

BIOSECURITY MEASURES IN BEEKEEPING | EUROPEAN FOULBROOD

Management of Hives that Show Clinical Symptoms of AFB

Destruction of AFB positive colonies or whole apiary

The destruction of colonies positive for American Foulbrood or the entire apiary is a drastic, but necessary measure to prevent the spread of the disease.

If the presence of the disease is confirmed in any colony, it is crucial to take quick and decisive actions to eliminate it, which may involve destroying the affected hives or even the entire apiary if necessary.

Honeybees must be euthanised first under welfare conditions, later all material must be burned. This extreme measure helps prevent the spread of the disease to other colonies and protects the health of bees in the beekeeping community.

Some countries have specific rules in the control of this disease that must be accomplished.



step 1

American foulbrood is caused by *Paenibacillus larvae* subsp. *larvae*, a bacterium capable of producing highly resistant spores.

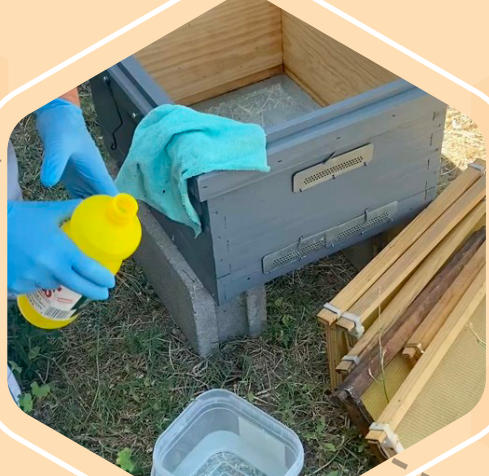
In an infected larva, the bacterium can produce over a billion infectious spores, highly heat-resistant and unaffected by many chemical disinfectants.



step 2

Disinfection must cover all items used in handling the infected hives, including the equipment used by the beekeeper (hive tool, gloves, bee suit, honey extractor, etc.).

It is compulsory to use disposable plastic gloves over the beekeeper gloves, even if they are clean and new.



step 3

All brood boxes and supers that are not to be disinfected (with bleach, a blowtorch, caustic soda, etc.), preferably under veterinary supervision to select them.



step 4

The destruction of infected colonies is the only way to prevent the disease and its spread. Honeybees must die properly under welfare conditions.

The first step is to close the hive entrance by night.



step 5

Any method employed must result in the immediate and unequivocal death of the colony and avoid unnecessary suffering. Proposed methods include thermal shock, such as freezing (for one week to ensure the cold reaches all areas of the hive).



step 6

A more feasible one is the exposure to CO₂, which displaces oxygen and causes bee mortality without suffering.

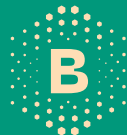


step 7

In the case of American foulbrood, the most advisable course of action is to burn the hive boxes and combs to prevent the dispersal of spores **after the bees have been properly euthanised.**



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