is strong

12. Emergency home

- For a spare virgin when queens are popping out.
 - This can occur if an inspection is delayed during the swarming season.

13. Education

- The observation hive – transient for an event
 - Or permanent for the summer
- What age queen should be in this unit?
 - An old queen would be best
 - Always well marked
- How many frames and what type?
 - For permanent at least two brood and 1 super

Pitfalls and problems

- There are numerous

Pitfalls and problems

1. Robbing
2. Starvation
3. Overpopulation/congestion
4. Mini nucs
5. And probably others

How to manage each situation?

Pitfalls and problems

- Rejection of queen cell
- Ventilation
- Drifting
- Wintering.

The bum.....bees Questions?

