

**ECONOMIC COMPARISONS OF BT AND NON-BT COTTON UNDER DIFFERENT INSECTICIDE REGIMENS IN THE MS DELTA****K. C. Allen****R. E. Jackson****D. Adams****R. G. Luttrell****USDA-ARS****Southern Insect Management Research Unit****Stoneville, MS****Abstract**

Since the introduction of the first transgenic cotton for the control of caterpillar pests, Bollgard®, in 1996, there has been interest in evaluating the cost of control and the resulting yields of these transgenic traits in both sprayed and unsprayed environments. During the 2011 growing season, five locations were established in areas of the Mississippi Delta to examine the returns above using two different insecticides (chlorantraniliprole and lambda-cyhalothrin) on transgenic cotton varieties possessing two genes for caterpillar control (Bollgard II® and WideStrike®) and non-Bt cotton. During 2012, an additional nine locations were evaluated including both shorter and longer season cotton varieties. Plots were treated when bollworm/tobacco budworm (heliathine) populations reached densities recommended for control according to the Mississippi Insect Control Guide with the highest recommended rate of insecticide. Overall, larval populations were greater in 2011 compared with 2012. Returns of non-Bt plots were greater when treated with either insecticide in locations where threshold populations of heliothines were encountered. The comparative returns of Bollgard II® and Widestrike® plots varied with the insecticide used and location of the plots.