

My summer job working for SIMRU at Stoneville, Mississippi, consisted of checking varieties of crops for pests such as tarnished plant bugs and bollworms. The crops that were involved in the studies were cotton, soybeans, and corn, along with some wild hosts for tarnished plant bugs such as horse weed and pigweed.

This summer has been the first time that I have had any involvement with cotton. I learned how to count the nodes on the plant and how to exclude the cotyledons in the node count. I also learned how to estimate square set in the cotton and where to check for bollworms and bollworm eggs on the cotton plants. My co-workers and I had to collect plant bugs from the cotton by sweeping and sucking them into our aspirators. This was done on the farm at Stoneville along with some off-site locations. While observing for bollworms, we had to check the squares, terminals, and smaller shiny leaves at the top of the plant for small whitish-yellow eggs and the caterpillars.

We also sampled corn for earworms and tarnished plant bugs. We sampled corn ears at the Stoneville farm so that we could determine the amount of caterpillars and how much damage was inflicted onto the kernels by the caterpillars in each variety and planting date. We then collected the caterpillars so that they could be tested in the lab for susceptibility to insecticides. Finding a caterpillar population in the Bt corn seemed more difficult due to the fact that they are killed by *Bacillus thuringiensis*, which is an insecticidal protein found in Bt corn. This provides the farmer with a potentially higher yield due to less feeding damage and fewer caterpillars.

These results were similar to those reported by Allen and Pitre (2006), where Bt corn was reported to reduce the incidence of earworms and corn borers compared to non-Bt corn.

I learned how to measure the proper amounts of chemicals and water to be sprayed across a field. I learned the effects that the chemicals may have on plant life, insects, and people. Gramoxone is one example of a chemical that must be carefully handled due to the fact that it can damage the crop and can be harmful if ingested or absorbed through the skin. People who apply chemicals must know what they are dealing with before they handle it so that they may handle them with caution.

I have enjoyed working for the USDA at Stoneville this summer. It has been a very good educational experience for me. It will be beneficial for me as I take my agriculture courses throughout college and I hope to return next summer.

Allen, K.C., and H.N. Pitre. 2006. Influences of Transgenic Corn Expressing Insecticidal Protein of *Bacillus thuringiensis* Berliner on Natural Populations of Corn Earworm (Lepidoptera: Noctuidae) and Southwestern Corn Borer (Lepidoptera: Crambidae). J. Entomol. Sci. 41:221-231.

End of Summer Report

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July 31, 2012