National Bee Unit

FAQ 10

The Food and Environment Research Agency

Control of Small Hive Beetle

If Small Hive Beetle *Aethina tumida* (SHB) arrives in the United Kingdom and eradication is not possible beekeepers will have to put in place measures to control infestations. There is no simple way to control this bee pest and an integrated pest management system will have to be used. To control infestations it is necessary to disrupt or prevent the life cycle of the beetle. This sheet gives an outline of measures that may be used.

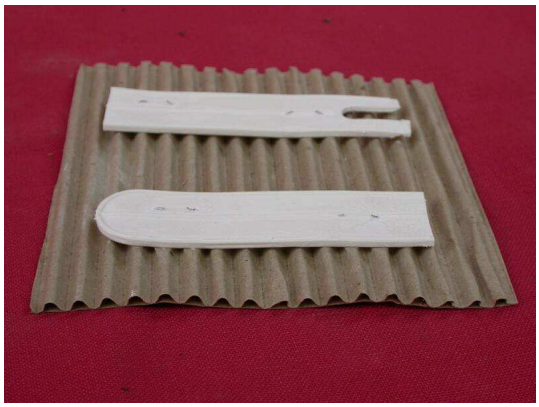
What is the single most important measure?

Following experience in USA it is clear that cleanliness in the extraction area is most important. As with many pests strong healthy colonies can exert considerable control over this pest. Weak colonies, supers or crates empty of honeybees are a prime target for rapid infestation. Ensure that the extraction area is kept clear of hive debris, supers extracted quickly and stored in a suitable manner to prevent infestation. Removal and destruction of any comb infested with this pest is similarly a primary control measure.

What chemical control methods are available?

In the USA the varroacide 'Checkmite+' is used to control Small Hive Beetle. Should this pest be confirmed in the U.K. it is most probable that this product will be used for control, initially by means of a Special Treatment Authorisation. At the time of writing this product is not approved for any use in the U. K.

A single strip is cut in half and stapled to a square of corrugated cardboard. This square is placed strips down onto the floor of the hive so that when beetles burrow under the ridges they contact the strip. Beekeepers in North America report that this treatment is insufficient to control beetles if used alone. The treatment period is six weeks. It must not be carried out with supers on the hive and these cannot be placed on the hive for at least two weeks after removal. Squares of plastic corrugated card that bees don't chew are available.



What management techniques are there?

Many techniques have been proposed and are being developed. Here are three.

P.T.O.

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Fly swats.

This is a simple wand that looks like a fly swat and can be inserted onto the floor of a hive through the entrance. It comprises a stick or rod on which are two squares of thin plywood about 4mm thick by 140mm square. These are fixed face to face with a gap of 3 to 3.5mm between them. The 'swat' is left on the hive floor when beetles are active and they enter the crevice to lay eggs etc. The beekeeper removes the 'swat' complete with hiding beetles and drowns them.

Hood Small Hive Beetle Trap.

This trap is used in colonies where small hive beetles are actively moving around, which is generally at temperatures in excess of 18C. The container is half filled with food grade mineral oil or cider vinegar and placed where the beetles are most active. This can be in the brood nest adjacent to brood combs or in honey supers. Traps can be fitted to either brood or super frames.

Bees often block the funnel slot at the top with propolis so it will need to be cleared regularly using a hive tool. If used in the brood box the space around the trap can be used for drone brood removal as a control measure for varroa.

West Beetle Trap.

This plastic floor tray is marketed and used in the USA, It is made for the Langstroth hive but could be adapted for use with other hives. The under tray is filled with vegetable oil and covered with a plastic mesh grid so that when beetles go down to the floor they drop through the slots and drown in the oil. Any SHB larvae leaving the hive to pupate would similarly drop through the slots.

The floor is only used during active beetle periods and is easily cleaned if it has not dried out. The floor needs to be maintained in a level position and unless the hive is truly watertight, may flood out when it rains.

Is there anything else that I should be aware of?

The probable impact of SHB on North European beekeeping is unknown. The beetle is sub tropical so its survival and reproductive rate in our temperate climate is unknown. Knowledge is being gleaned in North America where the beetle is found as far north as Canada. However the continental climate there will create differences in its survival and life cycle. We can learn from American beekeepers but if this beetle should arrive we will have to adapt known methods of control to our circumstances. Research is being carried out to develop alternative control techniques such as pheromone traps.

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