REGISTRATION OF GaT 85-19 COTTON GERMPLASM LINE

GaT 85-19, a germplasm line of cotton (*Gossypium hirsutum* L.) (Reg. no. GP-504, PI 552535), was released by the University of Georgia Coastal Plain Experiment Station in 1990. It is a reselection of GaT 77-27, which was derived from a cross of PD 4381B × CP 8208. PD 4381B is a breeding line developed by D. C. Harrell and T. W. Culp and was released by the Pee Dee Experiment Station, Florence, SC. CP 8208 is a selection from the ‘Atlas’ breeding material developed by J. G. Jenkins at the Georgia Coastal Plain Experiment Station.

GaT 85-19 is a vigorous intermediate type with dark-green foliage, medium-size leaves, bolls and seed. Plant height, maturity and canopy density are similar to ‘Coker 315’.

Lint yields have been erratic but in certain environments have been excellent. In Georgia trials, 3-yr average lint yield was 90% of ‘Deltapine 90’ and 97% of Coker 315.

This strain has an excellent combination of fiber properties. Of particular interest is its consistently low micronaire value when grown in Georgia and other southeastern locations. Over 3 yr (seven tests), GaT 85-19 had significantly lower micronaire (4.2) than Deltapine 90 (4.8) and Coker 315 (4.6). Fiber length is equal to Coker 315 (30.3 mm vs. 30 mm) and significantly longer than Deltapine 90 (30.3 mm vs. 28.7 mm). Fiber strength is 210, 207, and 198 kN m kg⁻¹ for Deltapine 90, GaT 85-19, and Coker 315, respectively. Yarn tenacity is 127 and 113 kN m kg⁻¹ for GaT 85-19 and Deltapine 90, respectively.

Data from the Regional Wilt Test at Talledega indicated that this line has moderate resistance to the fusarium wilt root-knot nematode complex, caused by *Fusarium oxysporum* Schlechtend.:Fr. f. *vasinfectum* (Atk.) W.C. Snyd. & H.N. Hans. and *Meloidogyne incognita* (Kofoid & White) Chitwood.

Having low micronaire reading and excellent fiber length, and length uniformity, GaT 85-19 is an excellent breeding source for developing high fiber quality. Small lots of seed may be obtained from Shelby H. Baker, Agronomy Department, Coastal Plain Experiment Station, P.O. Box 748, Tifton, GA 31793.

SHELBY H. BAKER (1)

REGISTRATION OF GaT 86-71 COTTON GERMPLASM LINE

GaT 86-71 (Reg. no. GP-505, PI 552536) was released by the University of Georgia Coastal Plain Experiment Station in 1990. It is a glabrous cotton (*Gossypium hirsutum* L.) with trichomes absent from stem and leaf surfaces except on the leaf margin T₂₁ (1). This line resulted from a natural cross when GaT 77-27 and the glabrous line GaT 81-383 were planted in adjacent rows. Plant selections from GaT 77-27 resulted in a number of glabrous plants. GaT 77-27 is a selection from a cross of PD 4381B × CP 8208. PD 4381B is a breeding line developed by D. C. Harrell and T. W. Culp at the Pee Dee Experiment Station, Florence, SC. CP 8208 is a selection out of the ‘Atlas’ breeding material developed by J. G. Jenkins at the Coastal Plain Experiment Station.

GaT 86-71 is a full-season, vigorous type with plant height similar to Stoneville 825. This line has dark-green foliage, medium-size leaves, medium-large bolls and seed. Bolls have excellent fluff and storm resistance. Yield of GaT 86-71 in Georgia was 90% of ‘Deltapine 90’ over a 4-yr period and 102% of ‘Coker 315’ over a 3-yr period. Other southeastern locations have reported similar yields.

Three years (seven tests) of fiber data from Georgia show GaT 86-71 has a significantly longer fiber than Deltapine 90 (30.2 mm vs. 28.2 mm) and equal to Coker 315 (30.2 mm vs. 29.7 mm), with similar length uniformity and elongation. Fiber strength is significantly lower than Deltapine 90 (205 vs. 196 kN m kg⁻¹) and equal to Coker 315 (198 vs 196 kN m kg⁻¹). GaT 86-71 has a significantly lower micronaire reading than Deltapine 90 (4.5 vs. 4.9) and micronaire similar to Coker 315 (4.5 vs. 4.7). This line has a yarn tenacity of 129 kN m kg⁻¹ compared to 113 kN m kg⁻¹ for Deltapine 90.

This line with excellent fiber length, low micronaire reading, and average fiber strength should serve as an excellent breeding source for the glabrous character. Small lots of seed may be obtained from Shelby H. Baker, Agronomy Department, Coastal Plain Experiment Station, P.O. Box 748, Tifton, GA 31793.

SHELBY H. BAKER (2)

References and Notes


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