

## COMPARISON OF COTTON VARIETIES FOR YIELD DRAG

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**ABSTRACT:** Eleven Roundup Ready or Roundup Ready with Bt gene varieties, and two conventional varieties were evaluated for yield in 2002 to compare yield drag of Roundup Ready varieties. The weather was dry during June and again in late July and early August resulting in severe shedding. Hooked-billed bolls and boll cavitations, the classic symptoms of adverse reaction to Roundup, were not detected in the Roundup Ready varieties. There were four varieties (DP451BR, ST4892BR, PM1199R, and ST4793R) that had lower yields than the conventional variety SG747 used as a standard. There were two varieties (DP555BR, and SG215BR) having the Roundup Ready genes with higher yields than Stoneville 474, but none were significantly higher than Sure-Grow 747.

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**KEYWORDS:** Cotton, Roundup, Bollgard, Herbicides, Varieties, Lint Yield,

**MATERIALS AND METHODS:** Thirteen cotton varieties were planted on May 12. The experimental design was a RCB with four replications. Plot size was 4 rows, 38 in apart, and 35 feet long. Terrachlor Super X 18.8G (pentachloronitrobenzene) 1.5 lb ai/ac + Temik 15G (aldicarb) 0.75lb ai/ac were applied as granules in furrow at planting. At planting the entire plot area was over-sprayed with Cotoran (fluometuron) at 1.0 lb ai/ac. Varieties containing the Roundup Ready gene were sprayed with Roundup for weed control. Non Roundup Ready varieties received Staple (pyrithiobac) at 0.06-oz ai/ac and Poast (sethoxydim) at 0.25 ai/ac to control the weeds and grasses as needed. Insects were monitored by scouting twice weekly from planting until harvest. When threshold levels for selected insects were reached appropriate insecticides were applied according to label directions. A defoliation of Superboll (ethephon) at 1.5 lb. ai/ac and Def (tribufos) at 1.5 lb. ai/ac was sprayed on October 7. Harvesting was on October 16.

**RESULTS AND DISCUSSION:** Problems with Roundup Ready cotton that have occurred in the past such as hooked-billed shaped bolls, cavitations of bolls and poor fruit retention were not evident with any variety. The classical injury symptoms from herbicides were not observed in this study. Results from this study can be viewed as yield potential of Roundup Ready, Roundup Ready w/Bt, and conventional varieties.

In 2001 Roundup variety yields were high in this study (data not shown). In 2002, Roundup variety yields were closer to the average yields in the study and there were two varieties, DP

555BG/RR and SG 215BG/RR with higher yields than STV 474. Our research indicated in the past two years, that yields of selected Roundup Ready varieties are as good or better than the conventional varieties.

**TABLES:**

**Table 1.** Yield of Conventional, Roundup Ready/Bt, and Roundup Ready Varieties in 2002.

<u>Variety</u>	<u>Lbs lint/ac</u>
DP555BR	703
SG215BR	681
SG747	651
SG501BR	626
TEX28R	616
DP436RR	607
PM1218BR	606
SG521R	596
ST474	595
DP451BR	560
ST4892BR	558
PM1199R	549
ST4793R	549
LSD 0.05	52