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REGISTRATION OF PIMA S-3 COTTON[1]

(Reg. No. 58)

E. F. Young, Jr., Carl V. Feaster, and E. L. Turcotte[2]

'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, C1. 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).[3] 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 fruiting period. Compared 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 neppy. 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-4, also 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 79927.

[1] Registered by the Crop Science Society of America. Contribution from ARS-USDA and the State Agricultural Experiment Stations of Arizona, New Mexico, and Texas. Journal Paper No. 2501 of the Arizona Agric. Exp. Stn. Accepted 14 Apr. 1976.

[2] Research agronomist, ARS-USDA, Texas A & M Univ. Agric. Research Center, El Paso, TX 79927, and research agronomist and research geneticist, ARS-USDA, Univ. of Arizona Cotton Research Center, Phoenix, AZ 85040.

[3] Feaster, C. V., Turcotte, E. L., and Young, E. F., Jr. 1967. Pima cotton varieties for low and high elevations. Crops Res. ARS 34-90.

REGISTRATION OF PIMA S-4 COTTON[1]

(Reg. No. 59)

Carl V. Feaster, E. L. Turcotte, and E. F. Young, Jr.[2]

'PIMA S-4' 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-4 is a F_4 selection from a cross of P32 × S1 10-8 with 'Pima S-2'. It was tested as P-15. Pima S-4. released in 1966, replaces Pima S-2 at low elevations (below 450 m) and at high elevations (above 750 m) where conditions of higher productivity cause 'Pima S-3' to be late and rank. Pima S-3, also released in 1966, is adapted to the less productive soils at high elevation.[3] Results from the Pima Regional Tests at low elevation for 1963-65 showed a yield advantage of 17 percent for Pima S-4 over Pima S-2. At intermediate (450-750 m) and high elevations, the yields from Pima S-4 and Pima S-2 were similar. Pima S-4 has more tolerance than Pima S-2 to high night temperatures and can set more fruit than Pima S-2 during July and August at low elevations where night temperatures are high. Compared with Pima S-2, Pima S-4 has slightly lower percent lint and longer fiber, and it has similar fiber strength, similar to slightly finer fiber, and similar spinning performance. The major advantages of Pima S-4 over Pima S-2 are longer fiber at all elevations and higher yield at low elevations. Pima S-4 has been the major commercial American Pima from 1969 to present.

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.

[1] Registered by the Crop Science Society of America. Contribution from ARS-USDA and the State Agricultural Experiment Stations of Arizona, New Mexico, and Texas. Journal Paper No. 2500 of the Arizona Agric. Exp. Stn. Accepted 14 Apr. 1976.

[2] Research agronomist and research geneticist, ARS-USDA, Univ. of Arizona Cotton Research Center, Phoenix, AZ 85040, and research agronomist, ARS-USDA, Texas A & M Univ. Agric. Research Center, El Paso, TX 79927.

[3] Feaster, C. V., Turcotte, E. L., and Young, E. F., Jr. 1967. Pima cotton varieties for low and high elevations. Crops Res. ARS 34-90.

REGISTRATION OF PIMA S-5 COTTON[1]

(Reg. No. 60)

Carl V. Feaster, E. L. Turcotte, and E. F. Young, Jr.[2]

'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 F_4 selection from a cross of experimental strain 3-79×S1×S1 78-567-228-325 with 'Pima S-4'. It was tested as P-29. Pima S-5 was released in 1975 as a replacement for 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, Pima 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.

[1] Registered by the Crop Science Society of America. Contribution from ARS-USDA and the State Agricultural Experiment Stations of Arizona, New Mexico, and Texas. Journal Paper No. 2502 of the Arizona Agric. Exp. Stn. Accepted 14 Apr. 1976.

[2] Research agronomist and research geneticist, ARS-USDA, Univ. of Arizona Cotton Research Center, Phoenix, AZ 85040, and research agronomist, ARS-USDA, Texas A & M Univ. Agric. Research Center, El Paso, TX 79927.

REGISTRATION OF ALLEN OATS[1]

(Reg. No. 271)

H. W. Ohm, F. L. Patterson, J. J. Roberts, and G. E. Shaner[2]

'ALLEN' spring oats (*Avena sativa* L.), Purdue 61353B3-9-3, C1 9217, was developed cooperatively by the Purdue Univ. Agric. Exp. Stn. and ARS-USDA.

Allen is a segregate from a series of crosses involving 11 parents. It is a 'Clintford' type with crown rust resistance from 'Clintland' and 'Ceirch du Bach.'

[1] Registered by the Crop Science Society of America. Cooperative Investigations, ARS-USDA and Purdue Univ. Agric. Exp. Stn. Journal paper 6147. Accepted 9 Apr. 1976.

[2] Assistant professor and professor, Dep. of Agronomy, agronomist, ARS-USDA; and associate professor, Dep. of Botany and Plant Pathology, Purdue Univ., West Lafayette, IN 47907.