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Annual
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Project Title: Burrower bug occurrence as affected by environment and its role on aflatoxin contamination of runner peanut.

Funding received: ~ \$40,000 for 2011 and 2012

Background: Reports out of South Carolina indicate that burrower bug damage can exacerbate aflatoxin problems in peanut. As part of a holistic Risk Index for Aflatoxins in peanuts, we wanted to understand more about the role of this insect.

Progress Report (through June 2013)

In 2012, a study on burrower bug in peanut was done at the Wiregrass Research Center in southeast Alabama. This was the second year of this study.

Pitfall trap sampling for insects was done in conventionally- and conservation-tilled plots, and in rain-fed and drought plots (achieved by covering plots with a plastic tunnel). Over 8 weeks of sampling to date (Aug. through Sept.), a small number of burrower bugs were collected—too few for statistical analysis. While it appeared that conventionally tilled plots supported fewer burrower bugs than other plots, trends are not assured due to low insect counts. Unlike observations in 2011, no burrower bugs were found in traps located under rain-out shelters.

This study is being conducted in a trial that involves four planting dates. At optimum maturity for each planting date, seed samples were collected from each plot. Aflatoxin concentrations were non-detectable (< 5 ppb) in all samples.

Burrower bug damaged seed from 2012 were separated from seed without apparent insect damage; each sample was assayed for aflatoxin. Samples with burrower bug damage had consistently higher aflatoxin levels (2.1 ppb) than non-damaged seed (0.9 ppb), but these low levels of aflatoxins were too low for statistically analyzing.

This study will continue in 2013 using larger pitfall traps in hopes of improving our burrower bug counts.