New methods for the rational and sustainable management of *Popillia japonica*

The GESPO Project

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Objectives

1. **Investigate** the role of biotic and abiotic drivers on *P. japonica*
2. Develop **sustainable** and **cost-efficient** methodologies for controlling *P. japonica* populations w
3. Develop **modelling tools** supporting the management of *P. japonica*
4. Implement a **Web-Platform** facilitating the exploitation of Project's results

Project Partners

UNIVERSITÀ DEGLI STUDI DI BRESCIA

AGROFOOD LAB

UNIVERSITÀ DEGLI STUDI DI PADOVA

DAFNAE Department of Agronomy Food Natural resources Animals Environment

UNIVERSITÀ di VERONA

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GESTIONE POPILLIA JAPONICA GESPO

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Sustainable strategies for the management of *Popillia japonica*

- Use of native and commercial strains of entomopathogenic nematodes for larval control in the soil
- Insecticide treatments in crops and in landscape
- Physical barriers preventing oviposition in pots
- Innovative applications of insecticides and bio-control agents with low impacts on soil structure

Grubs of *P. Japonica* infested with *Heterorhabditis* nematodes

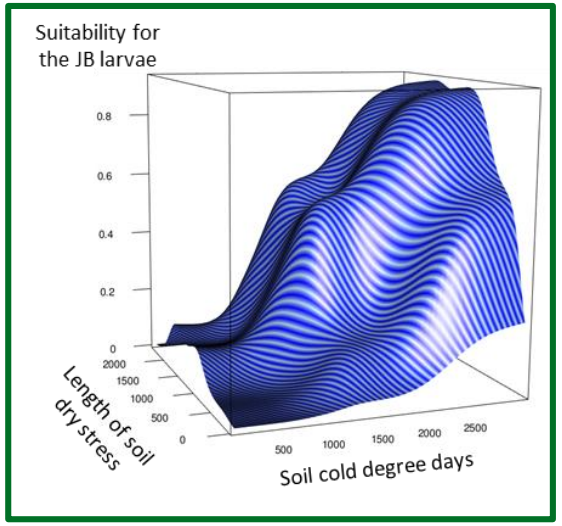
Insecticidal trials performed on different crops

Oviposition trials using different mulching materials

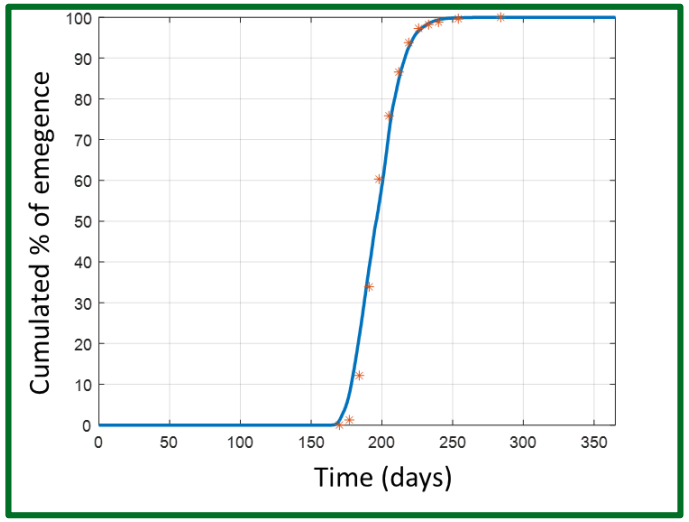
"Eco Defender 25" machinery for larval treatments with low impacts on soil structure

Modelling tools supporting the sustainable management of *Popillia japonica*

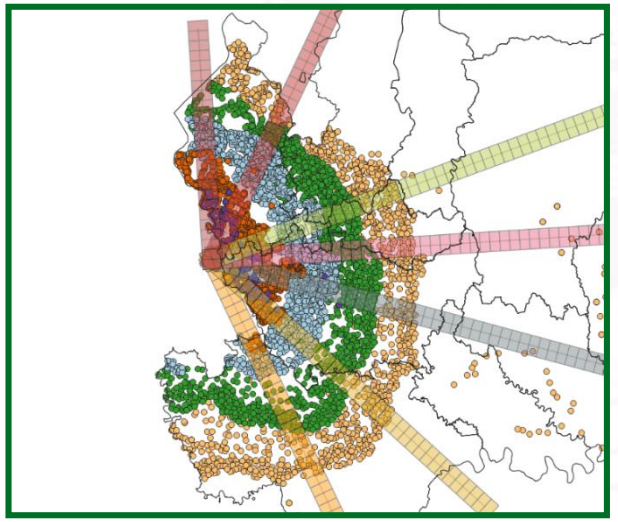
- Niche exploration for assessing the potential distribution of *P. japonica*
- Predict the phenology of *P. japonica*
- Investigate the spatio-temporal dynamics of *P. japonica*
- Make knowledge available through an easy-to-use Web Platform



Bi-dimensional niche exploration for assessing the habitat suitability of *P. japonica* larvae



Physiologically-based model predicting the phenology of *P. japonica*



Role of abiotic and biotic drivers on the growth and the spread of *P. japonica* populations

Thank you for the attention!

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