

## **MBKA Beginners' course 2017**

### **Session 4 Notes**

#### **Plan for today**

**Colony population - graph** - You should expect to see a significant seasonal variation in the quantity of brood and the population of the hive.

**Effect of losing a swarm** - Note the effect of losing a swarm. It's clear how this will reduce the honey harvest because of the lack of foragers during the summer period when nectar is most abundant.

**Swarm prevention** - Not possible to completely or reliably prevent swarming. It will happen eventually, however hard you try to stop it. Some delaying tactics, most of which we've discussed earlier. Keep young queens and provide plenty of space in the brood nest for her to lay and in the supers for storage of nectar. Then inspect regularly (weekly) and be ready with a plan and spare equipment to conduct some form of swarm control.

#### **General principles to remember when splitting colonies:**

- Flying bees (foragers) will return to original hive location
- Only the older bees (foragers) collect the honey but all need food
- An uncapped queen cell needs a strong colony to feed the larva lots of royal jelly
- A colony without a queen will make lots of queen cells using any eggs and young larvae available
- If a strong colony has several queen cells it is likely to send off casts
- the queen and flying bees might abscond if there is no brood at all
- Don't shake a queen cell
- Queen development times:
  - egg: 3 days
  - larva: 5 days
  - pupa: 8 days
  - mating flights between 4 days and 3 weeks

**Swarm control** basics – the crux of beekeeping.

The colony consists of three parts:

Queen; Brood and nurse bees; Flying bees (foragers)

Essentially, removing any one from the other two will prevent swarming, but one of these three permutations is more sensible than the others.

**Artificial Swarm** – demonstrate method with slides and hives.

Mention other, methods (vertical splits) and Shook Swarm.



## Coffee

### **Combining colonies** (demonstrate with empty boxes)

Something you might want to do following swarm control when you've split one colony in to two but don't want to increase your colony numbers or before winter if you have two weak but healthy colonies.

- Remove one queen (usually the oldest)
- Keep queenright colony in position
- Remove crownboard and cover with 2 sheets of newspaper on top of supers
- Queen excluder to hold it down
- Pierce a few small holes in paper with hive tool
- Place queenless brood box on top - any supers stay on top of their respective brood box
- Bees take a day or two to chew through paper
- Colony scents merge gradually
- Chewed up paper is deposited outside front of hive
- About a week later combine into a single brood box, selecting the best brood combs and keeping brood from both colonies together in centre

### **Establishing your first colony**

Assuming you collect a swarm or buy a nucleus of bees we'll talk through what you might need to do through the first year or so.

**If it's a swarm** the bees will be ready to build lots of wax (so they should cope with a hive full of foundation) and it'll be an experienced queen ready to lay lots of eggs as soon as there's comb to lay in. They may need some feeding to get them established and to help draw out the foundation. Swarming seems to invigorate a colony, as does fresh comb, so it's likely they will build up strength quickly and, depending how early in the season you collected them, you might get a surplus of honey to harvest at the end of the season. It's unlikely, but not impossible, that they'll swarm again that year.

**A nucleus** will normally be on 5 frames, probably 2 or 3 with brood at all stages and two with stores. Ideally it will have a new queen, but you should check this with your supplier. If it's a new queen you would be very unlucky for them to swarm in the first year. If she's last year's then it is more likely. The colony should build up strength fairly gradually through the summer reaching full strength by Autumn but is unlikely to provide a harvest in the first year.

If you collect it in a nuc. box: place the nuc box on the site your hive will occupy, facing the correct direction, open the door and let the bees orientate to this site for at least 24 hours. Then, move nuc box to one side, position your hive, remove 6 frames of foundation from the centre, move each of the 5 frames from the nuc. across to the hive, keeping the same order and orientation. Look at brood and for the queen as you transfer them. Shake or gently brush any remaining bees from the nuc box onto the open hive. Replace final frame of foundation at the edge. Feed syrup unless there's a strong nectar flow. For this you need a contact or rapid feeder and a spare super box without frames. Close up. Check weekly to watch how the



colony is drawing the foundation and how the brood nest is expanding. When there are about 9 frames drawn, add a queen excluder and a super with frames of foundation so they can start to draw wax above the brood nest and because the colony is likely to need the extra space for bees by that stage.

### **Feeding bees**

To recap on something we covered in the second session but which often confuses people.

Feed syrup (white sugar and water) or invert syrup when the bees are short of stores; ie: have less than the equivalent of 1-2 brood frames of nectar/honey. This is possible anytime through the year, especially if you harvest supers without due consideration for what you're leaving the bees with a prolonged period of cool/wet/windy weather mid season when population is high.

Anything between 1lb/pint and 2lbs/pint is OK. Thin syrup mimics a nectar flow and stimulates the workers to feed the queen which increases egg laying rate and so helps colony to build up strength early season. Thicker syrup is more appropriate in Autumn when bees need to evaporate water off the nectar to convert it to honey for winter stores. Around the end of Sept. assess how much stores the colony has and feed them so as to get as much as possible into the brood box.

Fondant (candy) is only used during later winter/early spring when it's too cold for the bees to use syrup or to evaporate water from it. This mimics crystallised honey in the hive which is what they would expect at that time of year.

Don't feed with supers on the hive in case the syrup is stored there and may later be extracted as honey.

### **Extracting honey**

**Questions**, questions, questions . . . . .

### **Apiary practical**

Lighting smokers – everyone to do it themselves

Handling bees, spotting brood, stores

Assessing Hooper's 5 Questions

Shaking frames

Marking drones