

Services to companies: Laboratory trials – insects & mites

## European earwig (*Forficula auricularia*) on apple - pear

### Aim of the trial

Evaluation of the eco-toxicological side-effect of plant protection products on the non-target arthropod *Forficula auricularia*, an important predator in Belgian apple and pear orchards.

In this extended lab trial the products are applied by aerial spraying with a calibrated spraying tower on a natural substrate. The earwigs (nymphs or adults) are exposed to the dried residue under controlled environmental conditions during a long period in which the lethal effect is evaluated

### Trial summary

- Earwigs to be sprayed are reared in advance in a plant growth chamber or collected in an untreated orchard
- Rearing of seedlings of beans (*Phaseolus vulgaris*), apple (*Malus brittenfelder*), pear (*Pyrus communis*) or collecting of leaves of apple or pear trees in untreated orchard
- Construction of test units composed of detached leaves mounted on agar agar in petri dishes
- Application of the formulated test product(s) at the proposed or registered dose rate in comparison with a toxic reference and water (check) with a spraying tower
  - on minimal 20 test units per product
  - at different developmental stage of earwigs (N3-N4 nymphs or adults (males and females))
  - earwigs are placed individually per test unit on dried residue for 7 days and subsequently transferred individually to an untreated test unit supplied with untreated food and water ad libitum
- Maintenance of the test units (with earwigs) in plant growth chamber under controlled environmental conditions (20°C, 70% RH, 12/12h L/D)
- Assessment of the lethal effect (mortality)
  - on day 1 till day 28 after application (DAT)
  - by counting the number of living/affected/moribund/dead earwigs
  - and calculation of corrected mortality (%)
- Statistical analysis of data

*Male earwig in contact with residue on detached leaf in petri dish*



### Trial output

- Regular trial/results updates
- Data in Excel/ARM/docx
- Classification of selectivity according to IOBC standard :
  - 1 (harmless), 2 (slightly harmless), 3 (moderately harmless), 4 (harmful)
- Report (trial details, graphs, summary, conclusions)

- Certified and (inter)nationally recognized centre of excellence in fruit research
- 75 years of experience and expertise
- GEP accredited
- Highly valued contractor for numerous product developments the past 75 years

**Interested?** Please do not hesitate to contact us:

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