Published May, 1982

tive recurrent parent. F_2 seed of these crosses were produced in Mexico by self-pollination and grown at Auburn, where selection for frego bract was done before initiation of each backcross cycle. Each line is bulked selfed seed of 40 to 60 BC_5 F_2 frego-bract plants. These lines represent a diverse pool of germplasm, particularly regarding combinations of the frego-bract trait with desirable combinations of yield, fiber quality, and adaptation.

Frego bracts are long and twisted and tend to curl outward, leaving flower buds and bolls exposed. A single recessive gene (*fg*) controls this condition. Frego bract has been reported to be associated with boll weevil (*Anthonomous grandis grandis* Boheman) nonpreference, resistance to boll rot, later maturity, lower yield, and more sensitivity to cotton fleahoppers [*Pseudatomoscelis seriatus* (Reuter)] and tarnished plant bugs [*Lygus lineolaris* (Palisot de Beauvois)] than cottons with normal bracts. Disadvantages of frego bract may be overcome by combining it with traits that provide resistance to fleahoppers and plant bugs and/or combining use of frego bract with selective insecticides.

Performance of the eight frego-bract lines was compared with recurrent parent cultivars in seven environments in Alabama. Normal boll weevil control practices were used, but no special efforts were made to control plant bugs. The eight frego-bract lines, compared with their recurrent parent, had 12% lower mean yields, later maturity, and tended to have slightly smaller bolls. Lint percentages and fiber quality of these lines were similar to that of their recurrent parent.

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

REGISTRATION OF EIGHT GERMPLASM LINES OF NECTARILESS COTTON[1]

(Reg. Nos. GP 175 to GP 182)

Raymond L. Shepherd[2]

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

Reg. no.	Identification	Parentages
GP 175	Aub Ne-16	'Deltapine 16' × nectariless
GP 176	Aub Ne-56	'Auburn 56' × nectariless
GP 177	Aub Ne-149	Triple Hybrid 149 × nectariless
GP 178	Aub Ne-165	Pee Dee 2165 × nectariless
GP 179	Aub Ne-201	'Coker 201 × nectariless
GP 180	Aub Ne-213	'Stoneville 213' × nectariless
GP 181	Aub Ne-277	'Delcott 277' × nectariless
GP 182	Aub Ne-310	'Coker 310' × nectariless

The eight lines were developed by backcrossing the nectariless parent to eight recurrent parents as indicated above. These lines represent a diverse pool of germplasm, particularly regarding combination of nectariless trait with desirable combinations of yield, fiber quality, and adaptation.

The nectariless parent of the eight lines was a nectariless BC_5 F_4 Auburn 56 line derived from backcrossing Auburn 56 to nectariless M11. Nectariless M11 was developed by Jim Meyer, Stoneville, Miss. Each backcross cycle was initiated at Auburn, Ala., by crossing 40 to 50 nectariless F_2 plants to each respective recurrent parent. F_2 seed of these crosses were produced in Mexico by self-pollination and grown at Auburn where selection for nectariless was done before initiation of each backcross cycle. With the exception of Aub Ne-56, which is BC_{10} F_4, each of the eight lines is a bulk of selfed seed from 40 to 60 BC_5 F_2 plants homozygous for the nectariless trait. This seed was increased with selection for nectariless and used for agronomic testing and public release.

The nectariless trait is conditioned by the genotype (ne_1 ne_1 ne_2 ne_2) originating from *Gossypium tomentosum*. These genes suppress leaf to extrafloral nectaries. the nectariless trait has been reported to provide beneficial levels of resistance to tarnished plant bugs [*Lygus lineolaris* (Palisot de Beauvois)], cotton fleahoppers [*Pseudatomoscelis seriatus* (Reuter)], and pink bollworm [*Pectinophora gossypiella* (Saunders)]. Boll rot organisms have been reported to enter through extrafloral flower and boll nectaries; therefore, nectariless cottons should reduce boll rotting.

The eight lines were compared in replicated tests with their respective parents in eight environments in Alabama. Lint yield and fiber properties of each line were at least equal to that of its recurrent parent, except Aub Ne-277 and Aub Ne-310, which had slightly shorter fiber.

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

[1]Registered by the Crop Sci. Soc. of Am. Joint contribution: ARS-USDA, and the Ala. Agric. Exp. Stn., Auburn Univ., AL 36849. Accepted 26 Jan. 1982.

[2]Research agronomist, ARS-USDA, Auburn Univ., AL 36849.

REGISTRATION OF THREE OKRA-LEAF, FREGO-BRACT DISEASE RESISTANT COTTON GERMPLASMS[1]

(Reg. No. GP 183, GP 184, and GP 185)

A. J. Kappelman, Jr.[2]

THREE noncommercial cotton (*Gossypium hirstutum* L.) germplasm lines with resistance to fusarium wilt incited by *Fusarium oxysporum* Schlect. f. *vasinfectum* (Atk.) Snyd. and Hans and bacterial blight caused by *Xanthomonas malvacearum* (E. F. Sm.) Dows. have been released by the ARS-USDA, and the Alabama Agric. Exp. Stn. Auburn OK fg-1 (GP 183) was derived from a single F_2 plant selection from the cross (Auburn okra-leaf × K_4E) × (W-133 × 79N). Auburn OK fg-2 (GP 184) and Auburn OK fg-3 (GP 185) were selected progeny of the first backcross of the above cross to (W-133 × 79N). Auburn okra-leaf was developed by A. L. Smith prior to 1964 from an okra-leaf line of unknown source crossed with 'Auburn 56'. K_4E is a selection from a cross between Knight's BAR 4/16 × 'Empire' followed by three backcrosses to Empire and contains the B_2 and B_3 genes for resistance to bacterial blight. K_4E and the following two lines were developed by L. S. Bird. W-133 was a selection from a cross between (Lankart 57 with the $B_2B_4B_6$ genes) × ('Deltapine Smoothleaf' × 101-102B). Line 101-102B carried bacterial blight resistance genes B_2 and B_3. W-133 was selected for bacterial blight and Verticillium wilt resistance in Texas followed by 3 years of selection for resistance to the fusarium wilt-root-knot nematode (*Meloidogyne* spp.) complex at Tallassee. In addition to disease resistance, W-133 also carries the frego-bract character-

[1]Registered by the Crop Sci. Soc. Am. cooperative investigations of ARS, USDA, and Alabama Agric. Exp. Stn., Auburn Univ., AL 36849. Accepted by 26 Feb. 1982.

[2]Research plant pathologist, ARS, USDA, Auburn Univ., AL 36849.