**Tropentag, September 20-22, 2017, Bonn**

"Future Agriculture:
Socio-ecological transitions and bio-cultural shifts"

# The Project PICTA-KILL - Novel Strategies for Biological Psyllid Pest Control

Linda Muskat[1], Pascal Humbert[1], Jürgen Gross[2], Louisa Görg [2], Cornelia Dippel[3], Elisa Beitzen-Heineke[4], Beitzen-Heineke Wilhelm[4], Michael Przyklenk[4], Anant Patel[1]

[1]*Bielefeld University of Applied Sciences, Wg Fermentation and Formulation of Biologicals and Chemicals, Germany*
[2]*Julius Kühn Institute (JKI Dossenheim), Germany*
[3]*Insect Services, Germany*
[4]*BIOCARE Gesellschaft für biologische Schutzmittel mbH, Germany*

**Abstract**

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. The use of entomopathogenic fungi as biocontrol agents for reducing psyllid pest populations represents a plant protection method of low risk for nature and humans as well.

Being the vector of Candidatus *Phytoplasma mali*, the infectious agent of apple proliferation, the psyllid *Cacopsylla picta* 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. In Germany, there are no authorised plant protection products available, neither for organic farming nor for conventional farming. New insights into the scent preferences of *C. picta* offer innovative options for its control. Hence, the aim of this project is to develop formulations, which can be applied for "Attract-and-Kill"-strategies against *C. picta*. Furthermore, it will be examined if a combination with repellent agents supports the effect ("Push-Pull-Kill"-strategy).

In laboratory and field trials new repellent, attractive and arresting substances, entomopathogenic microorganisms and other insecticides effective against *C. picta* as well as formulation materials and methods for these active ingredients will be screened. For the entomopathogenic microorganisms, cost efficient mass production processes will be developed. Appropriate formulations will be developed and tested in laboratory and field trials. This joint projects cooperates with the Eilenberg group of Copenhagen University on entomopathogenic fungi. First results of the recently started project on strain selection, cultivation, identification of semiochemicals and formulation will be presented.

**Keywords:** Attract-and-Kill, *Cacopsylla picta*, entomopathogenic microorganisms, Push-Pull-Kill

**Contact Address:** Linda Muskat, Bielefeld University of Applied Sciences, Wg Fermentation and Formulation of Biologicals and Chemicals, Faculty of Engineering Sciences and Mathematics, Bielefeld, Germany, e-mail: linda_claire.muskat@fh-bielefeld.de