

## **PERFORMANCE REVIEW OF BOLLGARD II® IN THE MIDSOUTH**

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### **Abstract**

Bollgard II cotton achieved full commercial status in the fourth quarter of 2002 making 2003 the first full season for Bollgard II commercial sales. Past research has demonstrated that Bollgard II provides a high level of efficacy on most lepidopteran pests of cotton. Four commercial Bollgard II varieties were available for sale in 2003. Bollgard II was planted on approximately 14,500 acres in the Mid-South. Since 2003 was the first year of commercial sales for Bollgard II, our objective was to evaluate the economics of Bollgard II under commercial conditions. Bollgard II varieties were directly compared to Bollgard varieties. In most comparisons, a Bollgard II variety was compared to the Bollgard sister-line variety. Insecticide costs, technology fees, application costs and yields were collected. Net returns were calculated using \$0.65/lb lint price and subtracting all insecticide costs, technology fees and application costs. Forty-nine total economic comparisons were made across the Mid-South. Economic comparisons were split into two groups – Upper Mid-South (Arkansas, Tennessee, Missouri) and Lower Mid-South (Mississippi and Louisiana). The Upper Mid-South consisted of 14 economic comparisons. All of these comparisons were Delta Pine 424 BGII/RR compared to Suregrow 215 BG/RR. Total input costs in the Upper Mid-South averaged \$2.75/acre more with Bollgard II as compared to Bollgard. Bollgard averaged 0.9 sprays/acre for worms; Bollgard II was not sprayed for worms in Upper Mid-South economic comparisons. Bollgard II averaged 41 lb lint/acre more than Bollgard. End-of-season boll damage averaged 3.5% for Bollgard but only 1.0% for Bollgard II. Bollgard II net returns averaged \$23.90/acre more than Bollgard in the Upper Mid-South. The Lower Mid-South consisted of 35 economic comparisons. Fourteen of these comparisons were Delta Pine 424 BGII/RR compared to Suregrow 215 BG/RR. Eight were Delta Pine 468 BGII/RR compared to Delta Pine 458 BG/RR. Five were Stoneville 4563 B2 compared to Stoneville 4691 B and eight comparisons were made comparing a Bollgard II variety to an unrelated Bollgard variety. Total input costs in the Upper Mid-South averaged \$1.50/acre less with Bollgard II as compared to Bollgard. Bollgard averaged 1.8 sprays/acre for worms; Bollgard II averaged 0.1 sprays/acre for worms in the Lower Mid-South. Bollgard II averaged 26 lbs lint/acre more than Bollgard. End-of-season boll damage averaged 1.4% for Bollgard but only 0.5% for Bollgard II. Net returns favored Bollgard II by \$18.40 more/acre than Bollgard in the Lower Mid-South. These economic comparison data indicate Bollgard II provides higher net returns than Bollgard across the Mid-South.