SORGHUM: POTENTIAL TRAP CROP FOR THE SOUTHERN GREEN STINK BUG AT PEANUT-COTTON INTERFACES Glynn Tillman USDA, ARS Tifton, GA

<u>Abstract</u>

The southern green stink bug (SGSB), Nezara viridula (L.), possibly can disperse from alternate host plants, especially corn, Zea mays L., and peanuts, Arachis hypogea L., into cotton, Gossypium hirsutum L. The ability of sorghum, Sorghum bicolor (L.) Moench, to serve as a trap crop for the SGSB in peanut-cotton farmscapes was investigated in the summer of 2004. The two treatments included: 1) peanut-cotton farmscape with a sorghum trap crop planted in a strip at the interface of the peanut and cotton field and 2) peanut-cotton farmscape without sorghum at the interface of the two crops. Each of these treatments was replicated five times. Shake sampling was used to determine the number of SGSB adults per 6 ft. of row. Samples were taken from each of the four edges around the cotton field at two depths within the field: 1-12 ft. and 12-24 ft. The rest of the field was divided into nine equally-sized blocks, and samples were obtained from within these blocks. The fields were sampled weekly, but comparisons were made using the two weeks in which SGSB adults were prevalent. In cotton, the density of SGSB adults from the 1-12 ft. depth at the interface of the peanut-cotton farmscape was significantly higher in the peanut-cotton farmscapes without the sorghum trap crops $(14.1 \pm 1.64 \text{ SGSB} \text{ adults per 6 ft. of row})$ than those with these trap crops $(0.8 \pm 1.64 \text{ SGSB}$ adults per 6 ft. of row) (t = 6.0; df = 18; P = 0.0001). Also, the density of SGSB adults inside the cotton fields was significantly higher in the peanut-cotton farmscapes without the sorghum trap crops (0.11 \pm 0.049 SGSB adults/6 ft. of row) than those with these trap crops (0.01 \pm 0.007 SGSB adults per 6 ft. of row) (t = 2.01; df = 280; P = 0.0452). There were no significant differences between the two treatments for the other three edges of the cotton field at the 1-12 ft. depth. Also, there were no significant differences between the two treatments for each of the four edges of the cotton field at the 12-24 ft. depth. These preliminary results indicate that SGSB adults disperse into the edges of a cotton field abutting peanuts and that sorghum planted at peanut-cotton interfaces can trap these pests as they disperse from peanuts.