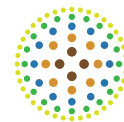


PROJECT SUMMARY



**RURAL
INDUSTRIES**

Research & Development
Corporation

APITHOR™ small hive beetle harbourage trap safety and residue trials

The issue

Small hive beetle (*Aethina tumida*) continues to impact on the profitability of honey production in Australia by destroying hives and spoiling produce. The APITHOR™ small hive beetle harbourage trap was developed so that Australian beekeepers have a legal, affordable, safe and effective product available to them to control beetles in their hives. The effectiveness and safety of the trap, and the lack of residues in honey produced in hives in which APITHOR™ was deployed, had been demonstrated in trials run over six weeks intervals. However, label directions allow the deployment of APITHOR™ for up to three months in hives with no restrictions preventing immediate repeat treatment. The Australian Pesticides and Veterinary Medicines Authority (APVMA) considered the data provided about the use of APITHOR™ over six months, which indicated it was safe to bees and advised in December 2013 that APITHOR™ had been registered for use in all states, according to the current product label.



The project

To address the requirement for registration by the APVMA, the study was conducted to produce data on honey residues and bee safety associated with the use of APITHOR™ in field trials continuously over six months as two consecutive three-monthly treatments to measure the effects, if any, on colony health.

Background

NSW Department of Primary Industries has developed an effective refuge trap for the control of adult small hive beetles in bee hives. This device has been commercialised by ENSYSTEEX Australasia Pty. Ltd. as APITHOR™ hive beetle harbourage and is available for use by beekeepers.



Methods used

This study was performed to satisfy the requirements of APVMA's "Guideline 28 Residues in Honey". The field component of the study was conducted by the NSW Department of Primary Industries. The residue analysis component of the study was conducted entirely separately, by Agrisearch Analytical Pty. Ltd., in accordance with the OECD principles of Good Laboratory Practice. At the beginning of the trial two central super frames from six of the APITHOR™ treated hives were replaced with brand new foundation frames. The honey and wax that was later extracted from these new frames was entirely produced in the presence of APITHOR™. Pre-treatment honey samples were collected from the brood boxes and from the supers of the six hives. Replicate samples of bulked and blended honey and wax from the six 'residues' hives were collected after three and six months continuous exposure to APITHOR™. Frozen samples of honey and wax were submitted to Agrisearch Analytical Pty. Ltd. for analysis of residues.

Results/key findings

There were no post-treatment differences in the key indicators of colony health (brood area, hive strength, hive weight increases) between the untreated hives and those treated continuously for up to six months with APITHOR™. Independent analysis of post-treatment honey and wax samples demonstrated that repeat treatment with APITHOR™ for six (3+3) months continual exposure did not leave detectable fipronil residues in honey or wax.

Implications

The value of APITHOR™ lies in its ability to prevent colonies from being destroyed by small hive beetles - a dead hive having no productivity. The results of the field trials suggest beekeepers should be confident that when used as directed on the product label, APITHOR™ will effectively control adult beetles, protect hive productivity, have no deleterious effect on colony or human health and leave no detectable residues in honey or wax. The full report from this study was provided to the APVMA for consideration during the registration of APITHOR™. The APVMA advised of the successful registration of APITHOR™ in Australia in December 2013.



For more information

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