workers. Written requests should be addressed to R.L. Shepherd, USDA-ARS, Crop Science Research Laboratory, P.O. Box 5367, Mississippi State, MS 39762-5367.

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References and Notes


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REGISTRATION OF EIGHT NECTARILESS-FREGO BRACT COTTON GERMPLASM LINES

EIGHT cotton (Gossypium hirsutum L.) germplasm lines (Reg. no. GP-278 to GP-285; Table 1) with nectariless and frego-bract traits were released by USDA-ARS and the Mississippi Agricultural and Forestry Experiment Station in August 1985. These lines offer breeders the advantages of the host-plant resistance traits nectariless and frego bract in a broad germplasm base. The frego-bract trait imparts resistance to the boll weevil (1) and the nectariless trait reduces populations of several insect pests, including tarnished plant bug [Lygus lineolaris (Palisot de Beauvois)], bollworm [Heliothis zea (Boddie)], tobacco budworm [Heliothis virescens (F.)], pink bollworm [Pectinophora gossypiella (Saunders)], cabbage looper [Trichoplusia ni (Hübner)], and cotton leaf perforator [Bucculatrix thurberiella Busck] (2).

These germplasm lines were developed from crosses of each of eight nectariless with its frego bract counterpart having corresponding germplasm (Table 1). Forty to 60 nectariless, frego-bract segregants in each cross were selected in the F2, self-pollinated, and equal numbers of selfed seed of the F2 plants of each line were bulked. Selection for nectariless and frego-bract traits was continued in each of the eight lines in the F3 and F4 generation. Each line in F5, along with four commercial checks, were tested in a field experiment at Mississippi State University in August 1985. Experimental design was a randomized complete block with six replications. Cultural practices, including insect control, were standard for the area.

These germplasm lines produced comparable yields with lint percentages than the germplasm lines. They had equal or higher lint percentages than the check, which had 36.0% lint. Boll weight and lint yield (weight of lint per 100 g seed weight) of most of the germplasm lines was within the range of the checks, but Aub NeFg-149 had 35.5% lint (7.7 g) and a greater seed index (12.4 g/100 seed) than the checks. The germplasm lines did not differ in 2.5 and 50% fiber span length, micronaire or fiber elongation (Ej). The check cultivar Missouri had the highest fiber strength (Tj) and Auburn 56 had the lowest fiber strength of the germplasm lines in the range of these checks.

Small amounts of seed of these eight lines are available for distribution to cotton geneticists and other workers. Written requests should be addressed to R.L. Shepherd, USDA-ARS, Crop Science Research Laboratory, P.O. Box 5367, Mississippi State, MS 39762-5367.

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REGISTRATION OF NC-D3, COMPATIBLE 1 (Reg. no. GP-286) AND NC-D3, INCOMPATIBLE 1 GERMPLASM LINES OF EIGHT COTTON GERMPLASM LINES OF NC-D3 COMPATIBLE 1 GERMPLASM LINES OF G. hirsutum L.

NC-D3 Compatible 1 (Reg. no. GP-286) and NC-D3 Incompatible 1 (Reg. no. GP-287) cotton germplasm lines of Gossypium hirsutum L. were released by the USDA-ARS, Crop Science Research Laboratory and the USDA-ARS, Mississippi State University, in May 1986. These cotton lines provide a means of isolation of cultivars grown for special purposes, those bearing glandless (gossypol-free) cotton lines.

Cultivars of the tetrploid cultivated cotton [G. hirsutum L., 2(AD)], and G. barbadense L., 2(AD), cotton, have a nomenclatural system of cotton, are LeLe, LeLe, LeLe, and the wild diploid species LeLe, LeLe, LeLe. When the diploid inbred line is crossed with the cultivated cotton lines, the hybrid is male sterile because of a lethal interaction between these genes.