REGISTRATION OF HIGH-PROTEIN SOYBEAN
GERMPLASM LINES BARC-6, BARC-7, BARC-8, AND BARC-9

Soybean [Glycine max (L.) Merr.] germplasm lines BARC-6 (Reg. no. GP-127, PI 555396), BARC-7 (Reg. no. GP-128, PI 555397), BARC-8 (Reg. no. GP-129, PI 555398) and BARC-9 (Reg. no. GP-130, PI 555399) were developed by the USDA-ARS at Beltsville, MD. The high seed protein lines were released as germplasm for subsequent cycles of improvement of high-protein soybean and for basic research in nitrogen, protein, and amino acid metabolism of soybean.

The four germplasm lines were developed from high seed protein × high seed protein crosses made at Beltsville in 1984. BARC-6, evaluated as MD87L-0051, was developed from the cross CX797-21 (4) × D76-8070 (3). BARC-7, evaluated as MD87L-0198, was developed from the cross CX797-21 × D80-6931. D80-6931 is a high protein Maturity Group VI BC3 line in which PI 86490 was the high-protein donor parent and ‘Tracy’ (2) was the recurrent parent. BARC-8 and BARC-9, evaluated as MD87L-0285 and MD87L-0309, respectively, were developed from the cross CX797-21 × NC-2-62. NC-2-62 is a subline of the high-protein Maturity Group VI-VII germplasm population NC-2 (1).

The F1, F2, and F3 generations were grown at the ARS winter nursery in Puerto Rico in 1984–1985, Beltsville in 1985, and the ARS winter nursery in 1985–1986, respectively. The four germplasm lines originated from single plant selections in the F2 generation at Beltsville in 1986. Selection of individual plants at Beltsville in 1985 and 1986 was for Group III to VI maturity, lodging resistance, and seed yield and quality, among and within 23 crosses. F2, F3, and F4 generations were advanced by single-seed descent. Advanced generations of the four germplasm lines were evaluated in plant rows at Beltsville in 1987 and in replicated yield tests at two Maryland locations in 1988, six Mid-Atlantic locations in 1989, and six Mid-Mississippi Valley locations in 1990. The yield tests were cooperative with State (PA, MD, DE, VA, NC) cooperators in 1989. Private industry conducted nine of the eleven 1990 field tests, via a technology transfer agreement between Industry and ARS. The four germplasm lines were released in March 1991 as F6 lines advanced to F10.

All four germplasm lines have yellow seed with black hila and tawny pubescence. BARC-6 is a Group III maturity soybean with purple flowers, brown pods, and indeterminate stem termination. BARC-7 is a Group IVs maturity soybean with purple flowers, tan and brown pods, and determinate stem termination. BARC-8 is a Group V maturity soybean with white flowers, tan pods, and determinate stem termination. BARC-9 is a Group IVs maturity soybean with white flowers, tan pods, and determinate stem termination.

References and Notes

REGISTRATION OF KS219 ALFALFA WITH RESISTANCE TO EIGHT PESTS

KS219 alfalfa (Medicago sativa L.) germplasm (Reg. no. GP-256, PI 555667) was released by the Kansas Agricultural Experiment Station in June 1991. This germplasm provides resistance to anthracnose, downy mildew, root rot, and anthracnose in Graham and Riley. The resulting strains were intercrossed back in the greenhouse to produce the strain cross (Reg. no. GP-256, PI 555667) to be evaluated in the greenhouse to produce the strain for subsequent cycles of improvement of high-protein soybean and for basic research in nitrogen, protein, and amino acid metabolism of soybean.

All four germplasm lines have yellow seed with black hila and tawny pubescence. BARC-6 is a Group III maturity soybean with purple flowers, brown pods, and indeterminate stem termination. BARC-7 is a Group IVs maturity soybean with purple flowers, tan and brown pods, and determinate stem termination. BARC-8 is a Group V maturity soybean with white flowers, tan pods, and determinate stem termination. BARC-9 is a Group IVs maturity soybean with white flowers, tan pods, and determinate stem termination.