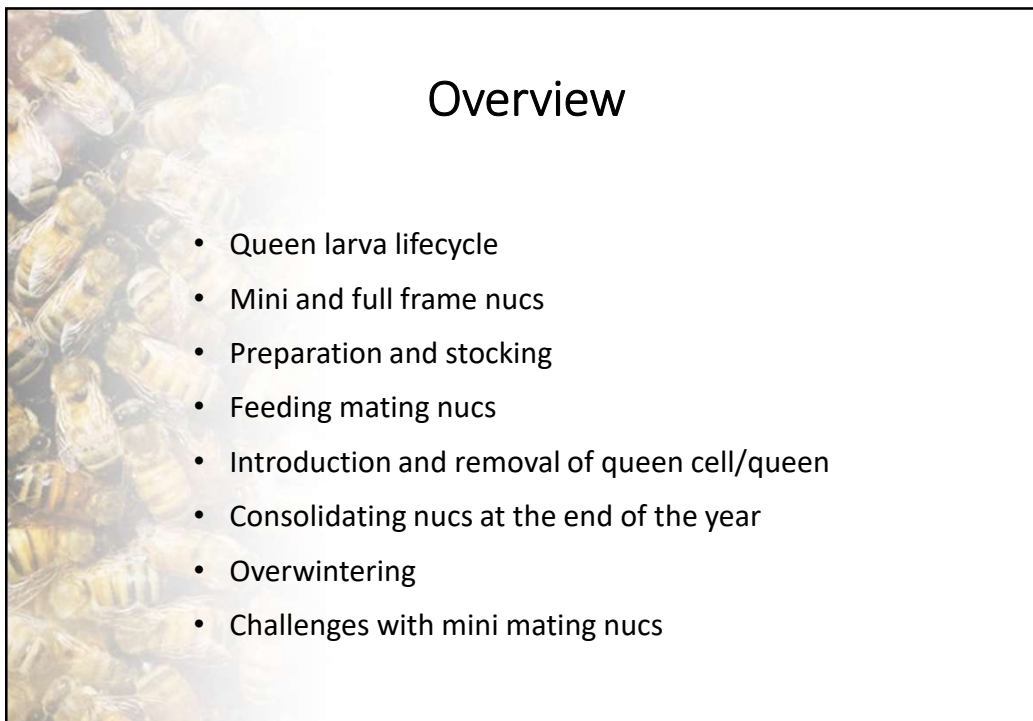


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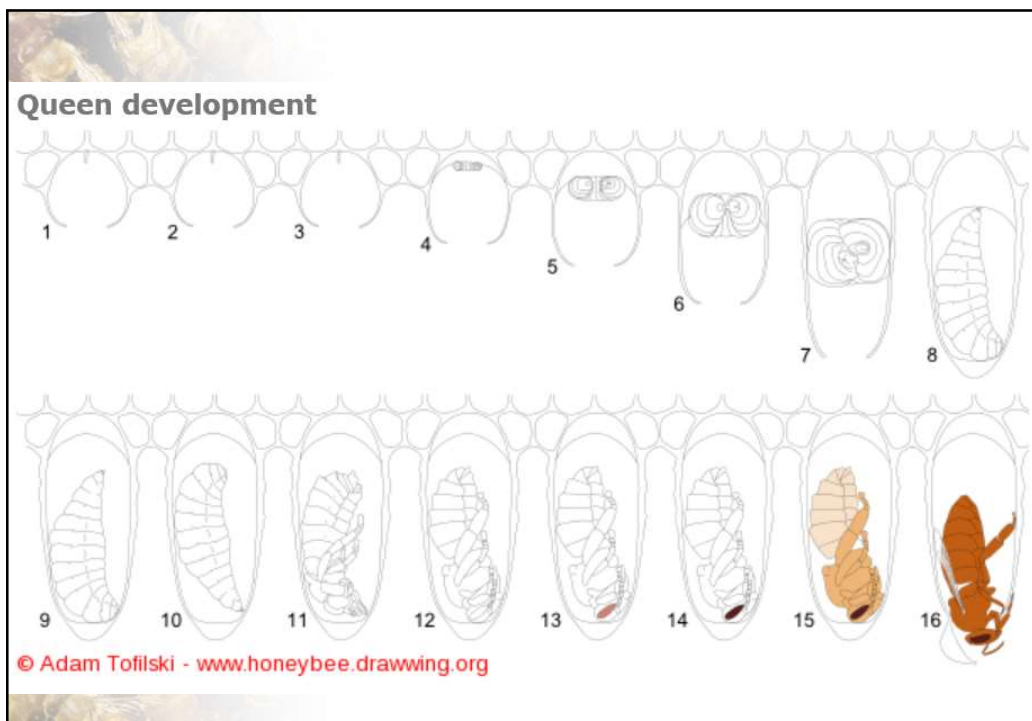


