

Services to companies: Laboratory trials – insects & mites

Asiatic Fruit Fly (*Drosophila suzukii*) topical toxicity

Technical question? Aims of the trial

Determination of the topical toxicity of insecticides against *Drosophila suzukii*:

- Screening for topically active compounds
- Dose rate finding
- Determination of LC90- or LC50-value of an insecticide and resistance monitoring
- Determination of topical susceptibility of different populations of *Drosophila suzukii*

Trial summary

Trial in Petri-dishes with direct spray contact followed by incubation under controlled conditions and mortality assessments:

- Rearing of selected *Drosophila suzukii* populations for the trial; age synchronization optional
- Anesthesia of 20 *D. suzukii* flies and transfer to a Petri-dish
- Treatment: Application of a fixed volume of insecticide solution using Potter Spray Tower (Burkard Scientific):
 - Potter spray tower = the international standard for exact and uniform topical application
 - Minimal 4 replicates (for LC50-determination: 6 concentrations x 10 replicates)
 - Different test products at different concentrations
 - Positive reference: lambda-cyhalothrin / Negative reference (check): purified water
- Transfer of the anesthetized flies to a clean Petri-dish with sugar water solution
- Assessments (0-3 Days After Application, DAT)
 - Number of living/dead/affected ♂ and ♀ *D. suzukii*
 - Timing dependent on insecticide action
 - Optional: follow up of F1-offspring
- Statistical analysis of outcomes

Trial output

- Data in xls/ARM + Report (M&M, graphs, summary, conclusions)
- Mortality rates of topically applied insecticide concentrations
- Topical efficiency of insecticides in comparison to λ -cyhalothrin
- LC-50 and/or LC-90 values and resistance rates if requested

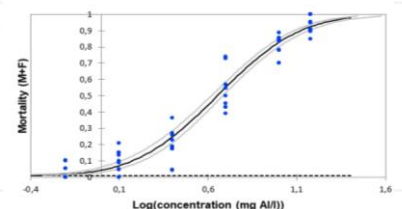
The Potter
Spray Tower



Exact and uniform microdroplet coverage
Below: example of output



Logistic regression of mortality (M+F) by Log(concentration)
Z4HAT



- 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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