



Original thinking... applied

Rove Beetle (*Aleochara bilineata*)

For plant protection products 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.

Rove beetles are diverse and vary greatly in habitat use. They occur throughout the world and are important general predators of agricultural pests. Rove beetles of the genus *Aleochara* are parasitoids of some economically important pest fly species. *Aleochara bilineata* was chosen as an indicator species due to its distribution and ease of handling.

LABORATORY TESTS

Fera offers standard laboratory tests with the rove beetle following IOBC/WPRS guidelines.

How we carry out the tests

Adult beetles are 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. Larvae of the onion fly *Delia antiqua* are provided as hosts for the beetles. After four weeks the beetles are removed, and the fly larvae are placed in hatching units to monitor for emergence of adult beetles.

Endpoints

Endpoints for the test are:

- Emergence rate of beetles
- ER₅₀ (dose rate causing 50% reduction in reproduction), 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.

Test guidelines

Grimm et al. 2000: A test for evaluating the chronic effects of plant protection products on the rove beetle *Aleochara bilineata* Gyll. (Coleoptera: Staphylinidae) under laboratory and extended laboratory 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 (edt.) (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**

