

Developing a "lure and kill" system for raspberry beetle, *Byturus tomentosus*, in *Rubus* production.

Carolyn Mitchell¹, Stuart C. Gordon¹, A. Nicholas E. Birch¹ and Stephen F. Hubbard².

¹ Scottish Crop Research Institute, Invergowrie, Dundee DD2 5DA, Scotland, UK.

² University of Dundee, Dundee DD1 4HN, Scotland, UK

Introduction

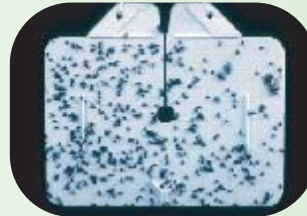
Raspberry beetle is an important pest of raspberries in the UK and Europe. Until now, the main control method was the application of insecticides. Consumer pressure and perceived risk to the environment has led to an EU pesticide review.

This will result in a reduction in the number of insecticides available. Raspberry growers must seek alternative control strategies for the raspberry beetle.

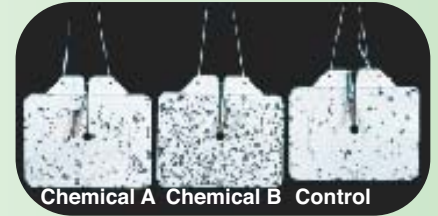
Raspberry beetle larvae



Adult raspberry beetle



Non UV reflective white sticky trap (Rebel® bianco)



Traps with the addition of the volatiles

This system uses non-UV reflective white sticky traps – visual attractant. Two flower volatiles (chemicals A and B) were identified (GC-EAG, SCRI) and shown to attract the beetles in lab and field experiments.

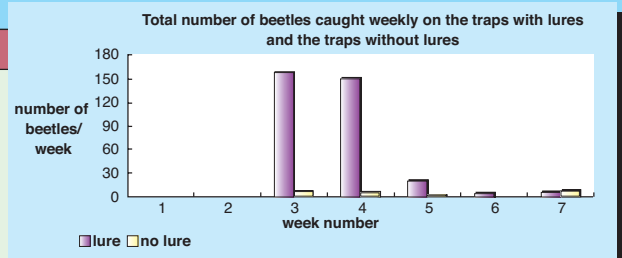
The volatiles in combination with the traps increases the efficiency of the traps.

Experiments

Experiment 1 (Dates / 1st May - 19th June 2003)

The traps (AgriSense-BCS Ltd) in combination with chemical B were tested in a commercial plantation.

- **Aim 1** - Compare the number of beetles caught using the plain white sticky traps versus the traps in combination with the flower volatiles.
- **Aim 2** - Compare the amount of beetle damage to the fruit surrounding the different traps.



Graph 1

- The numbers of beetles caught using the flower volatiles increased by 10 to 30 fold.
- There was no damage found on the fruit surrounding the traps.

The original dispenser was made of glass with a small hole in the plastic stopper to allow the chemical to evaporate.

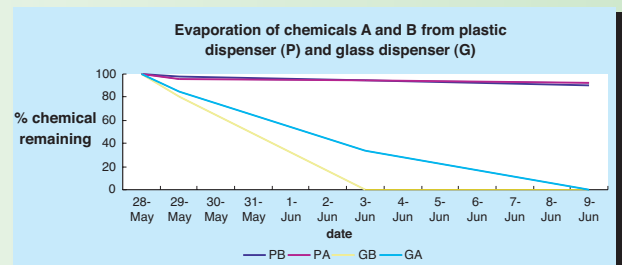


old and new dispensers

Experiment 2 (Dates / 28 May - 9 June 2003)

A new dispenser was designed (AgriSense UK Ltd) which is made of slightly porous plastic, allowing slow release.

- **Aim 1** - Compare the evaporation rate of the chemicals A and B using the old and new chemical dispensers.
- **Aim 2** - Compare the number of beetles caught using the different dispensers.



Graph 2

- The evaporation rate of the chemicals from the new plastic dispensers was much slower than the old dispensers.
- The numbers of beetles caught was slightly less in areas with the new dispensers.

Discussion

The traps in combination with the flower volatiles could be used to monitor the numbers of beetles in the plantation and indicate when an insecticide application against raspberry beetle is needed.

The evaporation rate from the new dispensers could be increased slightly to optimise the numbers of beetles caught.

Acknowledgements

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