REGISTRATIONS OF GERMPLASM

Registration of NC 72 Cotton Germplasm Line

NC 72 (Reg. no. GP-715, PI 615073) cotton (Gossypium hirsutum L.) germplasm line was released by the North Carolina Agricultural Research Service in 1999. This line has excellent lint yield along with superior fiber quality.

NC 72 is an F₅₆ selection derived from ‘DES 119’/‘KC 311’/‘Deltapine 90’. DES 119 is a cross of ‘DES 24’ and DES 2134-047 (Bridge, 1986). KC 311 was the result of a cross between ‘McNair 235’ and Deltapine 90 (Calhoun et al., 1997). Deltapine 90 came from a cross of Deltapine 6516 and Deltapine 6582 (Calhoun et al., 1997).

Lint yield of NC 72 averaged 1352 kg ha⁻¹ compared with 1333 kg ha⁻¹ for ‘Deltapine 51’ in eight North Carolina trials from 1998 to 1999. NC 72 averaged 42.6% lint compared with 41.5% for Deltapine 51. NC 72 is 7.6 cm taller than Deltapine 51. Boll size of NC 72 averaged 5.6 g, while Deltapine 51 averaged 5.9 g. Fiber length of NC 72 averaged 29.7 mm while Deltapine 51 averaged 28.9 mm. Elongation averaged 5.6 and 6.6% for NC 72 and Deltapine 51, respectively. Uniformity index was not different (P = 0.05) at 83.6 and 83.4% for NC 72 and Deltapine 51, respectively. NC 72 had a higher fiber strength at 328.3 kN m kg⁻¹, compared with 273.8 kN m kg⁻¹ for Deltapine 51. NC 72 had a lower micronaire reading of 4.2, compared with 4.7 for Deltapine 51. NC 72 had a yarn (skein) strength of 36 kg, compared with 28.3 kg for Deltapine 51; and a fineness reading of 143 mtex, compared with 171 mtex for Deltapine 51. Seed index of NC 72 is 9.7 g, compared with 10.0 g for ‘Sure Grow 125’. Maturity of NC 72 is similar to Deltapine 51.

NC 72 has fair resistance (52 % of plants showed foliar symptoms) to fusarium wilt [caused by Fusarium oxysporum Schlechtend.:Fr. f. sp. vasinfectum (Atk.) W.C. Snyder & H.N. Hans.] when compared with the resistant check, ‘M315’ (25% of plants with foliar symptoms), and the susceptible check, ‘Rowden’ (91 % of plants wilted). Evaluation was performed in the Regional Wilt Screening Test at Tallassee, AL. NC 72 has the T₅ level of pubescence (Lee, 1985), commonly referred to as ‘Deltapine Smoothleaf’. It has nectaries, normal leaf shape, and exhibits a semi-cluster fruiting pattern.

NC 72 has a yield index of 121 and a fiber index of 112, with superior yield and fiber, respectively.

NC 72 has lint yield higher than ‘Sure Grow 125’ in eight North Carolina trials from 1998 to 1999 and is adapted to central and southern Texas. TAM 88G-104 originated as a single F₂:3:4 progeny row from the cross of ‘Deltapine 90’ (Calhoun et al., 1994), a mid- to full-season, picker-type upland cotton.

Registration of TAM 88G-104 High-Yield Upland Cotton Germplasm

TAM 88G-104 (Reg. no. GP-715, PI 614941) upland cotton (Gossypium hirsutum L.), was developed by the Delta and Pine Land Improvement Laboratory, Department of Soil and Crop Sciences, Texas Agricultural Experiment Station, and Texas Agricultural Research Service in 1999. This line was released in 1998. TAM 88G-104 combines high yield potential, excellent fiber properties, and is adapted to central and southern Texas. TAM 88G-104 originated as a single F₂ progeny row from the cross of ‘Deltapine 51’ in eight North Carolina trials from 1998 to 1999. NC 72 averaged 42.6% lint compared with 37.8% for Deltapine 51; and a fineness reading of 143 mtex, compared with 171 mtex for Deltapine 51. TAM 88G-104 is recommended for use in central and southern Texas.

REFERENCES


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TAM 88G-104 is a mid- to full-season, picker-type cotton cultivar with a growth habit intermediate between Deltapine 90 and ‘Sure Grow 125’ (Calhoun et al., 1994) and Deltapine 90 when grown with supplemental irrigation in College Station, TX. Averaged across 2 yr at College Station and grown under full-season conditions, TAM 88G-104 averaged 5% lower lint yield than Deltapine 90 and 14.4% lower than Deltapine 50 and ‘Tamcot Smoothleaf’. TAM 88G-104 is resistant to as ‘Deltapine Smoothleaf’. It has nectaries, normal leaf shape, and exhibits a semi-cluster fruiting pattern.

TAM 88G-104 has a yield index of 121 and a fiber index of 112, with superior yield and fiber, respectively.