

# The entomopathogenic fungus *Isaria* sp. for insect pest control in vegetables

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The growing area of vegetables in the EU covers more than 3.000.000 ha. BIOCOTES is an EU funded project to provide fundamental information for the development of plant protection products, based on biocontrol agents (BCA). Currently, the common control of various insect pests is managed mainly by synthetic insecticides. Nevertheless, several pest insects cause considerable damage in agriculture due to resistance to pesticides.

The aim of the BIOCOTES work package is to develop a new fungal BCA for pest insect control in open field crops and in greenhouses. Presently, we investigate the integration of entomopathogenic fungi into a control strategy.

Within different treatments and pre- and post-harvest applications in protected and non-protected cropping systems, we compare the efficacy of at least ten *Isaria* spp. strains under different laboratory conditions.

Moreover, the host range of these strains was screened against white flies and the moth *Spodoptora exigua*, in order to determine the relationship of clade specific differences between virulence and pathogenicity factors.

Additionally, the effect on beneficial insects like the predatory mite *Typhlodromus pyri* and the seven-spot ladybird, *Coccinella septempunctata*, will be evaluated to assess the possibility for implementation of entomopathogenic fungi in an integrated pest management strategy.

As entomopathogenic fungi are known to produce a wide range of secondary metabolites e.g. antibiotics or repellents, selected strains will be screened for secondary metabolites and enzyme activities.

Moreover, different molecular biological studies have been evaluated.

Currently, first results of the phylogenetic relationship between the different isolates, as well as different specifications will be shown.