

July 31, 2012

To: Dr. Randy Luttrell
Research Leader
USDA, ARS, SIMRU

From: Thomas Sherman
Biological Science Aid
USDA, ARS, SIMRU

Hello, my name is Thomas Sherman. I will begin my undergrad this August at Mississippi State University majoring in Communications with a concentration in Broadcasting. I am a biological science aid in the Southern Insect Management Research Unit (SIMRU) of the Agricultural Research Service of the United States Department of Agriculture. I assist entomologist, Larry Adams, in multiple tasks that allow us to reach our goal of finding solutions to agricultural problems that affect Americans everyday. SIMRU has three major programs and I work in the insecticide resistance management and new control strategies for pests of sweetpotatoes. The government expects our unit to improve the safety and efficiency of pest control for cotton, maize, soybean, sweetpotato, and other row crops. ARS developed a five year plan with Alcorn State University research to increase quality and yield of sweetpotatoes. SIMRU also works closely with MSU, LSU, and NCSU in sweetpotato research projects.

Larry Adam's aids check above and below-ground pest surveys, sampling methods and control with insecticides and nematicides. Biological Science Technician, Chris Johnson, does all the application of the insecticides and nematicides for the sweet potato plots. Chris instructs us on how to properly operate equipment necessary to get our assignments completed. We have numerous weekly obligations including: pheromone trap captures, seed bait for soil insects in corn plots, and sweep-net sampling in the

sweetpotato plots in Stoneville and Mound Bayou, MS. I have gathered most of my knowledge on the subject by being in the field working hands-on, but that is not always the case.

A scientific journal explaining how we chose the sampling method we use today helped me grasp what SIMRU has done in the past. From 2003-2006 Stoneville conducted a four year study on which of three sampling methods was the most productive and efficient. The Delta Region and the Hill Region of Mississippi were sampled for insects during this study. Insect numbers in the Delta Region were slightly higher than the Hill Region, and the variety of insects was much greater in the Delta Region due to alternate crops being planted nearby. The three techniques tested were sweep-net, hand-vacuum, and a wheeled blower-vacuum designed to blow insects from the foliage into the vacuum port of a leaf vacuum. The number of insects collected by the blower-vacuum method was lower than the number collected by the other two methods. The hand-vacuum and sweep-net samples were similar during the first few weeks after planting, but the sweep-nets insect count were far greater late in the season. In general, sweep-nets have been the tool of choice for IPM practitioners in sweetpotatoes because of low price, easy use, and low maintenance.

This summer employment was by far the greatest of my three years here due to my familiarity with my crew, bosses, and equipment. I have enjoyed my time here, and I would not hesitate to apply for a job in this line of work in the future.