Marta Corbetta

KEY-WORDS:
PEST POPULATION MODELING · ENTOMOLOGY

PROFILE

I am a first-year PhD student in Agricultural Science working on mathematical models for use in insect pest control.

AFFILIATION

Department of Sustainable Crop Production (DI.PRO.VE.S)
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LANGUAGES

Mother language

Level B2

HOW TO REACH ME

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Reference Contact

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PROJECT TITLE

Development of mathematical models to support growers in pest prediction and control

Steps of the research

- A general framework representing insect population dynamics should be improved by developing new, fine-tuned equations;
- The new framework may be tested on several case studies:
  - ✓ *Frankliniella occidentalis* on table grape in southern italian vineyards;
  - ✓ *Scaphoideus titanus* - Flavescence Dorée Phytoplasma pathosystem;
  - ✓ Predator-prey model;
- The new framework adapted to arthropod pests interesting for the EC-funded STELLA project, may be introduced in STELLA PSS, a platform for early warning and detection of quarantine and regulated plant pests.

Main Results

Development of a general modelling framework for the prediction of population dynamics in arthropod pests, and of their relationships with plant pathogens they can vector.

Research Contribution

Mathematical models support sustainable agriculture, facilitating early detection and integrated pest management.

Collaborations

Universitè Libre de Bruxelles | ULB
Dr. Rossini Luca

Why should you care?

A general framework for physiologically-based modelling for prediction of population dynamics of agricultural pests may support sustainable agriculture, reduce pesticide dependence, improve pest monitoring and control efficacy through precise and adaptive prediction.