

Small Hive Beetle (SHB) - Management in a small apiary

What is Small Hive Beetle? *Aethina tumida*

SHB - Small Hive Beetle - was identified in 2002 in the western suburbs of Sydney. It was the South African strain.

SHB is now prevalent throughout the Australian mainland.

SHB is a small black/brown beetle which invades the hive. They annoy the bees, which in turn harass them into corners and crevices. The bees can manage small numbers of **SHB**, but when the females lay eggs (up to 300 per day) the resulting larvae can destroy the hive. The larvae then fall out of the hive entrance to pupate in the soil.

Here are some relevant facts :

- **SHB** can fly up to 10 km a day, and can also hitch rides in vehicles, on clothing and in luggage.
- Beetles attract beetles. They have very sensitive hormone detectors, so they can be attracted by flying past a hive.
- **SHB** can live for over a year.
- **SHB** can live and reproduce in hives, in fruit, and in pollen.
- Larvae burrow through comb (particularly looking for pollen), leaving slimy traces, destroying brood and stores, and eventually destroying the hive.
- Conditions near the coast favour beetles.
- Hives in shade are more vulnerable.



Have I got SHB?

- Lift off lid and quickly scan all surfaces for small black beetles scurrying from the light. Squash as many as you can.
- Remove top super and place it on the upturned lid (any beetles will scurry away from the light and down onto lid).
- Now search the brood super for beetles, paying attention to corners and crannies.
- Inspect combs for slimy surfaces and small pointy larvae.
- Wow! Not many beetles? Good. Reassemble the hive, but inspect the lid as a final confirmation.
- Place beetle traps as a precaution. With regular service, these should keep the numbers of **SHB** under control.

How do I manage SHB?

The hive :

- Ensure all components of the hive are sound, clean, well-painted (particularly inside) with no cracks.
- Smooth all internal corners with gap-filler, formed into a concave bead so that the beetles cannot hide there.

The site :

- Have hives in full sun all year round (may be shaded during very hot weather).
- Face hive entrances E.N.E. (into the rising sun).
- Hives should
 - be sheltered from the wind
 - be on dry hard soil
 - have vegetation cleared for 1m around stands.
 - toads will eat larvae as they tumble out to pupate in the soil.

Management :

- All combs in the hive should be worked by bees. Discard all old, dark comb.
- Use traps to control the number of beetles in the hive. Service the traps regularly (every 3 to 4 weeks).
- Breed from hives which are most resistant to beetles.
- Do not try to resurrect weak hives.
- Deal with dead-outs and slime-outs promptly.



These 2 images from Clemson PDF (see 2nd page)



A classic slime-out.
A real mess!



Small Hive Beetle Management...

In the honey house :

- Extract honey promptly.
- Ensure honey, comb and cappings are never exposed (always sealed).
- Return stickies (recently extracted frames) promptly to the hive.
- Store combs in sealed cool place.

Traps :

- There are several effective traps available. They rely on the principle that the beetle tries to find a safe haven from the constant hassling by the bees. Effective traps offer an attractive haven for the bees where a fatal agent is waiting.

Common agents are vegetable oil (but not peanut), diatomaceous earth and fipronil.

For details of the different traps, visit the suggested web sites listed below.

I use Apithor traps (fipronil) on the bottom board of the hive, and Beetle Eaters (oil traps) between the top bars of the frames on the top box.

When using Apithor traps ensure that :

- 1 They lie flat on the bottom board with no (minimal) residue underneath with openings parallel with the sides of the super, and with logo facing up.
- 2 They are about 8cm from the entrance.
- 3 The hive must slope forwards so NO water enters and pools in the base of the hive.
- 4 Replace traps on expiry (3 to 6 months).

When using Beetle Eaters (oil traps) :

- 1 Fill the traps about half full.
- 2 Never spill oil on frames or bees, as this will kill them instantly.
- 3 Remove oil traps before moving hives or before removing top box during inspections.
- 4 Use pure oils - never use any oils that may contain traces of peanut oil.
- 5 Service every 2-3 weeks (summer) and 4-6 weeks (winter).

If a hive is destroyed :

- You must destroy as many beetles, eggs and larvae as possible.
- Use boiling water, fire, solar melter or place in a well-sealed black plastic bag in hot sun.
- Save as many hive components as possible. These may be cleaned with hot water or pressure cleaner, and repainted.

Health Warnings :

- 1 When using diatomaceous earth take care not to breathe or ingest dust. Wear a mask.
- 2 When handling slime from SHB be aware that it contains a yeast which is very toxic to lungs. When cleaning wear a mask and gloves, especially if using a pressure cleaner. Avoid breathing water vapour from cleaning.

For the best www information packages on the Small Hive Beetle, we recommend the following :

Best : Download PDF "small-hive-beetle-management-options" - 350k - 7 pages - PrimeFacts DPI NSW

- http://www.dpi.nsw.gov.au/___data/assets/pdf_file/0010/220240/small-hive-beetle-management-options.pdf

Best : Recommended by QBA - "Handbook Of Small Hive Beetle" - Clemson USA - 1.9 MB - 20 pages

- <http://www.clemson.edu/psapublishing/Pages/Entom/EB160.pdf>

Native Bees and Small Hive Beetle - go to Aussie Bee Online (ABOL) - Article Twelve and Article Eighteen

- <http://www.aussiebee.com.au/aussiebeeonline012.pdf> • <http://www.aussiebee.com.au/aussiebeeonline018.pdf>

Traps Fipronil - Apithor - www.apithor.com.au

And make sure you check out the label instructions - <http://www.apithor.com.au/images/pdf/ApithorLabel.pdf>

Diatomaceous earth - www.dpi.nsw.gov.au

Go to downloads for the PDF document "Small hive beetle - an in hive control device using diatomaceous earth"

Oil traps / Beetle Eaters - Go to Clemson PDF (page 13) or PrimeFacts DPI NSW (page 4)



Valley Bees

