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# NON TARGET PLANTS

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# Welcome to Eurofins Agroscience Services

**We are a leading provider of product development consultancy and technical support to the crop protection industry. Our technical activities involve conducting field and laboratory studies to determine the safety and efficacy of new agrochemicals and crop varieties. With over 25 years of experience, Eurofins Agroscience Services offers outstanding technical knowledge and project management skills. By acquiring a carefully selected range of CRO's, we have created a unique portfolio of expertise that provides analytical, regulatory and field support to plant breeders, agrochemical, biopesticide, biocide and fine chemical manufacturers.**

We perform tests on plant protection products (PPPs) that are designed to evaluate the potential effects on seedling emergence and seedling early growth, observing the germination and growth of plant seeds or to evaluate the potential effects on the above-ground portions of plants. Additionally, we can conduct tests using treated soil which are designed to determine the inhibition of growth and reproductive capability of higher plants according to ISO 22030. In accordance with OECD Guidelines, tests are performed under defined conditions in a greenhouse; these studies can be conducted all year round.

## Seedling Emergence and Vegetative Vigour Test (OECD 208+227)

The toxicity effects (inhibition of growth and plant health) of PPPs to plant seeds or young plants are tested following the recent OECD Guidelines 208 and 227.

## Seedling Emergence Test (OECD 208)

This test is designed to evaluate the potential effects of PPPs on seedling emergence and seedling early growth, observing the germination and growth of plant seeds after application of the test item under defined conditions in a greenhouse. The inhibition of plant emergence and early growth in relation to control cultures is determined over a test period of at least 21 days following 50% emergence in the control. At the end of the observation period, the weight of the above-ground (shoot) portion of all surviving plants is measured. The test is performed according to the OECD Guideline 208, Terrestrial Plant Test: Seedling Emergence and Seedling Growth Test (2006).

## Study Design

Limit tests or Dose Response test are conducted with 1-10 species (monocotyledonous and dicotyledonous species). The test comprises 1, 5 or 9 application rates, under demineralised water control and possibly an additional carrier control. Spray application is in accordance with OECD Guideline 208.

## Vegetative Vigour Test (OECD 227)

This test is designed to evaluate potential effects of PPPs on the above-ground portions of plants under defined conditions in a greenhouse. The effect on vigour and growth in relation to control cultures is determined over a test period of 21 days following application. At the end of the observation period the weight of the above-ground (shoot) portion of all surviving plants are measured. The test is performed according to the OECD Guideline 227, Terrestrial Plant Test: Vegetative Vigour Test (2006).

## Study design

Limit test or Dose Response test are conducted with 1-10 species (monocotyledonous and dicotyledonous species). The test comprises 1, 5 or 9 application rates, under demineralised water control and possibly an additional carrier control. Spray application to young plants is at the BBCH stage 12-14.

## Soil quality – Biological methods – Chronic toxicity in higher plants (ISO 22030)

This test is designed to determine the inhibition of growth and reproductive capabilities of higher plants in treated soils under defined conditions in a temperature and light controlled room or growth chamber. The duration of the test should be sufficient to include acute as well as chronic endpoints. These endpoints will be the determination of emergence rates, number and biomass of flowers and seeds. The test is performed according to ISO 22030 (2005).

## Study design

This test is conducted with the two recommended species; (rapid-cycling variant of turnip rape (*Brassica rapa CrGC*) and oat (*Avena sativa*). Typically, seeds are sown in replicate test pots and then harvested at day 14 and also at the end of the test.

## Soil

By using natural test soil, e.g. from contaminated sites or remediated soil, and by comparing the development of the test plants in these soils with reference or standard control soils, the test can be used to assess soil quality, especially the function of soil as habitat for plants.

## Eurofins Scientific Group

Eurofins Scientific is a life sciences company that serves a wide range of industries including the pharmaceutical, agricultural, food and environmental sectors.

Greenhouse, Spain

Seedling emergence test

Vegative vigour test

easinfo@eurofins.com
www.eurofins.com/agroscienceservices