hundred tagged male-sterile (MS) panicles were composited (half-sib selection) for advance to the next generation. In 1984, RM and tagged MS panicles were selected (head blight, stalk rot, and/or grain mold resistant) from plantings in Georgia (500), Puerto Rico (125), Texas (100), and Mexico (40); were bulked by location in equal quantities (by weight); and the four location-bulks were recomposed for planting in Puerto Rico during the winter season. Approximately 600 MS selections (head blight, stalk rot, grain mold resistant) were harvested and composited in Puerto Rico during March 1985. Similar numbers of selections were made at each location during 1985 and 1986, except for Mexico (approximately 20 selections each year). In March 1987, seeds from 1000 RM (first generation/fourth cycle) MS panicles were selected for subsequent distribution. Seed composites from the segregating population will provide male-sterile panicles that are suitable for additional cycles of RM and fertile panicles that provide a broad germplasm source for B- and R-line development.

GPTM3BR(H)C4 is highly variable for many seed and plant characteristics because it evolved through selection in four diverse environments, with disease pressure imposed by several species of Fusarium, and with genetic variability evolving from different parental genotypes. During 1985 in Puerto Rico, genotypes from the third cycle of RM showed a 45% reduction in infection and a 71% reduction in stem discoloration, compared to the zero cycle genotypes when artificially inoculated with F. moniliforme by P.R. Hepperly. During the final selection cycle in Puerto Rico, F. moniliforme inoculations with pathogen-infested toothpicks at the base of developing panicles on plants predisposed by drought stress eliminated many possible escapes from the previous selection cycles.

REGISTRATION OF BARC-4 (Rj2) AND BARC-5 (rj2) SOYBEAN GERMPLASM

BARC-4 (Rj2) (Reg. no. GP-98) (PI 509547) and BARC-5 (rj2) (Reg. no. GP-59) (PI 509548) are soybean [Glycine max (L.) Merr.] lines isogenic except for the Rj2 vs. rj2 alleles conditioning ineffective vs. effective nodulation response, respectively, with rhizobial strain USDA 7 and ineffectively nodulated plants (head blight, stalk rot, and/or grain mold caused primarily by (but not limited to) F. moniliforme Sheldon, F. semitectum Berk. and Rav., and F. roseum group Toussson & Nelson. Breeder seed composites may be obtained from the senior author at the Georgia Experiment Station, Department of Agronomy, Griffin, GA 30212-5099.


References and Notes

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