

## Queen Trapping

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Queen trapping for varroa control is a technique developed by Dr. Maul in Germany some 25 years ago. It is claimed to give an efficacy of 95%. Though some skill is needed it is a useful bio-technical method to remove varroa mites early in the season and has the advantage that no chemicals are used when supers are on the hive. It is an important tool in an integrated approach to varroa management.

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### 1. Is it easy?

If you can find the queen and put her in a cage it is a simple procedure. A competent beekeeper assisting may be helpful.

### 2. When can I do it?

The window of opportunity is quite small. Local conditions will cause variations in the optimum time so some experimentation may be needed. As a starting point it should be carried out after eggs have been laid which develop into honeybees that forage the main crop (generally the end of April and beginning of May) and before those that will take the colony into winter. Normally this will mean the procedure can be carried out during the last week of May at the earliest, June and perhaps the beginning of July.

### 3. How is it done?

Brood is restricted for a period to a sequence of trap combs. Varroa attempting to reproduce enter brood cells in these combs and when capped are removed along with the mites. A special cage is required that envelopes a brood comb and is covered in queen excluder material. The queen is thus trapped on one comb whilst worker bees can come and go to carry out their duties. When the queen is trapped it is preferable to ensure that there is a small hole through the comb so that she can pass from side to side. These cages are available from some equipment manufacturers. If you wish to make your own buy or borrow one to copy. A supply of empty, clean, drawn brood comb is helpful.

It is much easier if your queen is marked clearly and brightly. This makes it easier to find her through the excluder material of the cage.

#### The technique is as follows:

**Start.** Go to the colony and find the queen. Place her on an empty drawn brood comb and wrap the cage around the comb 'A'. The cage is then placed in the centre of the brood nest but as it is wider than a standard brood comb you may need to remove the dummy board or replace a frame with a dummy board. If using substitute comb it will have to replace an existing comb.

**Day 9.** Return to the colony and remove the cage. Examine the comb carefully through the excluder and find where the queen is. Open the cage and put the queen into a suitable container for safekeeping. Mark the frame 'A' that she was trapped on with a drawing pin or similar and place back into the centre of the brood nest.

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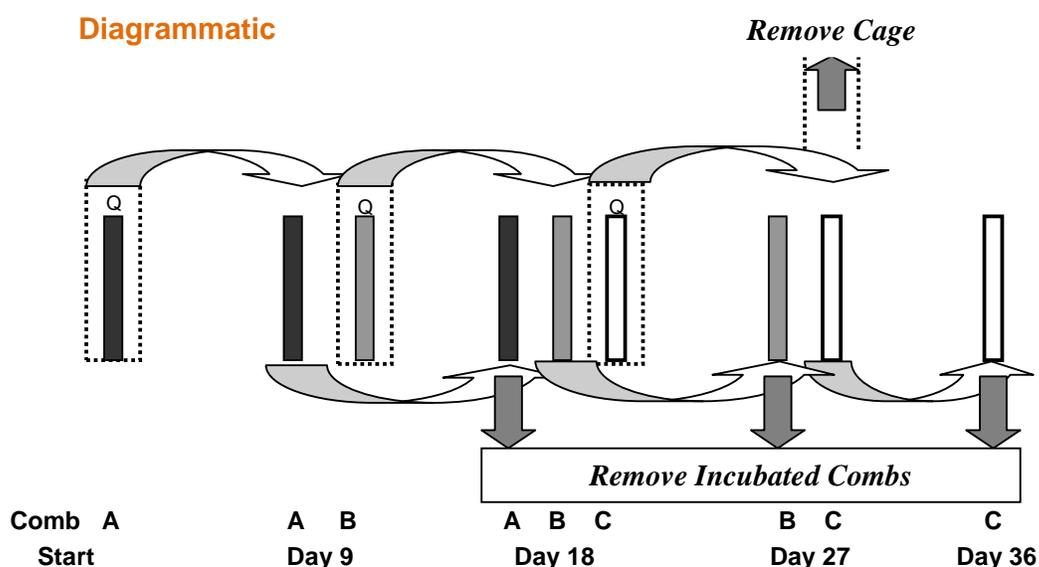
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Examine the other brood frames for queen cells and destroy them. Select an empty brood frame, from the colony, or a substitute, place the queen onto the comb and wrap the cage around it 'B'. Place the cage next to the comb marked with a drawing pin (Incubating comb 'A').

**Day 18.** Go to the colony and remove the incubating comb 'A' marked with the drawing pin. This comb can be destroyed or recycled for wax. The cage is removed and the manipulation performed as on day 9. Comb 'B' becomes the incubating frame and the trap comb is 'C'. There will be no need to examine the other combs.

**Day 27.** Go to the colony and remove the incubating comb 'B', marked with the drawing pin, and destroy. Remove the cage, which is now dispensed with, find the queen and return her to the full colony. Mark the trap comb 'C', as before and place it in the centre of the combs to incubate. There will be no need to examine the other combs.

**Day 36.** Go to the colony and remove the incubating comb 'C' and destroy it. Swarm control examination should resume at this point.



*The 9-day examination period is important. This can be increased to 10 days for one period but should not exceed 19 days for two consecutive periods. This is because worker brood may hatch on day 20 along with captured mites and their progeny. If for practical reasons you wish to trap for 7-day periods, then four combs should be used to maintain efficacy.*

#### **4. How long does this procedure take?**

About 45 minutes per colony per season, but if you carry out swarm control examination on a 7 or 9 day period you will save some time as this will not be necessary on day 18 and 27.

#### **5. With the loss of brood what happens to the honey yield?**

With the removal of three frames of brood and loss of brood on other frames a drop in bee numbers is inevitable. However with little brood to care for more bees will forage. Experience indicates that colonies manipulated in this way, produce high yields of honey.

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