REGISTRATIONS OF GERMPLASM

Registration of High Fiber Strength Cotton Germplasm Line NM970513

NM970513 (Reg. no. GP-714, PI 613344) is a high-quality acana cultivar, selecting from the cross ‘Acala 1517-95’/NM24052 made in 1994 at the New Mexico Agricultural Experiment Station at Las Cruces, NM. Acala 1517-95 is a high-quality acana cultivar with the pedigree Acala 3080/PD2165 (Cantrell and Escabedo, 1997). NM24052 is an experimental line derived from the cross St9/Del Cerro. Del Cerro is a complex population released in 1957 and contains introgression from G. hirsutum L., G. hirsutum var. punctatum (Schumach & Thonn.), G. barbadense L., G. herbaceum L., and G. thurberi Tod. (Smith et al., 1999; Staten, 1971). St9 is a stripper experimental line contributing carliness and compact growth habit to the cross.

In 1995, 122 F2 plants from the cross Acala 1517-95/NM24052 were selected in Las Cruces, NM, to produce F34 progeny. These progeny were evaluated in replicated trials at Las Cruces and Artesia, NM, in 1996. Extensive transgressive segregation was observed in this population for fiber strength (Cantrell et al., 1995). All F3 progeny lines were grown in 10-m rows in the genetics nursery at Las Cruces for testing. Five random plants within each progeny row were selected to micro-spin fibers for NM970513 and 130.3 kN m kg⁻¹ for Acala 1517-95. Similar fiber samples were submitted to the Texas Tech University International Textile Center for fineness and maturity testing on the Uster-Advanced Fiber Information System (AFIS). The maturity ratio is the ratio of fibers with a 0.50 (or greater) circularity ratio divided by the amount of fibers with a 0.25 (or less) circularity. The mean maturity ratio of NM970513 was 0.93 and 0.86 for Acala 1517-95. The immature fiber content of NM970513 was 8.5% compared with 11.1% for Acala 1517-95. The mean fiber fineness was 144 Mg M⁻¹ (mTex) for both Acala 1517-95 and NM970513. This germplasm line has a very mature fiber, as defined by the AFIS instrumentation.

The lint yield of NM970513 averaged over six replicated trials in New Mexico was less (P ≤ 0.05) than Acala 1517-95 (1224 vs. 1412 kg ha⁻¹). The handpicked lint percentage averaged 38.3 for NM970513 and 40.8 for Acala 1517-95. NM970513 has large seed with a seed index of 101. g. The bolls of NM970513 are ovate and are smaller (P ≤ 0.05) than Acala 1517-95. 2.21 vs. 2.39 g of lint. The average plant height of NM970513 was 10 cm taller than Acala 1517-95, and the days to maturity of the two were not different. NM970513 has similar levels of tolerance to Verticillium wilt as Acala 1517-95. Small amounts of seed of NM970513 will be provided upon written request to the corresponding author. Recipients are asked to make appropriate recognition of the source of the germplasm if used for research purposes, or for development of a parental line, cultivar, or hybrid.

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References


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Registration of Six Lentil Germplasm Lines with Combined Resistance to Viruses

Six lentil (Lens culinaris Medik.) germplasm lines, ILL 74 (Reg. no. GP-208, PI 612870), ILL 75 (Reg. no. GP-209, PI...