

ENTOMOLOGY

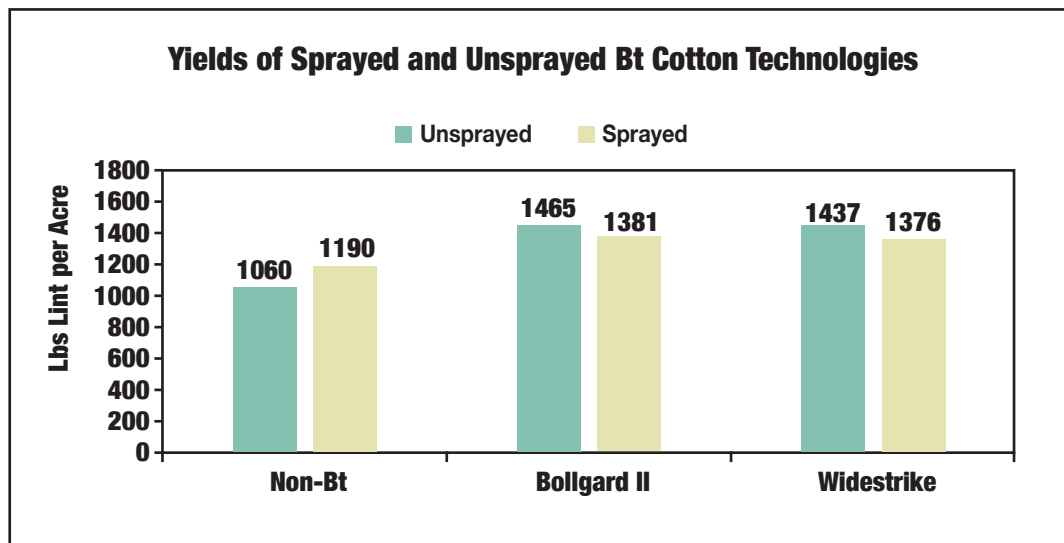
EVALUATION OF DUAL-GENE BT COTTONS FOR BOLLWORM CONTROL IN MISSISSIPPI

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Cotton varieties that express Bt proteins have provided a significant value for producers since their introduction in 1996. Annual evaluations of Bt cottons are crucial to their long-term stability as an effective management option for caterpillar pests. An experiment in the Mississippi Agricultural and Forestry Experiment Station was conducted at Delta Research and Extension Center during the 2016 season to evaluate Bollgard II and Widestrike cottons compared to non-Bt cotton. Overall, bollworm populations were extremely low during the 2016 season. Averaged across two sample dates, square damage ranged from 8.6 to 8.9% with a range of 0.6 to 1.5% of squares infested with live larvae during peak infestation densities. Larval infestations

in squares never exceeded 0.25% in Bt cotton squares. Boll damage in non-Bt cotton ranged from 2.4 to 2.8% during this time and larval infestations in bolls never exceeded 0.5%. Boll damage in Bt cotton ranged from 1.8 to 2.8% and was not significantly different than the non-Bt. Overall, insecticide sprays with Prevathon applied at 14 fluid ounces per acre reduced injury and larval infestations in squares and bolls for all cotton varieties. Because of the low population densities of bollworms in 2016, no significant differences in yield were observed among cotton varieties or among spray

treatments. These data indicate that bollworm populations can cause some injury in dual-gene cottons, but yield losses are rarely observed, especially at low population densities.



"BT COTTONS PROVIDE SIGNIFICANT VALUE FOR MISSISSIPPI PRODUCERS, EVEN WHEN BOLLWORM POPULATIONS ARE AT LOW DENSITIES. AT LOW BOLLWORM DENSITIES, THESE TECHNOLOGIES CAN SUSTAIN LOW LEVELS OF INJURY WITHOUT SIGNIFICANT YIELD LOSSES."

Jeff Gore