

Designations and pedigrees of these germplasm lines are: TAM 86III-7, Stoneville 213 × T1055; TAM 86III-8, Stoneville 213 × T1055; TAM 86III-11, Rogers 10N × T1041; TAM 86III-15, Lankart 571 × T1124; TAM 86III-16, Lankart 571 × T1124; TAM 86III-22, Rogers 10N × T1041; TAM 86III-24, Lankart 571 × T1041; TAM 86III-26, Lankart 571 × T1124; TAM 86III-31, CS8310 × T1119; TAM 86JJJ-1, Stoneville 213 × Rogers Glandless; TAM 87M-41, (Stoneville 213 × T1055) × Empire Glandless; TAM 87M-48, same; TAM 87N-3, same; TAM 87N-4, same; TAM 87N-5, same; TAM 87N-6, same; and TAM 87N-7, Stoneville 213 × T1055. Lines designated as "Tnnnn" are primitive race stocks collected from Mexico or India (3).

No line was significantly lower in condensed tannin concentration of mature leaves than 'Pima S-6' (*G. barbadense* L.), the high-tannin control. All lines designated as 86III- or 86JJJ- were rated for two-spotted spidermite resistance under greenhouse conditions at Dallas, TX, in 1987-1988. Each of these lines except TAM 86III-15 and TAM 86JJJ-1 were rated as having significantly less plant damage from two-spotted spidermite than Tamcot CAMD-E.

Lint yields of TAM 86III-22, and 86III-24, 86JJJ-1, and 87N-6 were not significantly different from 'Stoneville 112', the high-yield control, under irrigated conditions at College Station, TX, in 1988. All other lines were deficient in yield compared with Stoneville 112. TAM 86III-26, 87M-48, 87N-3, 87N-5, 87N-6 and 87N-7 had significantly shorter upper-

half mean fiber lengths than Stoneville 112 in 1988, while all other lines were not significantly different from Stoneville 112. TAM 87N-4 and 86III-11 had significantly lower fiber-bundle strengths than Stoneville 112; TAM 86III-31 had significantly higher fiber-bundle strength; all other lines did not differ from Stoneville 112.

Twenty-five seeds of each of these germplasm lines will be available for distribution from the corresponding author until supplies are exhausted.

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References and Notes

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4. C. Wayne Smith and G.A. Niles, Dep. of Soil and Crop Sci., Texas A&M Univ., College Station, TX 77843; M.F. Schuster, Dep. of Entomology, Texas Agric. Res. and Ext. Center, Dallas, TX 75252. Registration by CSSA. Accepted 30 Apr. 1990. *Corresponding author.

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REGISTRATION OF NINE UPLAND COTTON GERMPLASM LINES HAVING ELEVATED LEVELS OF CONDENSED TANNINS

NINE germplasm lines of cotton, *Gossypium hirsutum* L. (Reg. no. GP-470 to GP-478; PI 540302 to PI 540310), were released by the Texas Agricultural Experiment Station in November 1989. These germplasm lines were developed as part of a host plant resistance breeding program designed to increase levels of condensed tannins. Condensed tannins have been shown to condition resistance to a variety of insect and disease pests in cotton (2).

These lines were derived by hybridization and pedigree selection. F₂ and F₃ generation plants were selected under greenhouse and/or field conditions in the presence of two-spotted spidermite. Selections within and among resulting progeny rows were based on apparent agronomic fitness and chemical analysis of condensed tannin concentration in mature leaves. Condensed tannin concentrations were determined spectrophotometrically after extraction with acetone and reaction with HCl-Butanol of mature leaf tissue harvested at first bloom and/or 14 to 21 days post first bloom (1).

Designations and pedigrees of these nine germplasm lines are: TAM 86E-3, (Stoneville 213 × T1055) × Empire Glandless; TAM 86E-4, Stoneville 213 × T1055; TAM 86E-6, same; TAM 86E-7, same; TAM 86E-8, Rogers 10N × T789; TAM 86E-9, Rogers 10N × T1041; TAM 86E-14, (Stoneville 213 × T1055) × Empire Glandless; TAM 86E-19, Stoneville 213 × T1055; and TAM 86E-20, CS8310 × T1119. Lines designated as "Tnnnn" are primitive race stocks collected in Mexico or Belize (3).

TAM 86E-20 was significantly higher in condensed tannins than 'Pima S-6' (*G. barbadense* L.), the high-tannin control. TAM 86E-3, 86E-6, 86E-7, 86E-8, 86E-14, and 86E-19 were not significantly different from Pima S-6 in tannin

content, while TAM 86E-4 and 86E-9 were significantly lower than Pima S-6 but significantly higher in condensed tannins than 'Stoneville 112', the high-yielding control. TAM 86E-3, 86E-4, 86E-8, 86E-9 and 86E-19 had significantly less two-spotted spidermite damage under greenhouse conditions than 'Tamcot CAMD-E', a two-spotted spidermite-susceptible control.

All lines were deficient in lint yield when compared with Stoneville 112 in 1988 under irrigated conditions at College Station, TX. All lines had significantly lower true lint percent than Stoneville 112. TAM 86E-4, 86E-19 and 86E-20 had significantly longer upper-half mean fiber lengths than Stoneville 112, while TAM 86E-3 and 86E-6 were significantly shorter. All other lines were not different in upper half mean lengths than Stoneville 112. TAM 86E-19 had significantly stronger fiber-bundle strength than Stoneville 112, and only TAM 86E-9 had significantly weaker fibers.

Twenty-five seeds of each of these germplasm lines will be available for distribution from the corresponding author until supplies are exhausted.

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References and Notes

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