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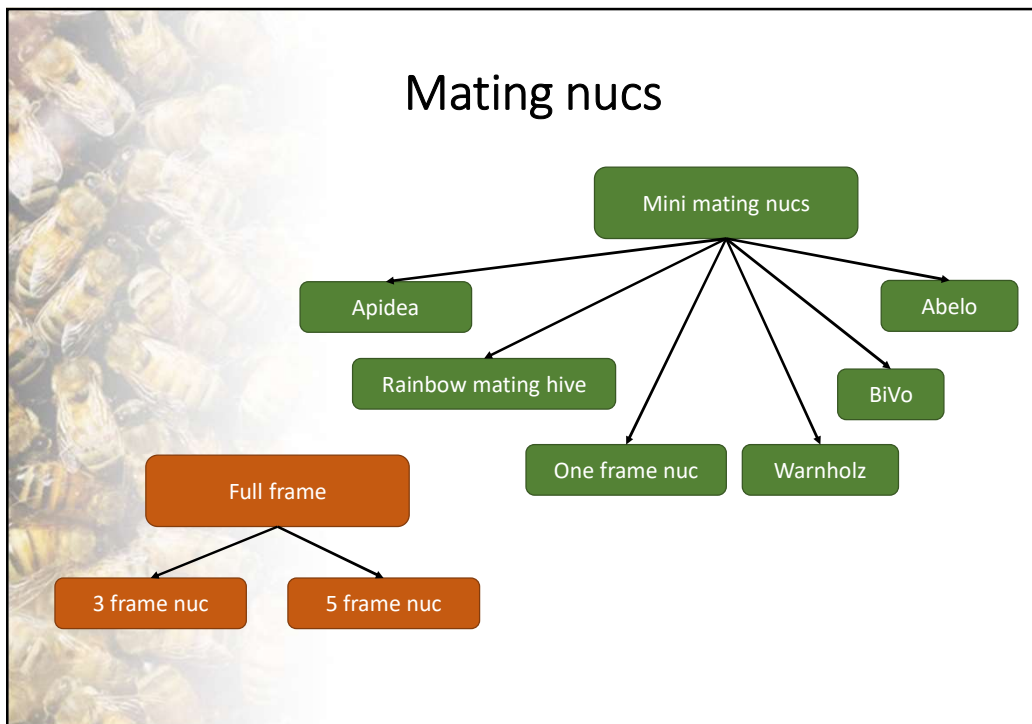
What do we really need?

- Supply of nectar and good quality pollen
- Suitable weather for mating
- Abundance of sexually mature, high-quality drones
- Strong colonies
- Breeder queens who's colonies display desirable characteristics
- **Commitment on the side of the beekeeper**
- All the above usually May to August

