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 352 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 278.3 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 26.8 kg for Deltapine 51; and a fineness reading of 160 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 Tallasse, 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.

TAM 88G-104 (Reg. no. GP-715, PI 615073) cotton (Gossypium hirsutum L.) germplasm line was developed by the North Carolina Agricultural Research Service in 1999. This line has excellent lint yield along with superior fiber quality.

TAM 88G-104 is a mid- to full-season, picker-type upland cotton, resistant to the silverleaf whitefly, Bemisia argentifolii (Baker) (Lee, 1985). It is moderately susceptible to “Bronze Wilt,” caused by Xanthomonas malvacearum (causal agent unknown, and is moderately resistant to bacterial pustule (caused by Pseudomonas syringae pv. glycinea) (Lee, 1985). TAM 88G-Small lots of seed may be obtained from the author.

REFERENCES


Calhoun et al., 1997. Registration of ‘Deltapine 51’ in eight North Carolina trials from 1998 to 1999. NC 72 averaged 42.6% lint compared with 41.5% for Deltapine 51.


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Published in Crop Sci. 41:1367–1369 (2001).