

Beauveria bassiana Project Summer 2013

Pathogenicity and infectivity against *L. lineolaris* of two isolates of *B. bassiana* NI8 native strain and GHA commercial strain using two surfactants comparing morning and night applications.

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INTRODUCTION:

The tarnished plant bug (TPB), *Lygus lineolaris* (Palisot de Beauvois), attacks a wide variety of economically important herbaceous plants, vegetable crops, commercial flower plants, fruit trees, and nursery stock. Half of the cultivated plant species grown in the United States are listed as host plants for tarnished plant bugs. Effective management of TPB in cotton is complicated due to its mobility. Its control has been solely based on insecticides, and insecticide-resistant populations of tarnish plant bug have been reported in the Delta region (McGuire, 2006). Utilization of the entomopathogenic fungal, *Beauveria bassiana* to control TPB in cotton is being study. This study was conducted in order to estimate the pathogenicity and infectivity against *L. lineolaris* of two isolates of *B. bassiana* NI8 native strain and GHA commercial strain n the effectiveness of *B. bassiana* infection in *L. lineolaris* using two different surfactants Tween-80 and Bio-Plastic.



MATERIALS AND METHODS:

Two isolates of *Beauveria bassiana* (Balsamo) Vuillemin including the commercial strain GHA and the Mississippi Delta native NI8 strain were evaluated in the field for pathogenicity and infectivity against tarnished plant bug. Thirty 2 day old TPB adults from a laboratory colony were placed in cages located on the top part of cotton plants in the field prior to spraying with *B. bassiana*. A total of 150 cage were used in 50 plots (25 plots per strain per spray time) (morning and night) sprayed with four treatments: NI8+Bio-plastic, NI8+Tween-80, GHA + Bio-plastic, GHA+Tween-80 and a control (5 plots / concentration, 3 cages / plot). Concentrations sprayed (spores / acre) was 4.0×10^{12} of both *B. bassiana* strain. Sprayed insects were collected from the cages and placed individually on Lygus solid diet and observed for ten days under laboratory conditions. Mortality and sporulation from *Lygus* collected from the cages of the plants were recorded daily.

RESULTS:

Differences of mortality and sporulation on day 3, 5 and 10 were found among concentrations for both isolates and surfactants. However, no differences were found between night and morning application.

REFERENCES:

McGuire, M.; Leland, J; Dara, S.; Parl, Y.; Ulloa, M. 2006. Effect of different isolate of *Beauveria bassiana* on field population of *Lygus hesperus*. *Bio Cont* 38: 390-396.

ACKNOWLEDGMENTS:

I would like to give special thanks to Dr. Portilla and Tabatha Nelson for affording me an opportunity to gain skills while in school. SIMRU has changed my life forever opening my mind to the necessity for agricultural research and the control of pest found in crops. Thanks to the support staff for your assistance and support throughout the year. Again I say thank you.