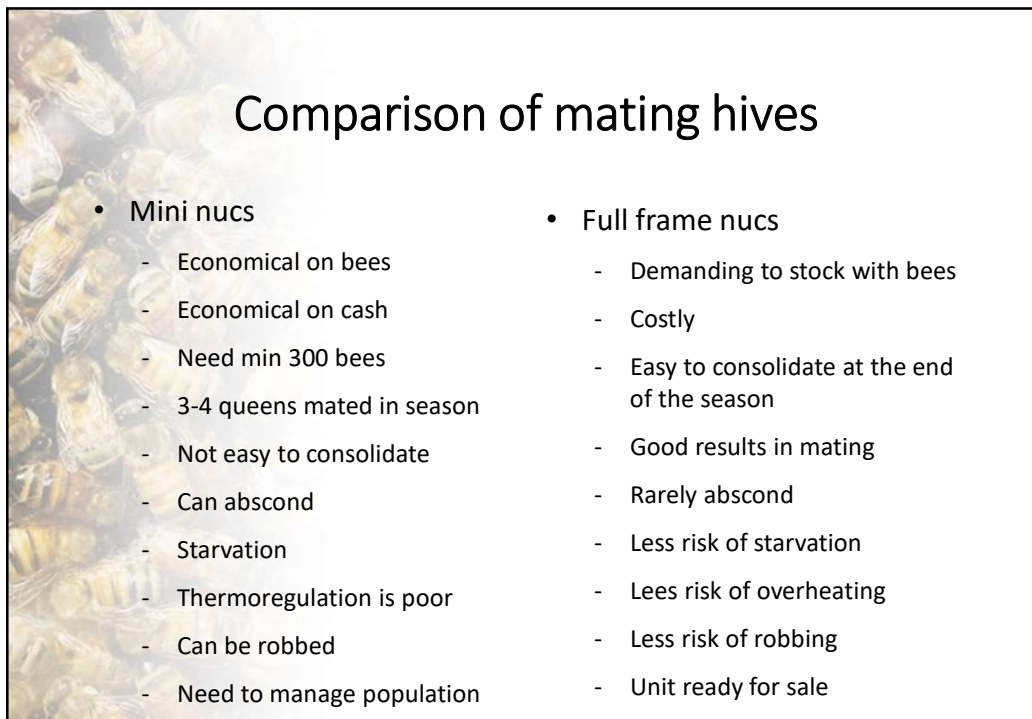
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6



7



8

Standard 5 frame nuc

To stay in the same apiary

- 2 frames of food with bees
- 2 frames of s. brood with bees
- 1 frame of space for laying
- 2 frames of bees shaken in
- 1 queen cell or V. queen

To be moved away

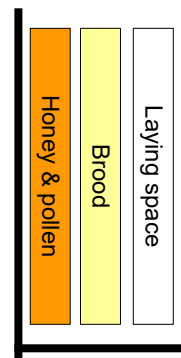
- 2 frames of food with bees
- 2 frames of s. brood with bees
- 1 frame of space for laying
- ~~2 frames of bees shaken in~~
- 1 queen cell or V. queen

9

Nucleus comb arrangement



5 frame



3 frame

10

Apidea arrangement

- Attach strips of wax foundation on frames
- Stock with fondant
- Close entrance
- Queen excluder on feeder



11



12



Day 11 - stock mini mating nucs

- Select strong healthy donor colony
- Shake bees from frames with unsealed brood in bucket
- Spray bees with water
- Scoop 1 cup of bees per nuc
- Invert nuc and slide open the floor, pour bees in
- Close the floor
- Place in cool dark place for 2 days
- Spray the ventilation mesh with water

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Day 11 – make up mating nucs



15

Queen cells on Cupkit holders



16



Day 14 - introduce queen cell

- Insert queen cell through the hole in clear cover
- Place out in shaded area and open up the entrance
- Leave for 21 days
- Check for egg laying
- Leave for another 2 weeks and check for worker brood
- If worker brood present queen is ready to move out
- Introduction of virgin queens
- Introduction of subsequent queen cells

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Suitable weather for mating

- Temperature over 21°C
- Can mate at 15°C, but the flights are short and mating poor
- Sunny weather
- No or low wind
- Mating at drone congregation areas (DCA)

