cottonseed oil and eliminates gossypol from cottonseed meal. Glandless cottonseed has potential as an important source of high-quality protein for humans, swine, poultry, and other non-ruminants. Glandless plants have been reported to be more susceptible to certain insects such as tarnished plant bug, *Lygus lineolaris*.

The glandless trait is conditioned by two recessive genes, *g1g1* and *g1g1*. The source of glandless used in developing the above stocks was a glandless upland Acala cotton stock obtained from ARS-USDA, Shafter, California, which was crossed to Auburn 56 at Auburn, Alabama, in 1958. Six subsequent backcrosses were made to Auburn 56. For 3 years, beginning in 1965, field tests were conducted of the BC6F4, glandless strains of Auburn 56 developed at Auburn. Based on data from these tests, a BC6F4, glandless strain of Auburn 56 with the best combination of the glandless trait and desirable agronomic traits was selected and designated Glandless Auburn 56. In 1968, Glandless Auburn 56 was crossed with various cottons to initiate the backcrossing program. Each backcross generation was initiated by crossing 30 to 50 glandless F2 plants with their recurrent parent at Auburn. Backcross seed produced by these crosses were grown at Iguala, Mexico, to produce F2 self-pollinated seed. The F2 seed were then grown at Auburn and used to initiate another cycle of backcrossing. Each of the eight stocks is the bulk of selfed seed of 35 to 60 F2 plants homozygous for glandless following the last backcross to each recurrent parent.

The eight glandless stocks were compared with their recurrent parents in tests at two locations in Alabama during 1976 and 1977. Open-pollinated seed were used for testing, but roguing of glanded seedlings was done to ensure that less than 5% glanded plants remained in final stands. Normally recommended insect control procedures were used but no special attempt was made to control the tarnished plant bug. Average yields of glandless cotton tended to be slightly less than that of the glanded cotton, and the glandless cotton was slightly later maturing. Complete control of insects may have eliminated much of the tendency toward lower yields and later maturity of the glandless stocks. Lint percentage, boll size and fiber properties of the eight glandless stocks were similar to those of recurrent parents.

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.

### REGISTRATION OF EIGHT GERMPLASM LINES OF OKRA-LEAF COTTON

(Reg. No. GP 186 to GP 193)

Raymond L. Shepherd and A. J. Kappelman, Jr.

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

The eight lines originated from a backcross program to incorporate the okra-leaf trait into eight recurrent parents as indicated by the following crosses:

- **GP 186** Aub Okra-16 'Deltapine 16'
- **GP 187** Aub Okra-56 'Auburn 56'
- **GP 188** Aub Okra-149 'Triple H'
- **GP 189** Aub Okra-165 'Pee Dee'
- **GP 190** Aub Okra-201 'Coker 201'
- **GP 191** Aub Okra-213 'Stoneville 7A'
- **GP 192** Aub Okra-277 'Delcott'
- **GP 193** Aub Okra-310 'Coker 310'

Okra leaf is conditioned by the incomplete dominant gene *L*~okra~. Cottons with this trait have a more open plant canopy and are earlier maturing. Losses to boll rots and white flies are reduced in okra-leaf cotton, but the open canopy may control problems. This trait would be adapted to those of recurrent parents. The okra-leaf parents of the eight lines were released competitively by the Alabama Agric. Exp. Stn., Baton Rouge.

The eight glandless stocks were compared with their recurrent parents in seven environments in Alabama during 1976 and 1977. Open-pollinated seed were used for testing, but roguing of glanded seedlings was done to ensure that less than 5% glanded plants remained in final stands. Normally recommended insect control procedures were used but no special attempt was made to control the tarnished plant bug. Average yields of glandless cotton tended to be slightly less than that of the glanded cotton, and the glandless cotton was slightly later maturing. Complete control of insects may have eliminated much of the tendency toward lower yields and later maturity of the glandless stocks. Lint percentage, boll size and fiber properties of the eight glandless stocks were similar to those of recurrent parents.

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.