

BIOSECURITY MEASURES IN BEEKEEPING | MISCELLANEOUS

Miscellaneous

Create artificial swarms as a biotechnical *Varroa* control method

An artificial or shock swarm is formed by transferring adult bees and introducing a queen.

This method utilises surplus bees without significant honey loss.

Shook swarms can be created during the honey harvest.

Treat adult bees for *Varroa* if necessary. With no brood present, the queen must be healthy and start laying immediately.

Ensure the colony receives supplementary feeding throughout the season.



step
1

Select healthy and productive colonies for artificial swarming.

Artificial swarms should be created from strong and healthy colonies with sufficient brood, food reserves, and adult bee populations.

Selecting vigorous colonies improves the success of swarm establishment and supports colony recovery after the biotechnical intervention.



step
2

Interrupt the *Varroa* reproductive cycle by separating bees from brood.

Creating an artificial swarm separates adult bees from capped brood, where *Varroa destructor* mites reproduce.

This brood interruption significantly reduces mite reproduction and lowers parasite pressure without relying solely on chemical treatments.



step
3

Provide optimal conditions for new colony development.

The artificial swarm should receive adequate nutrition, comb foundation, ventilation, and a good queen or queen cell.

Good establishment conditions reduce stress, support comb building, and promote rapid colony stabilisation and brood production.



step
4

Apply *Varroa* control measures at the most effective time.

The broodless period following artificial swarm creation offers an ideal opportunity for highly effective *Varroa* treatment.

During this stage, mites are exposed on adult bees, allowing biotechnical or organic treatments to achieve improved control efficiency.



step
5

Assess colony *Varroa* development and varroa infestation regularly.

Continuous monitoring of colony strength, brood development, and mite infestation levels is essential to evaluate the success of the artificial swarm method.

Early detection of problems enables timely corrective management actions.



step
6

Combine biotechnical methods with integrated pest management strategies.

Artificial swarming is an effective non-chemical tool within integrated *Varroa* management programmes.

Combining brood interruption with monitoring, selective breeding, and responsible treatment strategies helps improve colony health, sustainability, and long-term resilience against *Varroa destructor*.



Our Consortium

