Controlled environment efficacy tests of Beauveria bassiana and Metarhizium anisopliae to control alfalfa snout beetle. (S03-jones161238-Poster)

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Abstract:

Entomopathogenic fungi are a promising option for effective biocontrol of numerous insect pests. In this study, alfalfa snout beetles, soil-borne insects considered one of the more severe pests of alfalfa in North America, were collected from infested alfalfa fields in upstate New York. Beetles were inoculated in two independent trials with one of six Beauvaria bassiana isolates or one of four Metarhizium anisopliae isolates by submersion in a suspension of 10^8 conidia per mL and then incubated at 27C for 14-21 days. Two M. anisopliae isolates and one B. bassiana isolate produced 90-100 % mortality 10 days after inoculation. In preparation for subsequent field trials using the isolates with the highest mortality rates, molecular fingerprinting techniques were developed that distinguish the introduced isolates from each other as well as from native fungal populations found in the field. These techniques will be used to determine any effects the biopesticides may have on the indigenous microbial ecosystem in soil, as well as a quality control check to ensure that the insect mortality found in the field is actually caused by the isolate used in the field trials.

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Presentation Information:

Presentation Date: Wednesday, November 13, 2002
Presentation Time: 2:00-4:00 pm
Poster Board Number: 1630

Keywords:

Beauveria bassiana, Metarhizium anisopliae, Alfalfa Snout Beetle, Molecular fingerprinting