The project PICTA-KILL - Novel strategies for biological psyllid pest control

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**INTRODUCTION**

Psyllid pests are distributed all over the world and cause damage in crop plants. Novel defense strategies against these insect pests are of international interest. Being the vector of Candidatus Phytoplasma mali, the infectious agent of apple proliferation, the psyllid Cacopsylla picta (Hemiptera; Psyllioidea) is responsible for an annual economic loss of a three-digit-million range in Europe. Because there are no direct measures to combat apple proliferation, the vector itself has to be controlled in order to protect the plants.

**PROJECT STRUCTURE**

**REPEL/PUSH**
- Potential Repellents
  - benzylalcohol
  - bornylacetate
  - mixtures

**ATTRACT/PULL**
- Potential Attractants
  - β-caryophyllene
  - ethylbenzoate
  - mixtures

**KILL**
- Entomopathogenic fungi
  - Pandora sp. (Entomophthorales) (UC)
  - Metarhizium sp.
  - Beauveria sp.
- Insecticides
  - natural
  - synthetic

**FORMULATION**
- Polymers and adjuvants
- Screening for formulation materials and methods (FHB)
- Methods for the production of (micro-)capsules applicable within a spray suspension or in combination with a trap
- Formulation (FHB)
- Scale-up (BIO, FHB)

**FIRST RESULTS**

- An entomopathogenic fungus of the genus Pandora sp. (Entomophthorales) was isolated from the target insect Cacopsylla sp.
- The pathogenicity of the isolated fungus was demonstrated for different Cacopsylla species
- The fungus can be formulated within Ca-alginenates and beads
- An computer-assisted evaluation method was developed for the quantification of discharged conidia

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