

**ST 580 – A NEW MEDIUM-SEASON VARIETY FROM
STONEVILLE PEDIGREED SEED COMPANY**

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Abstract

Stoneville Pedigreed Seed Company is introducing the new variety ST 580 for the 2001 planting season. ST 580 was developed from a cross between ‘ST 468’ and ‘DPL 5415’. The variety was developed through traditional plant breeding methods using a modified pedigree breeding program. ST 580 is similar in maturity to NuCotn 33B, with longer fiber length and higher fiber strength than NuCotn 33B. Yield comparisons in 61 Stoneville intra-company trials from 1997 through 2000 indicate that ST 580 produces significantly more lint yield than NuCotn 33B. Planting seed of ST 580 will be available to growers across the Cotton Belt for the 2001 growing season.

Materials and Methods

ST 580 was developed through modified pedigree breeding program. The initial cross was made during mid-1993 and selections were made in each generation from 1994 through 1996 at Stoneville Pedigreed Seed Co. facilities in Maricopa, AZ and in the Republic of South Africa.

Beltwide field trials comparing ST 580 to leading commercial varieties were conducted from 1997 through 2000 by Stoneville Pedigreed Seed Company’s Southeast Research Station at Albany, GA, Mid-South Research Station at Leland, MS and Desert Southwest Research Station at Maricopa, AZ. These trials were conducted with 2-row plots that were 40 feet long, replicated four times, and were machine-harvested. Grab samples from the harvested plots were ginned with a laboratory-scale gin to calculate lint percent and HVI analyses were performed on lint from these samples.

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

Discussion

Sixty-one Stoneville experiments, averaged across the lower cotton belt from 1997 to 2000 indicate the yield performance of ST 580 is significantly higher than Deltapine NuCotn 33B, an industry leader for yield of medium-full season varieties (Figure 1). Separate analyses within regions of yield trials conducted across 32 locations in the Southeast and 14 locations in the lower Mid-South indicate similar results (data not shown). Yield trials across 15 locations from the desert Southwest from 1997-2000 indicated that there were no significant differences between the varieties. Fiber properties of ST 580 are presented in Table 1. Data collected from the above mentioned 61 locations indicate that fiber length and fiber strength of ST 580 are significantly higher NuCotn 33B while micronaire for both varieties are statistically equal.

Summary

ST 580 has a proven record of superior and stable performance across the lower Cotton Belt. ST 580 produces significantly higher lint yield than NuCotn 33B. Extensive fiber property analyses also indicate that ST 580 produce fiber which is longer and stronger than NuCoton 33B. ST 580 will be an excellent choice for growers seeking a non-transgenic, medium-full season variety in most regions of the lower Cotton Belt.

Table 1. Fiber characteristics of ST 580 across 61 locations in the lower Cotton Belt from 1997-2000.

| Variety | Length | Strength | Micronaire |
|---------------------|--------|----------|------------|
| ST 580 | 1.134 | 30.01 | 4.57 |
| NuCotn 33B | 1.129 | 28.81 | 4.60 |
| CV (%) | 1.39 | 2.93 | 4.11 |
| LSD _{0.05} | 0.004 | 0.24 | 0.05 |

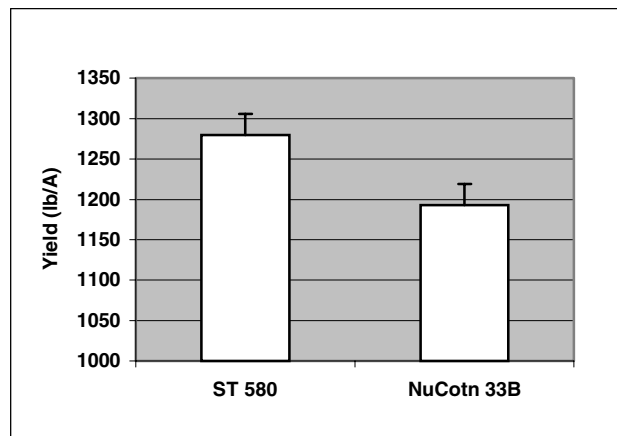


Figure 1. Lint yield performance of ST 580 and NuCotn 33B across 61 locations across the lower Cotton Belt from 1997-2000.