



Original thinking... applied



Parasitoid Wasp (*Aphidius rhopalosiphi*)

For plant protection product registration data are required on non-target plant dwelling organisms under EU Regulation (EC) No 1107/2009.

The parasitoid wasp (*Aphidius rhopalosiphi*) due to its role in pest control (it is a parasitoid of aphids), its easy of handling and short life span, and its high sensitivity makes it a good indicator species.

Aphidius rhopalosiphi is one of the two standard tests (along with *Typhlodromus pyri*) required for initially assessing the impact of plant protection products on non-target arthropods.

LABORATORY TESTS

Fera offers standard laboratory tests with the parasitoid wasp following IOBC/WPRS guidelines.

How we carry out the tests

Aphidius rhopalosiphi is exposed to the test compound on treated glass surfaces or treated plants (extended test) for 48 hours for assessments of mortality to assess acute toxicity. A reproduction assessment can be carried out the following day with the parasitoid wasp moved to an untreated aphid-infested plant. The number of parasitized aphids that develop through to mummies are recorded after 10-12 days.

Endpoints

Endpoints for the test are:

- Mortality after 48 hours of exposure
- Reproductive capacity of surviving wasps
- An LR₅₀ (lethal rate producing 50% mortality), ER₅₀ (dose rate causing 50% reduction in reproductive rate), and/or a (NOER) no observable effect rate

ADDITIONAL TESTING

Fera's studies are GLP-compliant and can be adapted to provide bespoke tests that meet your specific data requirements. Fera also offers in-house dose verification or residue analysis to validated methods.

Aged-residue tests

Fera can also carry out aged-residue tests to test the persistence of your products in a realistic environment. Whole plants are sprayed with the test substance to mimic field application. Residual toxicity is tested at set intervals to assess the time of ageing needed for the residues to cause effects below an acceptable threshold within the environment.

Test guidelines

Mead-Briggs M.A., Brown K., Candolfi M.P., Coulson M.J.M., Miles M., Moll M., Nienstedt K., Schuld M., Ufer A. & McIndoe E. 2000: A laboratory test for evaluating the effects of plant protection products on the parasitic wasp, *Aphidius rhopalosiphi* (DeStephani-Perez) (Hymenoptera, Braconidae). In M.P. Candolfi, S. Blümel, R. Forster, F.M. Bakker, C. Grimm, S.A. Hassan, U. Heimbach, M.A. Mead-Briggs, B. Reber, R. Schmuck and H. Vogt (eds.) 2000: Guidelines to evaluate side-effects of plant protection products to non-target arthropods. IOBC/WPRS.

Mead-Briggs M.A., Moll M., Grimm C., Schuld M., Ufer A. & Walker H. 2010: An extended laboratory test for evaluating the effects of plant protection products on the parasitic wasp, *Aphidius rhopalosiphi* (Hymenoptera, Braconidae). *BioControl* 55:329-338.

MORE ABOUT FERA

Fera is based at the National Agri-Food Innovation Campus near York, UK. We have a long track record of developing and providing ecotoxicology services to support environmental risk assessments for companies developing plant-protection products.

Our scientists combine extensive expertise with Fera's advanced resources and GLP-compliant laboratories, to assess the impact of plant protection products on terrestrial non-target arthropods.

We'll work in partnership with you to devise and conduct the appropriate tests to provide the essential data you need for robust environmental risk assessments.

GET IN TOUCH

For more information and to book a test, call Fera on **+44 (0)300 100 0321**, email **sales@fera.co.uk** or visit **www.fera.co.uk/terrestrial-ecotoxicology**

