Frank Chandler

Within my time spent working with the USDA, I learned much about the development of a revenue yielding cotton crop. I was instructed in how to determine if spraying of insecticide on cotton was necessary based on the percentage of insects or larvae present, how to project yield based on the percentage of cotton squares present, and when to spray growth regulators on cotton so that it transfers it energy into fruit production. With informative study and collection of tarnished plant bugs, tobacco budworm moths, and corn earworm moths alongside Dr. Clint Allen and Dr. Ryan Jackson, I learned the stages of growth and habitats of each of these insects.

In their article, Banerjee and Martin (2008) examined the previous EPA stipulation mandating that every individual planting Bt cotton must plant a 5% non-Bt refuge that is not sprayed with insecticide for larvae, or a 20% non-Bt refuge that is. This refuge was planted in order to insure that the genetic code of the insects not resistant to Bt continues to be replicated, preventing a Bt resistant larvae. In their study they examined which method, 5% unsprayed or 20% sprayed, was more profitable to the planter. They found that, including insecticide costs, it was still more profitable to the farmer to plant a 20% sprayed non-Bt refuge than the 5% unsprayed non-Bt.

Currently, we are applying similar types of analyses to study the economic benefit of Bt cotton along with making supplemental insecticide applications targeting bollworms in the Bt cotton. In addition, the type of insecticide to apply when considering cost differences, is another question SIMRU is currently attempting to address. It is my opinion that if one maintains a proper spraying routine upon the non-Bt, then the risk of planting it is completely outweighed by

the economic returns. However, in farming I am also aware that it is generally a wise decision to minimize risk, due to the many other uncontrollable factors that could lead to the damaging of a crop.

References

Crop Production, Volume 27, Issue 6, June 2008, Pages 1003-1008. Swagata “Ban" Banerjee, Steven W. Martin, ScienceDirect.com, Web. July 25, 2012.