REGISTRATION OF PIMA S-3 COTTON
(Reg. No. 58)

E. F. Young, Jr., Carl V. Feaster, and E. L. Turcotte

'PIMA S-3' (Gossypium barbadense L.) was developed by ARS-USDA, in cooperation with the State Agricultural Experiment Stations of Arizona, New Mexico, and Texas.

Pima S-3 is a selection from Hybrid B. It was tested as E-1044. Hybrid B was a group of plants, with predominately G. barbadense traits that was obtained from a mass cross involving 'Pima S-1', Pima experimental strain 1-71, 'Tanguis', 'Ashmouni', 'Giza 12', 'Pima 32', various Coastal strains, and an Upland strain, CI. Pima S-3 was released in 1966 as a replacement for Pima S-2 on the less productive soils at high elevation (above 750 m). On less productive soils at high elevation, Pima S-3 yields similar to Pima S-2, is reasonably early, begins fruiting at a desirable height on the plant, and is less subject to lodging than Pima S-2. Pima S-3 is not adapted to low elevations (below 450 m), where it fails to set fruit until late in the season, becomes rank, and is unproductive. The lack of early fruit set at low elevations appears to be associated with lack of heat tolerance during the reproductive period. Pima S-3 with Pima S-2; Pima S-3 has a lower percent lint, longer and finer fiber, and similar fiber strength. It gives slightly stronger yarn that tends to be more nepy. The major advantages of Pima S-3 over Pima S-2 are longer fiber and better plant type for harvesting on the less productive soils at high elevation. Since its release, Pima S-3 has been grown on a limited acreage at high elevation. Pima S-3, of the breed released in 1966, constitutes practically all the remaining American Pima cotton acreage.

Breeder seed may be obtained by bona fide seed breeders upon written request to the USDA, Texas A & M Univ. Agric. Research Center, El Paso, TX 79967.

REGISTRATION OF PIMA S-5 COTTON
(Reg. No. 59)

Carl V. Feaster, E. L. Turcotte, and E. F. Young, Jr.

'PIMA S-5' cotton (Gossypium barbadense L.) was developed by ARS-USDA in cooperation with the State Agricultural Experiment Stations of Arizona, New Mexico, and Texas.

Pima S-5 is a F₁ selection from a cross of experimental strain S-79×S₁×S₁ 78-567-228-325 with 'Pima S-4'. It was tested as E-90, in 1963-65 showed a yield advantage of 17 percent for Pima S-5 over Pima S-4. The major advantages of Pima S-5 are higher yield and earlier maturity. The 3-year average from the Pima Regional Tests, 1972-74, showed yield advantages of 10 to 17% for Pima S-5 over Pima S-4, depending on elevation. The relatively greater adaptability of Pima S-5 at the lower elevations (below 450 m) appears to be related to its greater heat tolerance during the fruiting period.

Compared with Pima S-4, Pima S-5 has a higher percent lint and slightly longer 2.5% span fiber length. They are similar for plant type, boll size, 50% span fiber length, fiber strength, micronaire and fiber color. In processing, Pitna S-5 gives slightly stronger yarn than Pima S-4. They are similar for yarn appearance and waste percentage.

Breeder seed may be obtained by bona fide seed breeders upon written request to the USDA, Univ. of Arizona Cotton Research Center, 4207 East Broadway, Phoenix, AZ 85040.