

## **Determining the Efficacy of *Beauveria bassiana* against Tarnished Plant Bugs**

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Over the course of this summer I have learned a lot. Most of the tasks that I've done will somehow help me in furthering my education as Biology major. This is my second year and it seems as if each year the experience only gets better. I've learned a lot from the three scientists that I've worked with this summer, Tabatha Ramsey and Gerald Gipson. This past summer I have worked in the Insect Pathology Department of the Southern Insect Management Research Unit, working with an entomopathogenic fungus for the control of the tarnished plant bug.

This is my second year at the Southern Insects Management Research Unit, as a STEP employee. In 2010 I was assigned to Dr. O.P. Perera extracting and studying the DNA and RNA of *Spodoptera Frugiperda*, Fall Army Worm, FAW. This year, 2011, I have been assigned to under Dr. Gordon Snodgrass alongside Mrs. Ramsey and Mr. Gipson in NBCL. My main project has been bioassays to determine the efficacy of the fungus, *Beauveria bassiana*, on tarnished plant bugs.(2002) The research has been quite interesting.

This research consists of a lengthy process. First comes the production and harvesting the fungus, *Beauveria bassiana*. The fungus has to be shaken down until it transforms into a powder-like form.(AML Trial 1996) Next, I determined the number of spores per gram of powder. This shows whether the fungus is alive. After this comes the process of checking the viability of the spores. Once the powder has been thoroughly checked it was prepared for bioassays and field application. After the above was completed, we conducted bioassays to determine the efficacy of the fungus against tarnished plant bugs. The main bug that we worked with were tarnished plant bugs. The bugs were placed into cups and grouped by thirties with different mixtures of *Beaveria, orthene*, and other fungus sprayed on them. The tarnished plant bugs were fed green beans which were changed every two days. The bugs are kept in an incubator kept at a constant temperature and the bioassay was evaluated for 10 days. Daily, over the course of the ten days, I kept a record of the mortality and sporulation.

In conclusion I'm thankful for Mrs. Tabatha Ramsey and Mr. Gerald Gipson for all the knowledge that was given to me. This was a great opportunity for me to expand my environment and to interact with scientific reasoning. I hope to continue to stay in the STEP program and learn more.

## References

Department of Bacteriology at the University of Goettingen, Goettingen (Uwe Gross)

Federal Biological Research Center for Agriculture and Forestry (Gisbert Zimmermann)