

**ST 4793R – A NEW MID-SEASON ROUNDUP READY®
VARIETY FROM STONEVILLE PEDIGREED SEED COMPANY**
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Summary

ST 474, the recurrent parent, has a proven record of superior and stable performance over the cotton belt. ST 4793R is very similar to ST 474 in yield, lint percent, fiber length, fiber strength, and plant development. It appears that the stable, superior performance of ST 474 was recovered in ST 4793R, while incorporating the Roundup Ready® technology.

Roundup Ready® is a registered trademark of Monsanto Company.

Abstract

Stoneville Pedigreed Seed Company is introducing the new variety ST 4793R for the 2001 planting season. It was derived through a backcrossing procedure to incorporate Monsanto's Roundup Ready® technology into the recurrent parent ST 474. The variety is very similar to the recurrent parent in lint yield, lint percent, fiber properties, and plant development characters. Comparisons in both Stoneville and public trials indicate that the variety performs as-well-as or better than the leading conventional and transgenic varieties.

Materials and Methods

ST 4793R was developed through a backcross breeding procedure to incorporate Roundup Ready® technology into ST 474. The initial cross was made during mid-1995 and selections were made in 1997 and early 1998 using facilities at Leland, MS and in the Republic of South Africa.

Beltwide field trials were conducted in 1999 and in 2000 by Stoneville Pedigreed Seed Company's Southeast Research station at Albany, GA, Mid-South Research Station at Leland, MS, High-Plains Research Station at Idalou, TX, and Desert Southwest Research Station at Maricopa, AZ to evaluate ST 4793R. These trials were conducted with 2-row plots that were 40 feet long, replicated four times, managed conventionally, and machine harvested. Grab samples from the harvested plots were ginned with a laboratory-scale gin to generate lint percents and fiber samples for HVI analysis.

Seed increase was initiated in 1999 and continued through the winter and summer seasons of 2000.

Discussion

The yield performance of ST 4793R is similar to ST 474 over 2 years of testing (Figure 1). Beltwide trials demonstrate that ST 4793R competes very favorably with industry standard conventional and Roundup Ready® varieties (Table 1). Lint percent, fiber length, fiber strength, and micronaire are similar to the recurrent parent (Table 1).

Plant development data shows that ST 4793R is very similar to ST 474. Total number of nodes, nodes to the first fruiting branch, plant height, and height of the first fruiting branch indicates that the variety develops the same as ST 474 (Table 2).

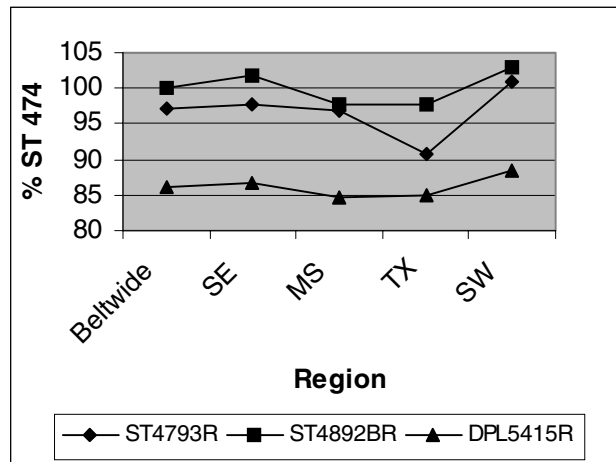


Figure 1. 1999-2000 Performance of ST 4793R as a Percent of ST 474 Across Regions.

Table 1. 1999-2000 Performance of ST 4793R.

Variety	Yield	Lint %	Length	Strength	Mic
ST 474	1270	39.7	1.11	28.2	4.6
ST 4793R	1235	39.2	1.09	28.2	4.5
ST 4892BR	1269	39.6	1.10	28.4	4.6
S-747	1278	38.5	1.11	27.6	4.7
DP 5415R	1094	37.6	1.12	29.2	4.5
LSD _{0.05}	54	0.5	0.01	0.5	0.1

Table 2. 1999-2000 Plant Development Data for ST 4793R and ST 474.

Variety	Total Nodes	Nodes to 1 st Fruiting Branch	Plant Height (in)	Height of 1 st Fruiting Branch (in)
ST 4793R	21.9	7.3	43.5	10.7
ST 474	22.2	7.2	42.8	10.6
LSD _{0.05}	0.6	0.2	1.5	0.7