Ocean germplasm stocks. First, CVR1 (Composite Viroses Résistant numéro 1) was developed by mixing equal amounts of hybrid seeds from 24 selected polycrosses among Reunion Island landrace collections and recombining them through two cycles of open pollination. These 24 landraces were selected after having carried out three cycles of screening under drastic viral pressure in natural conditions. The main criterion was the tolerance level against the following viruses: Maize Streak Virus (MSV), Maize Mosaic Virus (MMV), and Maize Stripe Virus (M. Stp. V). Second, we built, by using the same scheme, a broader composite including CVR1, the eight most tolerant landraces from Rodrigues Island (Mauritius), and I 137 TN a South African inbred (derived from Teko Yellow × Natal Yellow Horsetooth). The resulting composite was designated CVR2. Third, after further investigation, we included nine additional tolerant Reunion Island landraces into CVR2. After two cycles of recombination, the resulting composite, CVR3, underwent one cycle of mass selection with the grid system (effective population size of 1000 plants, selection intensity 20%) principally regarding agronomic traits (ear and plant height, stalk and root lodging, husk cover, etc.). In 1985, we initiated a half-sib selection that concentrated more specifically on viral pool tolerance under natural high viral pressure (while still taking into account agronomic traits previously mentioned). The first cycle, CVR3 (HS) C1, was designated IRAT 297.

IRAT 297 will serve the following objectives: It will constitute the tolerance donor in our breeding program for tropical viruses tolerance. It will be selected in a half-sib scheme for tolerance under artificial inoculation with MSV, MMV, and M.Stp.V. Its broad genetic base provides assurance of potential for further improvement of germplasm with triple tolerance. IRAT 297 level of tolerance was not evaluated separately for each virus. Some of its components, especially the cultivar ‘Revolution’, were evaluated in Nigeria (5), Kenya (1), the USA (2), and Reunion (3) for streak resistance. They are considered as the best existing sources of resistance and are used as such in several research programs around the world. The satisfying behavior of IRAT 297 in Reunion environment, where all exotic cultivars introduced were severely destroyed by MMV and M.Stp.V. (4), gives evidence of a high level of MMV and M.Stp.V. tolerance, however. The main interest of this germplasm for the breeders remains the combination of the three different tolerances.

IRAT 297 will be maintained by random mating plants grown in isolation, and seed will be distributed in 500 seedlot samples by IRAT (Food Crop Department of CIRAD) 97487 Saint-Denis cedex, Reunion Island (France).

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References and Notes


6. Maize breeders, IRAT/Reunion 97487 Saint-Denis Cedex, Ile de la Réunion, France. The germplasm program at IRAT (Institut de Recherches Agronomiques Tropicales et des cultures vivrières), Dep. of CIRAD (Centre International de Recherches Agronomiques pour le Développement). Registration by the Crop Sci. Soc. of Am. Accepted 31 Mar. 1986.

REGISTRATION OF BARC-1 SOYBEAN GERMPLASM

BARC-1 (Reg. no. GP-89) is a soybean germplasm line homozygous for the recessive alleles rj (conditioning nodulation restriction) and / (conditioning fasciated stem). These two genetic loci are linked with a recombination map distance of 40 ± 2.2 centimorgans and have been designated linkage group 11 (2). BARC-1 was released in 1986 for use by soybean geneticists as the standard for linkage group 11. BARC-1 should be useful to geneticists for testing this linkage group for genetic association or independence with other genetic loci or linkage groups now known or as they are found. BARC-1 soybean was developed by hybridization of the soybean line L63-1889 (homozygous for rj) and selected from the back-cross Clark* X T 201 by Dr. R.L. Bernard, USDA, ARS, Urbana, Illinois) and the line T 248, carrying the allele (from the Soybean Genetic Type Collection maintained by Dr. R.L. Bernard) (1). F2 progeny of this cross were evaluated in the greenhouse and selected plants showing an absence of root nodules were selected for harvest of F3 seeds. F3 seed lines were tested for nodulation response in a greenhouse pot test in unsterilized potting soil inoculated with rhizobial strain I-110 ARS of Bradyrhizobium japonicum (3). One F2 line exhibiting uniform non-nodulation response was selected and confirmed for nodulation response in Leonard jar culture with rhizobial strain I-110 ARS in the greenhouse. The F3 seeds were planted in the field at Beltsville in 1985 for the production of F4 seeds for release.

Plants of BARC-1 have purple flowers and tawny pubescence and range in maturity from group IV to group VI. Seeds of BARC-1 have been deposited in the National Germplasm Collection, Fort Collins, CO.

Packets of 50 seed of BARC-1 soybeans may be obtained from Dr. T.E. Devine, Nitrogen Fixation and Soybean Genetics Laboratory, Plant Physiology Institute, Beltsville Agricultural Research Center-West, USDA, ARS, Beltsville, MD 20705.

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References and Notes


4. Research geneticist and microbiologist, respectively, Nitrogen Fixation and Soybean Genetics Laboratory, Plant Physiology Institute, Beltsville Agric. Res. Center-West, Beltsville, MD 20705. Registration by the Crop Sci. Soc. of Am. Accepted 30 Apr. 1986.

REGISTRATION OF THREE NONOILSEED SUNFLOWER MIDGE TOLERANT BULK POPULATIONS AND THREE MIDGE TOLERANT GERMPLASM LINES

SUNFLOWER (Helianthus annuus L.) nonoilseed bulk populations, ND-NONOIL M1 (Reg. no. GP-29), ND-NONOIL M2 (Reg. no. GP-30), and ND-NONOIL M3 (Reg. no. GP-31), and three germplasm lines, HA 321 (Reg. no. GP-32), HA 322 (Reg. no. GP-33), and HA 323 (Reg. no. GP-34), were developed cooperatively by USDA-ARS and the North Dakota Agricultural Experiment Station, Fargo, ND, and released in 1985. The populations and lines were selected

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