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ABSTRACTS

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SPORE ADHESION OF ENTOMOPATHOGENIC FUNGI TO LARVAE OF *FRANKLINIELLA OCCIDENTALIS (PERGANDE, 1895)* (THYSANOPTERA: THRIPIDAE)

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Tests have been performed to analyse the adhesion-processes of the spores of the deuteromycete *Verticillium lecanii* (ZIMMERMANN) VIÉGAS at the host *F. occidentalis* with help of fluorescence-microscopic procedures.
For the tests *F. occidentalis* has been reared on bush-beans (*Phaseolus vulgaris* 'Marona').
We have used self-produced conidia of *V. lecanii* (strain V24 K2). The inoculum has been stained by the fluorescence-dye Calcofluor white M2R (SIGMA).
The trials were with the „Petri dish test" standard method (WOLFF 1998) in Petri dishes filled with three rings of glass embedded in paraffin. Each ring contained 0,2 mg of sieved soil and 45 µl of water. Per variant, 10 larvae (L II) have been prepared in repetitions. We have applied 5,5 mls of the spore suspension per Petri dish in the concentrations 10^5, 10^6 and 10^7 spores/mls by a potter precision laboratory spray tower (Burkard Manufacturing Co. Ltd.). In some trials we have used additives: Tween®20, rape oil and neem oil.
The assessment of results has been carried out either immediately after application or after different periods, always after killing the insects by acetate ethyle ester ($CH_3COOC_2O_5$). The number of attached spores (dorsal respectively dorsal and ventral) has been counted under the fluorescence-microscope BX 40 FS (OLYMPUS) with objective UPlan 20x /0,50 (excitation filter: 330-385 nm, barrier filter: >420 nm). In addition, the localization of the spores at the insect has been recorded.
Following results have been found: there was no proportional decrease of the number of spores per animal with the applied spore-quantity; i.e. by application of low spore-concentrations we have found a lot of spores per larva comparatively.
After indirect application, the highest loading with spores has been noticed between 0 and 6h, ventral a little more than dorsal. By application of low spore-concentrations, after indirect application more spores were to be found at the larva than after direct application.
After direct application we have found a clear coherence between additives and number of spores: Tween®20 lowered the number of spores/insect, the oils increased it. After indirect application Tween®20 also lead to a lower number of spores/insect, but the oils had no significant effect.

Losses of applied conidia in our trials (larvae) amounted to ca. 50-60% after 24h. No distinct difference between the additives has been found in that case.
The evaluation of the localization of spores have shown a rather symmetrical distribution on the total surface of the larvae.
The results show the importance to understand the adhesion processes of fungal spores to target insects to be able to improve the efficacy of control methods of pest insects.

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