



Original thinking... applied

Carabid Beetle

(*Poecilus cupreus*)

For plant protection product applied directly to the soil granules, seed treatments and pellets, or where contamination of the soil is possible, registration data are required on non-target soil organisms under EU Regulation (EC) No 1107/2009.

Carabid beetles are a key organism in agricultural ecosystems due to their role as a pest control species. The carabid beetle (*Poecilus cupreus*) is a middle sized predatory ground beetle and was selected for testing the effects of compounds on beetles due to their abundance, distribution and ease of handling.

LABORATORY TESTS

Fera offers standard laboratory tests with the carabid beetle (*Poecilus cupreus*) following IOBC/WPRS guidelines.

How we carry out the tests

The Carabid beetle is exposed to the test compound on treated sand or natural soil (extended test). The product to be tested can be incorporated into the substrate, or applied to the surface depending on the application method. Effects on mortality, behaviour and food uptake are observed for a minimum of 14 days (with possible extension to 21 days).

Endpoints

Endpoints for the test are:

- Mortality after 14/21 days of exposure
- An LR₅₀ (lethal rate producing 50% mortality), ER₅₀ (dose rate causing 50% reduction in food uptake), 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. Soil is treated 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.

Semi-field and field studies

Bespoke studies can be tailored to meet your specific needs. Contact us for more information.

Test guidelines

Heimbach, U., Dohmen, P., Barrett, K.L., Brown, K., Kennedy, P.J., Kleiner, R., Römbke, J., Schmitzer, S., Schmuck, R., Ufer, A. & Wilhelm, H. (2000): A method for testing effects of plant protection products on the carabid beetle *Poecilus cupreus* (Coleoptera, Carabidae) under laboratory, and semi-field conditions. – In: Candolfi, M.P., Blümel, S., Forster, R., Bakker, F.M., Grimm, C., Hassan, S.A., Heimbach, U., Mead-Briggs, M.A., Reber, B., Schmuck, R. & H. Vogt (ed.) (2000): Guidelines to evaluate side-effects of plant protection products to non-target arthropods. IOBC/WPRS, OILB/SROP.

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