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Siting mating nucs



- Away from the main apiary
- On a stand
- Well spaced apart
- Facing different directions
- Painted different colours?
- Dappled shade
- Presence of orienteers



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Day 28 – first inspection



20



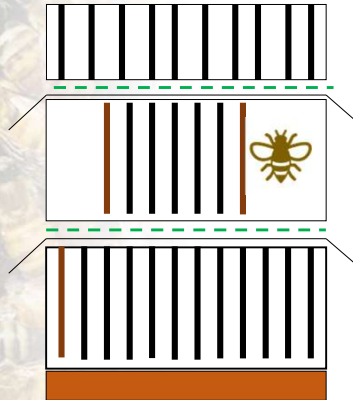
21

When to remove the queen from the nuc

- Allowed to lay for minimum of 2 weeks, ideally for 3
- Presence of sealed **worker** brood
- Be quick looking for the queen
- Need to have new queen cell ready
- Protect new queen cells
- Don't use a lot of smoke

22

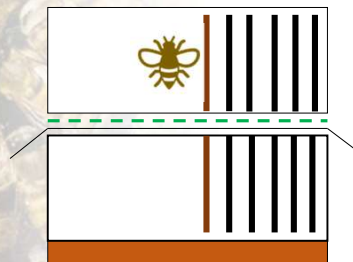
Uniting full frame nuc



- Remove one queen
- Transfer frames from the nuc into full size brood box flanked by dummy boards
- Unite using newspaper method
- After 1 week, re-arrange combs depending on the size of the colony

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Uniting two nuclei



- Remove one queen
- Transfer frames from both nucs into full size brood box hives flanked by dummy boards
- Unite using newspaper method
- After 1 week, re-arrange combs into 1 box

24



25



26

Feeding mating nucs



Photographs by Gerry Collins, NDB

- Weak sugar syrup (light, 1:1 or 44%)
 - 1lb sugar and 1 pint water
 - 1kg sugar and 1.25L water
- Strong sugar syrup (heavy, 2:1 or 61.5%)
 - 2lb sugar and 1 pint of water
 - 1kg sugar and 0.600L water
- Ambrosia syrup (72.7%)
- High fructose corn syrup (78%)
- Fondant (>90%)

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Pollen supplements



- Buy them ready
- Make it yourself (**pate**)
 - 60% fat free soya flour
 - 20% brewers yeast
 - 20% pollen from own colonies
 - Knead the above with 2:1 sugar syrup
- Make it yourself (**liquid**)
 - 80% 2:1 sugar syrup
 - 20% pollen from own hives

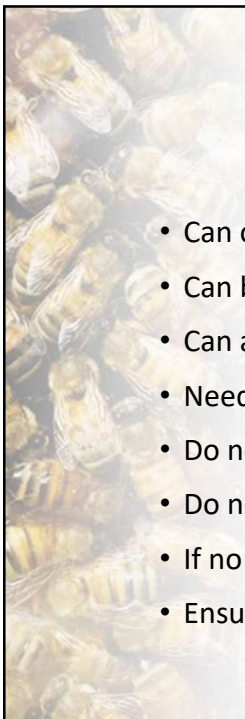
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Overwintering

- Only strong nucs
- Sufficient stores
- Stores not crystalized
- Use second brood box
- Keep dry

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Mating nuc management

- Can overheat
- Can be robbed
- Can abscond
- Need to manage population
- Do not inspect between 10:00 and 16:00
- Do not use a lot of smoke
- If no queen present the first time around, start again
- Ensure enough food

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Common mating nuc issues

- Starvation
- Old queen placed in mating nuc at stocking
- Insufficient bees in the nuc
- No queen excluder on feeder
- Gate with queen excluder on
- Bad weather during mating
- **Insufficient commitment on the side of the beekeeper**

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Summary

- Queen larva lifecycle
- Mini and full frame nucs
- Preparation and stocking
- Feeding mating nucs
- Introduction and removal of queen cell/queen
- Consolidating nucs at the end of the year
- Overwintering
- Challenges with mini mating nucs

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Questions?

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