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Registration of Crop Cultivars

REGISTRATION OF PIMA S-6 COTTON

'PIMA S-6' cotton (*Gossypium barbadense* L.) (Reg. no. 81) was developed by USDA-ARS in cooperation with the State Agricultural Experiment Stations of Arizona, New Mexico, and Texas. The experimental designation was P34.

Pima S-6 is an F_4 selection from a cross of experimental strains 5934-23-2-6 and 5903-98-4-4. It was released in 1983 as a replacement for 'Pima S-5'. The major advantages of Pima S-6 are earlier maturity and higher yield than for Pima S-5. From 1975 through 1981 the average yield advantage for Pima S-6 over Pima S-5 grown at various elevations ranged from 4 to 18%. The greatest yield advantage from Pima S-6 was obtained at high elevations (above 750 m), particularly in New Mexico and Texas.

Pima S-6, compared with Pima S-5, is a more open plant, less leafy, and equal or shorter in plant height at low elevations (up to 450 m) and equal or taller at high elevations. Pima S-6 is early, begins fruiting low on the plant, and continues fruiting throughout the season.

Compared with Pima S-5, Pima S-6 has a higher lint percentage, smaller bolls, slightly shorter 2.5% span fiber length, slightly longer 50% span fiber length, slightly shorter classer's staple, stronger fiber, coarser fiber, and its fiber has less reflectance and greater yellowness. In processing, Pima S-6 gives slightly stronger yarns and better yarn appearance than Pima S-5.

Breeder seed may be obtained by bonafide seed breeders upon written request to USDA-ARS, Univ. of Arizona Cotton Res. Ctr., 4207 E. Broadway, Phoenix, AZ 85040.

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References and Notes

1. Research agronomist and research geneticist, USDA-ARS, Univ. of Arizona Cotton Res. Ctr., Phoenix, AZ 85040. Registration by the Crop Sci. Soc. of Am. Cooperative investigations of the USDA-ARS and the State Agric. Exp. Stns. of Arizona, New Mexico, and Texas. Journal Paper no. 3753 of the Arizona Agric. Exp. Stn. Accepted 23 Sept. 1983.

REGISTRATION OF ACALA 1517-77BR UPLAND COTTON

'ACALA 1517-77BR' cotton (*Gossypium hirsutum* L.) (Reg. No. 82) was released by the New Mexico Agricultural Experiment Station in 1982. It originated as a single plant selection from 'Acala 1517-77'. The original plant selection possessed a high level of resistance to bacterial blight caused by (*Xanthomonas compestris* pv. *malvarearum* (Smith 1901) Dye 1978b. Acala 1517-77BR is resistant to races 1, 2, 10 and Tularosa, a local race in New Mexico (2). Acala 1517-77 is not resistant to the Tularosa race.

Agronomic traits of Acala 1517-77BR are similar to those of Acala 1517-77. The parents and development of Acala 1517-77 were described in 1980 (1). The plant shape of Acala 1517-77BR is narrower than Acala 1517-77, due to shorter sympodial branches. Bolls of Acala 1517-77BR are narrowly ovate and average 2.02 g of lint cotton, compared with 1.99 g for Acala 1517-77. Seeds are fuzzy and medium-large with a fuzzy seed index of 13.0 g. The lint percentage averages 35 to 37 for hand picked samples, which is slightly higher than that of Acala 1517-77. Earliness and plant height are similar for the two cultivars.

Acala 1517-77BR produces premium quality fiber averaging 30.5 mm in 2.5% span length, generally classing as 1⅛ in. staple. Fiber uniformity is about 48. Micronaire of Acala 1517-77BR and Acala 1517-77 are similar. Fiber strength as measured on the 3.18 mm gage stelometer averaged 238 $kNmkg^{-1}$ (mN/tex), nearly identical to Acala 1517-77. Strength of 22's yarn of Acala 1517-77BR averaged 148 $kNmkg^{-1}$ compared with 143 for Acala 1517-77.

Acala 1517-77BR is moderately tolerant to *Verticillium dahliae* Kleb. The cultivar is mildly tolerant to Fusarium wilt caused by *Fusarium oxysporum* f. sp. *vasinfectum* (Atk.) Snyd. and Hans.

Over the 4 years of testing, Acala 1517-77BR averaged 1% more lint yield than Acala 1517-77. Acala 1517-77BR was released as a replacement for Acala 1517-77 primarily because of the higher levels of bacterial blight resistance.

Breeder seed will be maintained by the New Mexico Agricultural Experiment Station, Las Cruces.

C.L. ROBERTS, N.R. MALM, D.D. DAVIS, AND C.E. BARNES (3)

References and Notes

1. Barnes, C.E., D.D. Davis, N.R. Malm, C.L. Roberts, and R.L. Wood. 1980. Registration of Acala 1517-77 Upland Cotton. Crop Sci. 20:113.
2. Davis, D.D., H.C. Yang, and C.F. Chew. 1974. Development of high-level resistance to bacterial blight in Acala 1517 cottons. N. Mexico Agric. Exp. Stn. Bull. 615.
3. Research specialist, professors, and associate professor, respectively, Dep. of Crop and Soil Sciences, New Mexico State Univ., Las Cruces. Registration by the Crop Sci. Soc. of Am. Journal article 1028, Agric. Exp. Stn., New Mexico State Univ., Las Cruces, NM 88003. Accepted 11 Oct. 1983.

REGISTRATION OF ACALA 1517-SR1 UPLAND COTTON

'ACALA 1517-SR1' cotton (*Gossypium hirsutum* L.) (Reg. No. 83) was released by the New Mexico Agricultural Experiment Station in 1983. It originated as a single plant selection from a cross between 'Acala 1517-E1' and a storm-resistant source. Parents involved in the development of Acala 1517-E1 were Acala 3080 and Pee Dee 2165, and were described in 1978 (1). Plant-to-row selection for several generations resulted in strain E945. After 3 years of testing, this strain was released as Acala 1517-SR1.

Plants of Acala 1517-SR1 are about the same height as those of Acala 1517-E1, averaging 86 cm. Plants of Acala 1517-SR1 are much narrower than Acala 1517-E1 because of shorter sympodial branches. Maturity as measured by early bloom counts and open boll counts is similar for the two cultivars. Acala 1517-SR1 averaged 3% more yield than Acala 1517-E1 in the Mesilla Valley and western New Mexico and 8% more in the Pecos Valley and eastern New Mexico.

Acala 1517-SR1 is moderately tolerant to *Verticillium dahliae* Kleb., and a majority of plants are resistant to races 1, 2, 10, and Tularosa (2) of *Xanthomonas campestris* pv. *malvarearum* (Smith 1901) Dye 1978b of bacterial blight. The