

**PERFORMANCE OF EARLY-MATURING  
TRANSGENIC VARIETIES IN THE SOUTHEAST**  
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**Abstract**

Total acreage of transgenic varieties grown in the southeast region was over 1.6 million in 1998, which was second to that of the southwest region; however, nearly 55% of the 1998 total acreage in the southeast was planted to a transgenic variety, indicating that the southeast region had the highest adoption rate of transgenic technology in the cotton belt. We conducted trials throughout the southeast (AL, FL, GA, NC, SC, VA) in 1998 to compare the performance of Sure-Grow transgenic cotton varieties containing the Bollgard® (B) and/or Roundup Ready® (R) genes to the performance of the recurrent parents, as well as to that of competitor transgenic varieties within each respective management system. Seed of Sure-Grow 125B/R (SG125B/R), Sure-Grow 501B/R (SG501B/R), and Sure-Grow 585B (SG585B) were winter-grown in South Africa in 1997-98; these seed were of adequate quality, but exhibited some dormancy symptoms. Seed of Sure-Grow 125R (SG125R) and Sure-Grow 585R (SG585R) were winter-grown in Argentina in 1997-98; these seed were of very poor quality and exhibited severe dormancy. Overall, the growth habit and yield performance of the transgenic varieties were similar to those of the recurrent parents with a few exceptions: SG585B lint percent was significantly less than that for its recurrent parent, DES119; SG125R and SG585R yielded less, had lower seedling vigor, and was significantly later in maturity than each respective recurrent parent. These differences were likely due to poor seed quality and severe dormancy in those winter-grown seed. In four Bollgard® systems trials, SG585B, SG501B/R, and SG125B/R significantly outyielded PM1220BGRR and STBG4740, but were not different in performance compared to DP32B and DP33B. In five Roundup Ready® systems trials SG501B/R and SG125B/R significantly outyielded PM1244RR, PM1220BGRR, PM1220RR, DP5415RR, and DP5690RR. Yields of SG125R and SG585R were numerically higher than that for DP5415RR and DP5690RR.