



Original thinking... applied

Green Lacewing (*Chrysoperla carnea*)

For plant protection product registration data are required on non-target plant dwelling organisms under EU directive 1107/2009.

The green lacewing (*Chrysoperla carnea*) plays an essential role in ecosystems as a pest controller and the green lacewing is regarded as one of the most sensitive species for non-target arthropod regulatory testing for plant protection products.

LABORATORY TESTS

Fera offers standard laboratory tests with the green lacewing following IOBC/WPRS guidelines.

How we carry out the tests

The lacewing larvae are exposed to the test compound on treated glass surfaces or treated leaves (extended test) and mortality assessments are undertaken regularly until hatching of the adult lacewings. In the case of control and test item treatment groups, where the corrected mortality is less than 50%, the reproduction performance of the adult lacewings (for example the number of eggs laid, and their viability as determined by larval hatch) is assessed. Each assessment will be over a 24-hour period, with two checks taking place per week.

Endpoints

Endpoints for this testing are:

- Larval and pupal mortality
- LR50, (lethal rate producing 50 % pre-imaginal mortality) if possible
- Reproductive capacity of survived lacewings
- 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

Vogt H., Brown K., Candolfi M., Kühner C., Moll M., Travis A., Ufer A., Waldburger M., Waltersdorfer A. & Bigler F. 2000: Laboratory method to test effects of plant protection products on larvae of *Chrysoperla carnea* (Neuroptera: Chrysopidae). - 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.

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**

