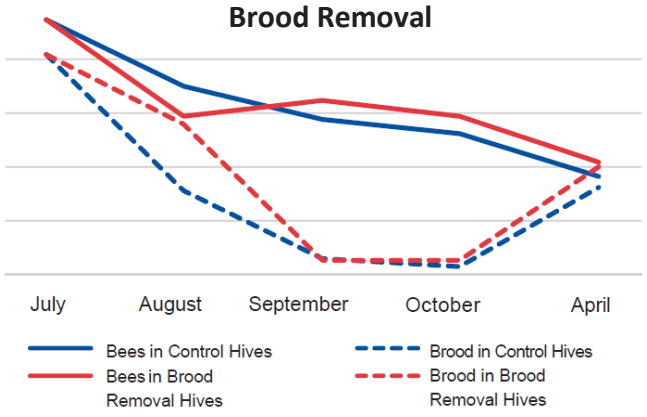
## Practical Experiences

At first glance, the **Complete Brood Removal Method (4)** seems to be a drastic intervention into the colony, but it is based on the natural separation of brood and bees during swarming.
Experience has shown that this method is well tolerated by the colonies and that the bees compensate for the loss of brood very quickly. If this method is applied 10 to 14 days before the honey extraction the yield can be increased, as the colonies' consumption is reduced.

The graph below shows the development of differently treated colonies of an apiary between July and April.

After data sampling in July, the control group is treated with formic acid, while the other colonies are treated at the same time with the complete brood removal method. Despite the removal of the brood in July, these colonies are having already more brood in August than the control group and consequently overwinter with more bees.




*Graph of colony development following complete brood removal compared to formic acid treatment in control hives (Bieneninstitut, Kirchhain).*



## Short and Sweet

### Advantages

- Instant treatment to control Varroa mites.
- Effective Oxalic Acid application during active season.
- Easy comb renewal.
- Treatment during nectar flow can increase the honey yield.

### Requirements

- Hive needs to be checked through completely.
- Additional combs and boxes are required.
- Honey box must be removed before the treatment with Oxalic Acid.

### Timing

Ideally 10 to 14 days before the end of the last nectar flow until about mid-August.

**Original Version and Design by**

Landesbetrieb Landwirtschaft Hessen
Bieneninstitut Kirchhain
Internet: www.bieneninstitut-kirchhain.de
Images and Graphics: © LLH, CVBC

**Translated and Adapted by**

Comox Valley Bee Club
Internet: www.cvbclub.com

Date: November 2023

funding provided by:

Investment Agriculture Foundation
British Columbia

# Comox Valley Bee Club

## The Complete Brood Removal Method

### Effective Varroa Treatment in Two Steps

## The Concept of the Complete Brood Removal Method

In contrast to the **Drone Brood Removal Method (1)**, **Varroa Trap Method (2)** and the **Artificial Brood Break Method (3) , the Complete Brood Removal Method (4)** eliminates all brood and the Varroa mites within the closed cells at once. The only varroa mites left in the colony are the ones in their phoretic stage on the bees.

At this point one option is to apply an Oxalic Acid treatment, which will be very effective since the colony is completely brood-free.

Another option (biotechnical) is to introduce a comb with as much open brood as possible in order to lure the remaining mites into the cells for reproduction. After all cells are capped the comb is removed from the hive, effectively acting as a trap comb for the Varroa mites.

*The bees of all brood combs will be brushed off into the hive and the combs separately collected in an empty box.*



## Application of the Complete Brood Removal Method

### Step 1

- Remove all combs with brood and sweep off the bees from these frames.
- Watch out for the queen and ensure that she remains in the hive.
- Fill brood box(es) with empty combs and arrange for new brood centre.
- Discard all combs or alternatively deep freeze good combs for a week to destroy the Varroa mites inside the closed cells.

### Step 2

#### Oxalic Acid

- Remove honey box, if present.
- Treat with Oxalic Acid within a few days of removing the brood.
- Preferably treat when most bees, including the foragers, are in the hive (early morning or late evening).
- Add feeder with 1:1 syrup to help hive establishing a complete new brood nest

**or**

#### Trap Comb

- Leave a comb with as much open brood as possible in the centre of the new brood nest (trap comb).
- After nine days replace the capped trap comb with an empty comb.
- Discard the trap comb or freeze it for at least a week to destroy the Varroa mites within the brood cells.
- Trap combs can be returned from the freezer to the hive after de-capping the cells.