

Poster presentation for session 6

Efficiency of the entomopathogenic fungi against *Phyllonorycter robiniella*

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In common with 7 other leaf mining moth species, the introduced *Ph. robiniella* expands its area of distribution within Europe. Depending on environmental conditions the remarkable leaf damage causes more or less severe losses.

In former investigations the entomopathogenic fungi *Beauveria bassiana*, *Lecanicillium muscarium* and *Peacilomyces fumosoroseus* are proved as suppressive agents for several insect species. Therefore the tests was expended to leaf miners.

In field tests, 10 ml of a conidial suspension of each fungus were sprayed on the leaves of *Robinia pseudoacacia*. A concentration of 1×10^9 Sp/ml was used. After a short drying period, the twigs were enclosed in a mesh. The first microscopic examination (n= 220 mines/fungus) for external mycelial growth was 15 dpa. Furthermore the total number and stage of the moth was registered. Afterwards the leaves were transferred into wet chambers (98% RH). In a second examination, 22 dpa, the number of insects with external mycelial growth was noted.

The external mycelial growth was only noticeable after incubation in a wet chamber. With 73,5 % *L. muscarium* achieved a very good result and showed the highest efficiency of all fungi in the test. *B. bassiana* sufficiently performed with 58,5%, however *P. fumosoroseus* infecting 34,2% could not convince.

All stages from egg to larvae are susceptible to infection by all three utilized fungi. The susceptibility of the insect stages differed. The most sensitive were the young larvae (L1-L3) followed by the older ones (L4-L5). Also the eggs and even the pupae, surrounded by their protective cocoons and inside in the sealed mines, were infected by the fungi.

Results are discussed.