Registration of LA1110004 Okra Leaf Germplasm Line of Cotton

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A breeding line of cotton (*Gossypium hirsutum* L.), designated as LA1110004 (Reg. No. GP-877, PI 643917), was released in 2006 by the Louisiana Agricultural Experiment Station (LAES). LA1110004, an okra leaf germplasm line possessing exceptional fiber strength and length, is a valuable resource for fiber improvement efforts by both public and private breeding programs.

LA1110004 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 an okra leaf shaped cultivar marketed by Bayer CropScience. LA1110004 was chosen for pedigree selection in the F$_2$–F$_4$ generations with emphasis given to high fiber length, strength, and the okra leaf shape. It was evaluated as a progeny row in 2002 and replicated field evaluation was undertaken at the Dean Lee Research Station and Red River Research Station of the LSU AgCenter in 2003 and at additional sites (Macon Ridge Research Station and Northeast Research Station) in 2004–2005 and 2005-2006. Comparisons were made relative to the commercial cultivars FiberMax 958 and Phytogen PSC 355 in 2003 and 2005 showed that the lint yield of LA1110004 was significantly different (*P* = 0.05) from that of FiberMax 958. The lint fraction for LA1110004 at 40.2% was significantly lower than that of FiberMax 958 (42.6%). Upper half mean (UHM) length of lint for LA1110004 was 1.6. The uniformity index value for LA1110004 was slightly and significantly (*P* = 0.05) than that of FiberMax 958. The micronaire value of LA1110004 (4.8) was lower but not significantly different. Elongation values for LA1110004 were significantly greater (*P* = 0.05) than those of FiberMax 958. The ume instrumentality (HVI) fiber-bundle strength of LA1110004 was lower but not significantly different. LA1110004 possesses the okra leaf shape and has smooth leaves and pubescent stems. LA1110004 is of medium to full maturity.