Deltapine 493 (DP493) (2004–2005), lint yields were not significantly different \( (P = 0.05) \). The lint fraction of LA1110004 was comparable to that of PSC355 but was significantly lower than that of DP493. Fiber length for LA111004, at 29.5 mm, was 6% longer and significantly greater \( (P = 0.05) \) than that of either PSC355 (27.9 mm) or DP493 (27.9 mm). The fiber strength of LA1110004 averaged 353 kN m kg\(^{-1}\) compared with values of 314 and 284 kN m kg\(^{-1}\) for PSC355 and DP493, respectively. Micronaire values were comparable between LA1110004 and PSC355 and DP493. Elongation values for LA1110004 were slightly lower than those of PSC355 but greater than those of DP493. Greater fiber length uniformity was evident in LA1110004 than in either PSC355 or DP493.

The exceptional fiber strength and length of this line as well as its favorable micronaire, elongation, and fiber-length uniformity values make it valuable to cotton breeding programs looking to improve fiber quality. The yield data imply that these traits could be introgressed without a concomitant penalty. Small quantities of seed will be distributed and may be requested from the senior author. Unless specifically approved by the LAES, LA1110004 may not be used as a recurrent parent in a breeding program.

**References**


---

**Registration of LA1110017 Germplasm Line of Cotton**

G.O. Myers,* J. Zumba, J.I. Dickson, and W.D. Caldwell

A breeding line of cotton \( (Gossypium hirsutum \ L.) \), designated as LA1110017 (Reg. No. GP-876, PI 643918) was released in 2006 by the Louisiana Agricultural Experiment Station (LAES). The superior fiber strength and length of this line as well as its favorable micronaire, elongation, and fiber length uniformity values makes it valuable to cotton breeding programs looking to improve fiber quality.

LA1110017 was derived from a cross made in 1998 between ‘Paymaster 1560’ and ‘FiberMax 832’. Paymaster 1560 (experimental designation LA830909) originated from a 1980 cross made by Dr. J.E. Jones of the LAES between LA434-1031-C and ‘DES119’ (Bridge, 1986). LA434-1031-C is a reselection of LA434-RKR which originated from a cross between Bayou 7769 and Deltapine 16 (Calhoun et al., 1997). Bayou 7769 is a root-knot nematode-Fusarium wilt resistant selection that traces back to a cross between Deltapine 15 and Clevewilt-6. DES 119 was a release from the Mississippi Agricultural and Forestry Experiment Station (Calhoun et al., 1997). FiberMax 832 is a cotton cultivar marketed by Bayer CropScience. LA1110017 was developed via pedigree selection in the F\(_2\)–F\(_{2}\) generation, primary emphasis given to high fiber length uniformity. Comparisons to the commercial cultivars FiberMax 958 and PSC355 in 2003 and at additional sites (Macon Ridge Research Station and Red River Research Station) in 2004–2005 are shown in Table 1. Fiber quality comparisons were made using High Volume Instrumentation (HVI) measurements. Phenotypically, LA1110017 has a normal leaf shape, hairy leaves, and pubescent stems. It is of medium to full maturity.

Results from the 10 performance trials averaged across 2003 and 2005 showed that the lint yields of LA1110017 were significantly different \( (P = 0.05) \) to that of FiberMax 958 with a yield of 13.81 kg ha\(^{-1}\) compared with 10.65 kg ha\(^{-1}\) for FiberMax 958. LA1110017 lint yield was significantly different \( (P = 0.05) \) to that of PSC355 with 11.77 kg ha\(^{-1}\) compared with 11.2 bg ha\(^{-1}\) for PSC355. Micronaire values were significantly lower at 40% than that of FiberMax 958 (43%) and greater than that of PSC355 (27.9 mm) with an increase of 6% compared with the value of 284 kN m kg\(^{-1}\) for FiberMax 958. Micronaire values were comparable to those of FiberMax 958 and significantly different \( (P = 0.05) \) than that of either PSC355 or DP493. Greater fiber length uniformity was evident in LA1110017 than in either PSC355 or DP493.

The Upper Half Mean (UHM) length was significantly greater \( (P = 0.05) \) than that of FiberMax 958 (28.4 mm) with an increase of 6% compared with the value of 284 kN m kg\(^{-1}\) for FiberMax 958. Micronaire values were comparable to those of FiberMax 958 and significantly different \( (P = 0.05) \) than that of either PSC355 or DP493. Greater fiber length uniformity was evident in LA1110017 than in either PSC355 or DP493.

The HVI fiber bundle strength of LA1110017 was significantly different \( (P = 0.05) \) to that of FiberMax 958. Lint fraction and fiber quality comparisons were made using HVI measurements. Phenotypically, LA1110017 has a normal leaf shape, hairy leaves, and pubescent stems. It is of medium to full maturity.

Results from the 10 performance trials averaged across 2003 and 2005 showed that the lint yields of LA1110017 were significantly different \( (P = 0.05) \) to that of FiberMax 958 with a yield of 13.81 kg ha\(^{-1}\) compared with 10.65 kg ha\(^{-1}\) for FiberMax 958. LA1110017 lint yield was significantly different \( (P = 0.05) \) to that of PSC355 with 11.77 kg ha\(^{-1}\) compared with 11.2 bg ha\(^{-1}\) for PSC355. Micronaire values were significantly lower at 40% than that of FiberMax 958 (43%) and greater than that of PSC355 (27.9 mm) with an increase of 6% compared with the value of 284 kN m kg\(^{-1}\) for FiberMax 958. Micronaire values were comparable to those of FiberMax 958 and significantly different \( (P = 0.05) \) than that of either PSC355 or DP493. Greater fiber length uniformity was evident in LA1110017 than in either PSC355 or DP493.

The HVI fiber bundle strength of LA1110017 was significantly different \( (P = 0.05) \) to that of FiberMax 958. Lint fraction and fiber quality comparisons were made using HVI measurements. Phenotypically, LA1110017 has a normal leaf shape, hairy leaves, and pubescent stems. It is of medium to full maturity.

Results from the 10 performance trials averaged across 2003 and 2005 showed that the lint yields of LA1110017 were significantly different \( (P = 0.05) \) to that of FiberMax 958 with a yield of 13.81 kg ha\(^{-1}\) compared with 10.65 kg ha\(^{-1}\) for FiberMax 958. LA1110017 lint yield was significantly different \( (P = 0.05) \) to that of PSC355 with 11.77 kg ha\(^{-1}\) compared with 11.2 bg ha\(^{-1}\) for PSC355. Micronaire values were significantly lower at 40% than that of FiberMax 958 (43%) and greater than that of PSC355 (27.9 mm) with an increase of 6% compared with the value of 284 kN m kg\(^{-1}\) for FiberMax 958. Micronaire values were comparable to those of FiberMax 958 and significantly different \( (P = 0.05) \) than that of either PSC355 or DP493. Greater fiber length uniformity was evident in LA1110017 than in either PSC355 or DP493.

The HVI fiber bundle strength of LA1110017 was significantly different \( (P = 0.05) \) to that of FiberMax 958. Lint fraction and fiber quality comparisons were made using HVI measurements. Phenotypically, LA1110017 has a normal leaf shape, hairy leaves, and pubescent stems. It is of medium to full maturity.