

**EFFECT OF INSECT CONTROL REGIMES ON
BT, NECTARILESS, AND NON-BT VARIETIES'
MATURITY, YIELD, AND FIBER QUALITY**

**W.R. Meredith, Jr.
USDA, ARS, CP&G
Stoneville, MS**

This was the first year of major use of Bt varieties by growers and also the first year of variety testing for many public researchers. The objective of this study was to investigate the interaction of Bt, non-Bt, and nectariless varieties as influenced by three insecticide application regimes. Four Bt and their recurrent parent varieties, four nectariless varieties, and three commercial non-Bt varieties were grown with each insect control regime. The insect control methods were: (1) spray to control both plant bugs and the tobacco budworm/bollworm complex; (2) spray to only control plant bugs; and (3) spray to only control the worm complex. The complete insect control methods produced the highest yields, averaging 1141 lbs. lint/acre, which was significantly higher than the yield of the other two regimes. The no worm treatment yields were 9% less and the no plant bug treatments were 11% less than that of the complete program. The major insect problem was plant bugs. Very little damage due to worms was evident. A significant insecticide regime X variety interaction was detected for yield. As would be expected, nectariless cottons resulted in fewer losses due to plant bugs especially on the first harvest on September 4. The average total yields of DPL 5415 and DPL 5415ne was 1079 and 1116 lbs. lint/acre, respectively when grown with a complete insect control program. Their respective yield in the no plant bug control program was 903 and 977 lbs. lint/acre. Bt varieties' average yields were 1182 lbs. lint/acre, 13% higher than their recurrent parents, and 5% higher than that of STV 474 and SG 125. Bt varieties tended to be more sensitive to plant bugs but it was not possible to determine if this was due to the Bt gene or in the variety background in which the Bt gene had been transferred into.

The average micronaire for the complete insect control regime was 4.76, which was significantly lower than the 4.87 average micronaire for the treatments receiving no plant bug protection. These results also show that even in the absence of major worm presence Bt varieties are competitive in yield with non-Bt varieties.