



Original thinking... applied

Predatory Mite

(*Typhlodromus pyri*)

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

Typhlodromus pyri was identified as a key species in agricultural ecosystems due to its abundance and beneficial capacity as a pest controller.

This predatory mite is regarded as one of the most sensitive species for non-target arthropod regulatory testing for plant protection products.

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

LABORATORY TESTS

Fera offers standard laboratory tests with the predatory mite to IOBC/WPRS guidelines.

How we carry out the tests

Typhlodromus pyri, is exposed to the test compound on treated glass surfaces or treated leaves (extended test) for seven days with assessments for mortality on days three and seven.

A reproduction assessment will begin on day seven: surviving mites from the control group and all of the test item groups (where the corrected mortality is less than 50%) will be sexed, then the number of eggs per female will be recorded on three further days over one week.

Endpoints

Endpoints for the test are:

- Mortality after seven days of exposure
- Reproductive capacity of surviving mites
- 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

Blümel S., Bakker F., Baier B., Brown K., Candolfi M., Goßmann A., Grimm C., Jäckel B., Nienstedt K., Schirra K.J., Ufer A. and Waltersdorfer A. 2000: Laboratory residual contact test with the predatory mite *Typhlodromus pyri* Scheuten (Acari: Phytoseiidae) for regulatory testing of plant protection products. 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.

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**

