National Bee Unit

FAQ 16

The Food and Environment Research Agency

Shook Swarm

In trials to control European Foul Brood in honeybee colonies, it has been shown to be beneficial to shake bees onto new foundation and then destroying the old combs. Trials indicate that it may also be beneficial in controlling *Nosema* spp., chalk brood and varroa mite populations. Colonies treated in this way often become the strongest and most productive in an apiary. Some beekeepers are now using this system to replace all the old brood combs in a beehive within a single procedure. This sheet explains how it is done.

1. Is it easy?

All procedures are simple unless you have difficulty in finding queens. If so it would be wise to get an experienced beekeeper to help, also having another beekeeper with you may give more confidence.

2. When can I do it?

Mid-March to mid-July, depending on the season or locality. Generally the earlier the better. Before mid-March it is too cool for bees to effectively draw new comb and the loss of brood may be detrimental at that time. If carried out later than July then brood that would take the colony into the winter is destroyed. If the colony is strong you can carry out this procedure in early March, but remember you will need to feed sugar syrup so that the bees can build comb. If this procedure is being used as a management tool then it would be best to avoid the period when eggs are laid that will develop into bees that will forage on the main honey flow. Generally this is the last two weeks in April and first week in May. If this procedure is being carried out as the result of confirmation of European Foul Brood disease (EFB) then this would be acceptable as it is more important to effectively control disease. In this case the procedure must be carried out with the help of an authorised bee inspector.

3. How do I carry out a shook swarm?

This technique is not particularly suitable for smaller colonies. ‘The stronger the better’. If shaking a small colony put them into a nucleus box.

1) Prepare a clean brood chamber filled with frames of foundation, a clean floor, crown board and queen excluder.
2) Move the hive that you intend to shake to one side and place the clean floor on the original hive site. Put the queen excluder over the floor and then place the clean brood box and foundation on top of the excluder.
3) Remove the centre four frames and put them to one side. Flying bees will arrive at this new chamber.
4) Examine the old brood chamber and find the queen. Place the queen between the combs of foundation in the new box, or temporarily place her in a queen cage, or matchbox, so that she can be released into the new chamber when you have completed shaking the bees.

P.T.O.

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5) Shake all the bees from the old combs into the new chamber. This is done by holding a frame of bees about one third the way into the gap left between the foundations in the clean chamber. The frame is then moved quickly downward and suddenly stopped. Avoid jarring the comb against the chamber. The bees will fall off the comb and any remaining on the comb can be brushed off.
6) Shake and brush bees remaining on the old equipment into the new chamber.
7) When all the bees have been shaken into the new brood chamber replace the frames of foundation removed.
8) Put the crown board in place.
9) Unless there is a strong nectar flow feed with 'heavy' sugar syrup i.e.600 mils. of water to 1 kg. of white granulated sugar.(1 pint water to2lbs. sugar) Contact feeders, i.e. bucket type, are best. In the case of control for EFB or other disease it may be beneficial to delay feeding for two days. In this way any contaminated nectar carried by the bees is used in comb building.
10) After about a week when brood is present remove the queen excluder.
11) Maintain feeding, unless there is a continuing nectar flow, until all combs are drawn out. Check carefully at this point as end combs may need to be turned around or moved one frame into the chamber. This is because bees find it hard to cluster and create wax on frames adjacent to the side of the brood box.

The old combs should be rendered for their wax content or destroyed. In the case of combs where EFB has been confirmed the combs and frames should be burnt.

4. What risks are there?

Colonies may be lost using this system. If a queen excluder is not used below the brood chamber then the colony may abscond. If you have clipped one wing of the queen then this is less likely, but if the queen is lost then there will probably be no brood with which to replace her.

In the EFB shook swarm treatment trials over the course of one year, 2002-3, colony losses were about 11% including failed queens, starvation, etc. This figure excludes recurrence of disease, which was 7%. Without changing comb in this way recurrence of EFB can run in excess of 25%.

If EFB is not present then it may be prudent to use the Bailey comb change.

5. What else should I be aware of?

Make sure that your foundation is 'fresh'. Old foundation becomes hard and brittle so bees tend to chew it into holes. It can be restored by carefully warming it, which releases oils making it usable again. Use accurate spacing between the frames and make sure it is 'narrow', not wide or out of parallel.

The 'Bee Diseases and Pests Control (England) Order 2006' requires beekeepers to notify the Secretary of State for the Department of the Environment, Food and Rural Affairs if they suspect that their bees are infected with American or European Foul Brood disease. In these cases an Authorised Bee Inspector will advise and help. Similar Orders and requirements apply to Wales, Scotland and Northern Ireland,

6. Are there other ways of replacing brood comb?

Brood comb can be replaced in its entirety by using the Bailey comb change method. This procedure entails a brood chamber full of new comb or foundation being put over the existing comb. The queen is subsequently restricted to the new comb so that the old chamber and combs can be removed when the brood has hatched. Single frames of brood comb can also be changed. The building of new brood comb by using brood chambers as honey supers and then extracting the honey has many advantages.

See FAQ 5 'Replacing Brood Comb'.

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