



Original thinking... applied

Earthworm Reproduction

(*Eisenia fetida*)

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.

The earthworm *Eisenia fetida* (Lumbricidae) has been selected for testing because its susceptibility to chemicals is considered to resemble that of true soil inhabiting species.

LABORATORY TESTS

REPRODUCTION TEST

Fera offers standard laboratory tests with the *Eisenia fetida* following OECD guidelines.

How we carry out the tests

The earthworm is exposed to the test compound in a treated artificial soil (according to OECD requirements). The product to be tested can be incorporated into the substrate, or applied to the surface depending on the application method. Effects on mortality and biomass are assessed after 28 days of exposure. Sub lethal effects including behaviour and food uptake are also observed over this period. After 28 days adults are removed from the test system and the effects on reproductive output assessed after an additional 28 days.

Endpoints

Endpoints for the test are:

- Mortality after 28 days of exposure
- Biomass changes after 28 days of exposure
- Reproductive capacity of earthworms
- ER_x (dose rate causing x% 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.

Test guidelines

OECD Guideline No. 222 (2016) for the Testing of Chemicals
"Earthworm Reproduction Test (*Eisenia fetida*/ *Eisenia andrei*)"
adopted 29 July 2016.

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 and veterinary medicines on soil organisms.

As a leading CRO for the development and registration of veterinary medicine products, you will have access to unrivalled expertise to assist with the regulatory requirements for your veterinary medicine submissions or extensions.

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

