Registration of Germplasms

REGISTRATION OF GEORGIA SUPER D COTTON GERMPLASM

Shelby H. Baker and T. Don Canard

Georgia Super D cotton (Gossypium hirsutum L.), a breeding line, was released to plant breeders in April 1973 by the University of Georgia Coastal Plain Experiment Station, Tifton, Georgia. Georgia Super D is unique in that it contains five genetically controlled characters that have shown resistance to boll weevil (Anthonomus grandis), bollworms (Heliothis sp.), and boll-rotting organisms. These characters are red plant color, frego bract, okra leaf, smooth leaf, and nectariless. The line is also homozygous for glandless stem (gld) but has reduced glands in seed and foliage (gld2) and a small percentage of plants with normal glands in foliage and seed can be found.

Georgia Super D resulted from crosses involving an M8 smooth leaf, glandless, and nectariless line from USDA-ARS, Mississippi State University; a frego bract line designated 29B, BV67, RI-67 237 from the Texas Agricultural Experiment Station; an unknown source of red okra leaf. The red okra leaf, CP 152, was a rogue plant from a F2 population of 'Pope' × 'Stardelt' obtained from Dekalb Seed Company.

When evaluated in small plots with commonly grown cultivars and other nonpreferred strains, Georgia Super D has consistently shown significantly less insect injury. Results from sprayed and unsprayed plot clearly show an expression of resistance. Alternate row planting of 24 rows of Georgia Super D and 8 rows of commercial cultivar resulted in 50% less boll weevil damage with 40% less pesticide applied to the Georgia Super D.

Three of the characters, frego bract, okra leaf, and nectariless have contributed to the abatement of boll rot losses. Georgia Super D has less boll rot when compared with presently grown cultivars and breeding strains with the exception of frego bract alone.

The agronomic properties of Georgia Super D are commercially acceptable. Yield, lint, fiber, and seed qualities are significantly below commercial cultivars but fiber strength is equal to that of available cultivars.

Seed will be maintained and distributed in small quantities on request by the Agronomy Department, University of Georgia Coastal Plain Experiment Station, Tifton, GA 31794.

REGISTRATION OF AUBURN 623 RNR COTTON GERMPLASM

R. L. Shepherd

Auburn 623 RNR cotton (Gossypium hirsutum L.) is an elite breeding line released to plant breeders in March 1970 by the Auburn University (Alabama) Agricultural Experiment Station at Auburn and the ARS, USDA. This line has root-knot nematode (Meloidogyne incognita var. acrita, Kofoid & White, 1919; Chitwood, 1949) resistance greater than that of any other G. hirsutum tested. In greenhouse and field soils planted to 'Auburn 50' and other varieties. The Auburn 56 source of resistance to both root-knot and fusarium wilt was one of the highest available in a G. hirsutum cultivar before the development of Auburn 623 RNR. Auburn 623 RNR had significantly lower wilting percentage than any of 13 other G. hirsutum lines and varieties tested in field tests in 2 years. Germplasm sources with the highest resistance to fusarium wilt available in G. hirsutum were included for comparison. Whereas the high fusarium wilt resistance of Auburn 623 RNR is due to fusarium-wilt resistance genes per se, it is conferred by its high root-knot nematode resistance genes or both has not been determined.

Selection for desirable agronomic characters received secondary emphasis during development of Auburn 623 RNR. Yields averaged about 78% of 'Auburn 56' yields. Auburn 623 RNR has small bolls, small seeds and relatively low lint percentage. Compared with Auburn 56, it is slightly later maturing and has slightly shorter staple length, but has greater tensile strength (Tf) and slightly higher micronaire. Fiber elasticity (Ee) is about equal to that of Auburn 56.

Auburn 623 RNR germplasm is available upon request from the Auburn University (Alabama) Agricultural Experiment Station, Auburn, AL 36830.

REGISTRATION OF MAIZE INBRED GA 209 GERMPLASM

A. A. Fleming

GA 209 is a white-kerneled, dent inbred line of maize (Zea mays L.) with good combining ability and a high degree of tolerance to maize dwarf mosaic (MDMV), corn stunt (CSM), and maize chlorotic dwarf (MCDV), downy mildew (Sclerotinia sorghi Kulk.), southern leaf blight (Helminthosporium maydis Nish. and Miy.), and northern leaf blight (Helminthosporium turcicum Pass.). It is susceptible to corn leaf rust (Puccinia sorghi Schw.).

This inbred line was developed in the research program of the College Experiment Station, University of Georgia, Athens, by selfing and selecting from T 61 × NC 37, utilizing the pedigree method of breeding.

GA 209 is a medium to full-season line (1000-1100 Maturity Series) at this location. It has good seed yield, with two ears per plant, excellent grain quality, and a white cob. The line also produces ample pollen as a pollinator. Ear and plant