

Sacbrood

Cause

This disease is caused by the Sacbrood virus.

The Disease

The virus is given to the larvae in the brood food. 2 day old larvae are most susceptible and die shortly after the cell is sealed.

The virus multiplies in the larval tissues which appear normal. The problem occurs after the cell is sealed as the larva is unable to shed its last larval skin and dies.

The amount of virus in a dead larva is sufficient to kill 1000 colonies.

Cells containing dead larvae are uncapped by the workers and the bodies removed. Remaining virus in larvae soon loses infectiveness as the remains dry up. The virus infects the worker bees where it multiplies without causing disease.

It is the multiplication in young bees which is most important as it collects in the hypopharyngeal glands and then enters the brood food.

When these bees become foragers they do not gather pollen as this would then become infected. The lives of the workers are shortened due to protein deficiencies.



Infected larva

Signs in the colony

Cells containing dead larvae are uncapped by the workers. As they have failed to shed their last larval skin they can be seen stretched out in the cell with their heads to the top.

The moulting fluid between the skins causes a change of colour from pearly white to pale yellow and the larva has a sac like appearance.

In a few days the colour changes to dark brown starting with the head. The larva dries down to a flattened shape with a slightly upturned head – the so called ‘Chinese Slipper’.

In the yellow stage the changes can be confused with EFB and the later stages with AFB.

Disease is common with an estimated 30% of colonies affected but is only likely to be noticed in the spring and early summer when brood outnumber adults. Varroa will exacerbate the condition by weakening the bee’s resistance. It rarely causes significant damage to colonies.



Chinese Slipper

Diagnosis

This is done by examination of the dead larvae taking care to rule out Foul Brood.

Spread

Disease is spread within the colony from worker to brood via the food. Spread among the workers is by contact when cleaning out the dead larvae and eating contaminated pollen.

Spread between colonies is by direct contact of bees following robbing or drifting.

Control

There is no specific treatment but in case of a severe outbreak re-queening from a colony with no signs of the disease will help.

Combs can be re-used if necessary as any virus on them becomes inactive in a few weeks. It may be worth while fumigating comb with acetic acid to ensure freedom.