

EFFECT OF STAPLE RATE AND THRIPS INJURY ON COTTON DEVELOPMENT

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Abstract

Experiments were conducted at the Northeast Research Station, St. Joseph, LA and the Macon Ridge Research Experiment Station, Winnsboro, LA to determine the effect of Staple (pyrithiobac) rate and thrips injury on cotton development. Stoneville 474 was planted May 26 and June 23 in Winnsboro and St. Joseph, respectively. A split-plot experimental design with four replications was used. Main plots were Temik 15G (aldicarb, 0.5 lb ai/A) applied in-furrow or no Temik. Thrips were controlled with the Temik treatment. Sub plots were Staple 85WP applied at 0, 0.5, 1, 2, 4, 8, and 16 oz ai/A to 2-3 leaf cotton. Two center rows of each plot was hand-thinned to 2-3 plants per row foot. Leaf area per plant was obtained from a 0.5m section of row 10 and 16 days after treatment (DAT) at St. Joseph and 8, 17, and 34 DAT at Winnsboro. Height of 10 cotton plants and total nodes and node of the first square were determined at the time. After flowering, nodes above white flower (NAWF) was determined from 10 plants weekly until NAWF totaled no more than 5. Plots were kept weed free by hand weeding. Normal cultivation and fertility practices were followed.

The Staple by Temik interaction at each location was not significant for any parameter measured and data were averaged across Temik treatments.

At St. Joseph no significant differences among Staple rates were observed for leaf area at 10 DAT. At 16 DAT leaf area of cotton treated with 2, 4, 8, and 16 oz/A was significantly less than the nontreated control. No significant differences among Staple rates were noted for total nodes or nodes to first square. Height of cotton treated with 16 oz/A Staple was significantly reduced at 10 DAT when compared with the nontreated control. At 16 DAT, nontreated control height was greater than cotton treated with 4, 8, and 16 oz/A. No significant differences were observed among Staple rate for NAWF counts or cotton yield.

At Winnsboro, leaf area 10 DAT was not reduced by Staple applications. At 17 DAT, Staple at 2, 4, 8, and 16 oz ai/A reduced leaf area when compared with the nontreated control. The differences in leaf area were not observed 34 DAT. There were no significant differences among Staple rate in total nodes per plant; however, Staple at 8 and 16 oz/A increased nodes to first square. Differences among Staple rate were not observed for cotton height 8 or 34

DAT. Significant reductions in cotton height when compared with the nontreated control were observed 17 and 24 DAT for Staple at 8 and 16 oz/A. Nodes above white flower following Staple application of 2, 4, 8, and 16 oz/A were greater than the nontreated control on July 14 but not on July 22. No significant yield differences among Staple rates were noted .