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Registration of Germplasms

REGISTRATION OF EIGHT GERMPLASM LINES OF SMOOTH-LEAF COTTON[1]
(Reg. No. GP 194 to GP 201)

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THE following smooth-leaf cotton (*Gossypium hirsutum* L.) lines were developed and released cooperatively by ARS-USDA and the Alabama Agric. Exp. Stn.

Reg. no.	Identification	Parentages
GP 194	Aub Sm-16	'Coker 201' × N.C. Smooth 1† followed by a cross to F_1 ('Auburn 56' × Coker 201) and six subsequent crosses to 'Deltapine 16'
GP 195	Aub Sm-56	Auburn 56 × A6-238 smooth leaf followed by five subsequent crosses to Auburn 56
GP 196	Aub Sm-149	Triple Hybrid 149 × N.C. Smooth 1 followed by a cross to F_1 (Auburn 56 × Triple Hybrid 149) and six subsequent crosses to Triple Hybrid 149
GP 197	Aub Sm-201	Coker 201 × N.C. Smooth 1 followed by a cross to F_1 (Auburn 56 × Coker 201) and six subsequent crosses to Coker 201
GP 198	Aub Sm-213	Coker 201 × N.C. Smooth 1 followed by a cross to F_1 (Auburn 56 × Coker 201) and six subsequent crosses to 'Stoneville 213'
GP 199	Aub Sm-310	'Atlas 66' × N.C. Smooth 1 followed by a cross to F_1 (Auburn 56 × Atlas 66) and six subsequent crosses to 'Coker 310'
GP 200	Aub Sm-165	Pee Dee 2165‡ by N.C. Smooth 2† followed by a cross to F_1 (Auburn 56 × Pee Dee 2165) and six subsequent backcrosses to Pee Dee 2165
GP 201	Aub Sm-277	MO 63-470§ × N.C. Smooth 2 followed by a cross to F_1 (Auburn 56 × MO 63-470) and six subsequent backcrosses to Delcott 277

† Sources of smooth leaf developed by ARS-USDA in cooperation with the North Carolina Agric. Res. Stn., Raleigh, N.C.
‡ High fiber strength breeding stock developed by ARS-USDA in cooperation with the South Carolina Agric. Exp. Stn., Florence, S.C.
§ Breeding stock developed by the Missouri Agric. Exp. Stn., Portageville, Mo.

The eight lines were developed by backcross transfer of the smooth-leaf trait to eight recurrent parents as indicated above.

The smooth-leaf strain A6-238 used as one source of smooth leaf was from smooth-leaf Auburn 56 breeding stocks developed in 1963 at Auburn, Ala. A6-238 was selected after evaluating many smooth-leaf strains for agronomic performance in Alabama in 1966 and 1967.

The initial crosses to develop the eight smooth-leaf lines were made in 1967. Each backcross generation was initiated by crossing 30 to 40 smooth-leaf F_2 plants with their respective recurrent parent at Auburn, Alabama. The backcross F_2 seed from these crosses were produced in Iguala, Mexico, by self-pollination. F_2 plants of each backcross were grown at Auburn where selection for the smooth-leaf trait was done before initiation of each cycle of backcrossing. Each stock is bulked selfed seed from 40 to 60 backcross F_2 plants that were homozygous for the smooth-leaf trait. Seed of each release was increased and selected for the smooth-leaf trait.

The eight smooth-leaf stocks were compared with their recurrent parent variety or strain at two locations in Alabama during 1976 and 1977. Yields of Aub Sm-16, Aub Sm-56, Aub Sm-149, Aub Sm-277, and Aub Sm-310 were not significantly different from that of their respective recurrent parent. Yields of Aub Sm-165, Aub Sm-201, and Aub Sm-213 were significantly less than that of their respective recurrent parent.

The smooth-leaf trait provides an important level of resistance to bollworms and fleahoppers but causes greater susceptibility to leaf-hoppers and aphids than normal-leaf cotton. This trait may be most useful in combination with other resistance traits and/or chemicals for reducing pest control costs.

Small amounts (10 g) of seed of these lines are available upon written request as long as seed are available. Requests should be addressed to the Crop Science Research Unit, ARS-USDA, Dep. of Agronomy and Soils, Auburn University, AL 36849.

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REGISTRATION OF EIGHT GERMPLASM LINES OF GLANDLESS COTTON[1]
(Reg. No. GP 202 to GP 209)

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THE following glandless cotton (*Gossypium hirsutum* L.) lines were developed and released cooperatively by ARS-USDA and the Alabama Agric. Exp. Stn.

Reg. no.	Identification	Parentages
GP 202	Aub G1-16	Glandless Auburn 56 × 'Deltapine 16' followed by six subsequent crosses to Deltapine 16
GP 203	Aub G1-56	Glandless Auburn 56 × Deltapine 16 followed by six subsequent crosses to 'Auburn 56'
GP 204	Aub G1-149	Glandless Auburn 56 × 'Coker 201' followed by one cross to Coker 201 and five subsequent crosses to Triple Hybrid 149
GP 205	Aub G1-165	Glandless Auburn 56 × Pee Dee 2165† followed by six subsequent crosses to Pee Dee 2165
GP 206	Aub G1-201	Glandless Auburn 56 × Coker 201 followed by six subsequent crosses to Coker 201
GP 207	Aub G1-277	Glandless Auburn 56 × Missouri 61-470F‡ followed by six subsequent crosses to 'Delcott 277'
GP 208	Aub G1-213	Glandless Auburn 56 × 'Stoneville 213' followed by six subsequent crosses to Stoneville 213
GP 209	Aub G1-310	Glandless Auburn 56 × 'Coker 413' followed by six subsequent crosses to 'Coker 310'

† Strain developed by ARS-USDA in cooperation with the South Carolina Agric. Exp. Stn., Florence, S.C.
‡ Strain developed by the Missouri Agric. Exp. Stn., Portageville, Missouri.

The eight lines originated from a backcross program to incorporate the glandless trait into eight recurrent parents as indicated above. Glandless cotton plants are free of pigment glands and their seeds are nearly free of gossypol. The advantages of this genotype are that it removes gossypol pigments that discolor

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