

**ECONOMIC RETURNS OF BT AND NON-BT COTTON UNDER DIFFERENT INSECT MANAGEMENT STRATEGIES**

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**Abstract**

With the introduction of transgenic cotton expressing genes from the soil bacterium, *Bacillus thuringiensis* (Bt), in 1996, there was great interest in comparing this new transgenic cotton versus non-Bt cotton in both sprayed and unsprayed environments. In papers presented in the Beltwide Cotton Conference Proceedings a few years after the deployment of Bollgard® cotton, differences between fruit damage, yields and net returns were dependent on the insecticide management program used and the geographic location of the studies. Since these earlier comparisons, cottons expressing two insecticidal genes for caterpillar control have entered the market, including Bollgard II® and Widestrike®. During the 2011 growing season, five locations were established in areas of the Mississippi Delta to examine the returns of using two different insecticides on transgenic cotton varieties possessing two genes for caterpillar control and non-Bt cotton. At the locations that received insecticide treatments, returns for non-Bt cotton were greater when populations of bollworms were treated with chlorantraniliprole over lambda-cyhalothrin and lambda-cyhalothrin over untreated plots. The returns above bollworm control were similar for Bollgard II® or Widestrike® plots treated with either chlorantraniliprole or lambda-cyhalothrin and both had greater returns than untreated plots.