

‘Celle’ Rotation

This sheet describes a method of varroa control from Germany that incorporates a complete change of brood comb. The system has been developed using organic acids however suggested alternative control is included. It is claimed to be effective provided that local background varroa levels are low. The main benefits, apart from varroa control, are the exchange of all old brood combs for new therefore reducing overall pathogen load in the colony, swarm control and maintaining or increasing honey yield. It is suitable for use with small brood boxes rather than large.

Stage 1. Early Spring.

At the start of the season place a queen excluder over the brood box and put an empty brood box containing frames of worker foundation over the queen excluder. I.e. use a brood box as a super.

Stage 2. Late Spring.

- a) When the brood box is full of sealed honey, or at the end of the spring flow, carefully extract the new combs.
- b) Use the new extracted combs to generate an artificial swarm. In Germany the parent colony is treated with formic acid (See fact sheet 23 ‘Organic acids’) or ‘Perizin’[®], an organo-phosphate varroacide, in solution. If this procedure is carried out during the June gap the artificial swarm may need feeding.

When creating the artificial swarm if no sealed brood is transferred from the parent colony then control or treatment may not be necessary. (See FAQ 15 ‘Using artificial swarms for varroa control’)

The parent and swarm colonies are run as separate colonies.

Stage 3. Late Summer.

- a) At the end of the nectar flow in August remove and extract the honey crop.
- b) Shake all the bees in the parent colony into an empty brood box. This would probably be best used in conjunction with an open mesh floor and a couple of dummy frames/boards for the bees to cling to. In Germany they spray the bees using a solution of oxalic acid. (See Fact sheet 23 ‘Organic acids’) 50 mils. is used for a large colony, 30 mils. for a small one. German bee keepers are currently assessing the efficacy of lactic acid at this point. If you do not wish to spray the cluster of bees, a less efficacious method would be to spray the bees on the combs three days prior to shaking into the empty brood box. Other varroacides or dusts may be suitable but the efficacy is unknown. *Manufacturers instructions should be complied with.*
- c) Destroy all the brood combs from the parent colony. The majority of mites infesting the colony will be in the brood.
- d) Unite the bees that have been sprayed with the artificial swarm. T. S. K. & M. P. Johansson describe concise details of uniting bees in ‘Some important operations in bee management’.

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Uniting bees at this time carries greater risk, as there may be little or no nectar flow. As it is probable that the new queen in the parent colony will be selected to replace the old queen in the artificial swarm, the following procedure may reduce the risk.

Two days before treating the bees remove the old queen and put her in a nucleus as a reserve. On the following day find the new queen, place her in an introduction cage and install it into the artificial swarm. After the bees have been 'treated', in the evening or on a cool day, place two sheets of newspaper over the brood frames in the artificial swarm, pierce some small holes into it and place the treated bees, in their empty brood box, on top of the newspaper. Powdered newspaper with a few or no dead bees at the hive entrance indicates a successful uniting.

Stage 4. Winter.

In October and November the colony is monitored for mite drop. If the daily average exceeds 4 then the colony is treated. Central Europeans use oxalic acid* either dribbled, sprayed or sublimated; or lactic acid* sprayed. A varroacide such as 'Apiguard'® could be used.

***Not registered for use in the UK.**

For the situation respecting organic acids please see FAQ 23 'Organic Acids'.

No mention of alternative products should be taken as an endorsement or a recommendation to treat. The method is referred to as it is commonly used in Europe.

Diagrammatic Representation

