

ASSESSING INJURY BY STINK BUGS TO STONEVILLE 474 AND ITS TRANSGENIC SIBS

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Abstract

Eradication of the boll weevil, mild winters and the introduction of *Bt* varieties have increased the importance of stink bugs as pests in cotton. Stink bugs feed on the seeds within cotton bolls resulting in boll shed, hard locks and discolored lint. It is possible that some of the quality problems linked with transgenic cotton cultivars may be caused by stink bugs as well. Mill operators have suggested that variability in cotton quality has increased in recent years with the rise in popularity of transgenics. For the last few years growers in South Carolina have planted transgenic varieties on more than 90% of their acreage. This study was designed to investigate cotton quality in transgenic cotton cultivars with and without stink bug infestations. Treatments were stink bug control (weekly applications of Bidrin @ 8 oz per acre or none) and cultivar (Stoneville 474, a conventional variety, and the transgenic sibs: Stv-4691B, Stv-4793R, Stv-4892BR, Stv-BXN47 and StvBXN49B). Cotton was planted on 9 May 2002 in 12 row wide x 100 ft long plots replicated 4 times in a randomized complete block design. Cotton was watered with a surface-drip irrigation system. Purple-hulled peas and Group IV soybeans were planted around the plot area to serve as a trap crop for stink bugs. Adult and immature stink bugs were observed in the trap crop from late June through July. Scouting indicated that stink bugs were also present in the cotton. On 5 August and 20 August twenty-five quarter-sized bolls were collected from each plot and dissected to check for stink-bug damage. Without Bidrin, boll damage was 15.6% on 5 August which was significantly greater than the untreated at 5.7%. On 20 August, boll damage was 12.8% for the untreated and 2% in bolls from the Bidrin treated plots. Varieties did not differ for boll damage at either collection date. Fiber from this study is being evaluated for quality.