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Maintaining Insect Colonies

The first summer I began working for the United States Department of Agriculture (USDA) within the Southern Insect Management Research Unit was a great learning experience. I worked for Dr. Clint Allen, and I could not have asked for a better boss to work under. One thing I have learned is the importance of maintaining insect colonies. The purpose of this is for our scientists to run tests year-round. Several types of colonies that we maintain include: tarnished plant bugs, bollworms, loopers, budworms, and stink bugs.

In Lab 421 on Mondays, Wednesdays, and Fridays, we rear these colonies by feeding and pulling their eggs. We feed our insects using diet, a specifically formulated food substance used in rearing. Each type of insect has their own type of diet. After the insects are placed on this diet, they go through all of their 5 instar stages until they reach adulthood. Once an adult, they begin to reproduce and lay their own eggs. The cycle is then continuously repeated.

As I mentioned earlier, these colonies are maintained for our scientists to run tests, but they are also maintained for easy access during the off season. This summer in Lab 420 we have run 2 main types of tests. The first one is a topical test using acetone, acephate, permethrin, methomyl, and methoxyfenozide. Our loopers are topically treated on their thoracic dorsum with 1 micro liter of the insecticides mentioned above (Felland et al. 1990). The second test we run is called an insecticide residual study. We place 5 looper larvae on a soybean leaf that has been sprayed with either Intrepid or Belt insecticide, and the loopers remain there for 72 hours. We

then check their mortality to see the effects that the different insecticides have on these insects. Another important reason we run these different tests is because the Mississippi Delta is a major crop production area, and if we were not able to run the tests there could be major insect problems with these crops.

I am so glad that I had the opportunity to work for the Southern Insect Management Research Unit this summer and especially thankful to have worked with such an incredible work crew. I never knew how much I would benefit from this job, but I have learned so much more than I ever thought I would. I have increased my scientific knowledge, learned a great work ethic, and learned how important teamwork is. Working for the USDA-ARS has been such a rewarding experience.

Works Cited

Felland, C.M, H.N. Pitre, R.G. Luttrell, and J.L. Hamer. 1990. Resistance to Pyrethroid Insecticides in Soybean Looper (Lepidoptera: Noctuidae) in Mississippi. *Journal of Economic Entomology* Vol 83: 35-40.