Registration of ‘Manokin’ Soybean

‘Manokin’ soybean [Glycine max (L.) Merr.] (Reg. no. CV-347, PI 559932) was developed by the Maryland Agricultural Experiment Station. It was jointly released in 1991 with the Arkansas, Missouri, Oklahoma, and Virginia Agricultural Experiment Stations. Manokin was released because of its superior yield compared with cultivars of similar maturity and its resistance to soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) derived from Peking.

Manokin originated as an F₄-derived plant selection from the cross L70L-3048 × D74-7824. L70L-3048 was a selection from the cross L15 (‘Wayne’ Rps1) × D64-3146 made at the Univ. of Illinois (2). D64-3146 was a selection from a backcross of D49-24915 (sister line of ‘Lee’) × ‘Hawkeye’ made at the USDA station in Stoneville, MS (6,8). The other parent of Manokin, D74-7824, was a selection from a cross ‘Forrest’ × D70-3001 (4) made at Stoneville. D70-3001 is of the same parentage as ‘Centennial’ (5).

The original cross to produce Manokin was made at the Wye Research and Education Center, Queenstown, MD, during the summer of 1980. The F₁ plants were grown in the University of Maryland greenhouse complex in College Park, MD, to produce F₂ seeds. The F₂ progeny were advanced to the F₄ generation by single-seed descent in Maryland and Puerto Rico. Manokin was evaluated as strain Md 83-5008 in 1984—1990 Maryland tests, in 1985 mid-Atlantic tests, and Uniform Soybean Tests—Southern States in 1986 (Preliminary IV-S) and 1987—1990 (Uniform IV-S).

Manokin is a late Maturity Group IV (relative maturity 4.9) determinate cultivar. In Maryland, Manokin matures in 136 d, which is about 1 d later than ‘Stafford’ (3) and 2 d later than ‘Avery’ (1). Manokin is similar to Avery in SCN resistance. When compared with Avery at noninfested Maryland locations (7), Manokin had 14% higher seed yield, 26 mg seed⁻¹ lower seed weight, 0.4 percentage points higher seed protein, and 0.4 percentage points lower seed oil. Plants of Manokin are 40 cm shorter than Avery, but have a similar lodging score. At SCN-infested sites in Maryland, Manokin has exceeded the yield of Avery by 41%. Its yield advantage is most pronounced in fields infested with SCN Race 1.

Manokin was selected for its resistance to SCN. It has resistance to Races 1 and 3, which are the most prevalent SCN races in Maryland. Manokin also has moderate levels of resistance to root-knot nematodes, including the species Meloidogyne arenaria (Neal) Chitwood and M. incognita (Kofoid & White) Chitwood. Manokin has resistance to Race 1 of Phytophthora sojae M.J. Kaufmann & J.W. Gerdemann and to stem canker [caused by Diaporthe phaseolorum (Cooke & Ellis) Sacc. f. sp. meridionalis Morgan-Jones] and is moderately resistant to sudden death syndrome [caused by Rhizoctonia solani (Mart.) Sacc.]. Manokin does not exhibit resistance to foliar-feeding insects, but does have a level of tolerance equivalent to the tolerance found in the cultivar ‘Avery’.

Plants of Manokin have white flowers, tawny pods, and black hilum coats. Mature seed have yellow cotyledons, and brown coats, and black hilum.

Breeder seed of Manokin was increased in 1990 by the Maryland Agricultural Experiment Station. Foundation seed was produced in 1991 and 1992 by the Maryland Crop Improvement Association and cooperating states. Foundation seed grown at the station contains up to 0.25% off-types for flower color, hilum color, and seed pubescence color. Breeder seed will be maintained by the Maryland Agricultural Experiment Station. The station has a certificate of protection (No. 9200075) from the U.S. Plant Variety Protection Office for Manokin, and seed of Manokin may be sold by cultivar name only as a class of certified seed. Foundation seed of Manokin may be obtained for research purposes for at least 5 yr from the corresponding author.

W. J. Kenworthy,* J. G. Kantzès, L. R. Krusberg, and S. Sardanelli (9)

References and Notes

9. W.J. Kenworthy, Dep. of Agronomy, J.G. Kantzès, Dep. of Agronomy, S. Sardanelli, Dep. of Plant Biology, Univ. of Maryland, College Park, Maryland 20742. Scientific Article no. A7797, Contribution no. 14128, Maryland Agric. Exp. Stn. Financial support by the Maryland Agricultural Board and the Maryland Crop Improvement Assoc. is acknowledged. Registration by CSSA. Accepted 29 Feb. 1996 by corresponding author (Email: wk7@umail.umd.edu).

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