GR8836 originated as a BC$_2$F$_2$ plant selection from the cross ‘A3127’$^4$ × L24. A3127 is a private cultivar; L24 is a ‘Williams’ (1,3) backcross population with the $R_{ps}$-k gene multirace Pmg resistance and is closely related to ‘Williams 82’ (2). The first cross, A3127 × L24 was made at OARDC–OSU in summer 1979. The first backcross (A3127 × A3127 $\times$ L24) was made in summer 1980; the second backcross in the winter, 1980, and the final backcross in summer 1982. The BC$_2$F$_2$ plants from this cross were grown and screened for resistance to phytophthora rot in the greenhouse in winter 1982. A3127 BC$_2$F$_2$-19 was tested at two locations in 1983 and at four locations in 1984 in Ohio and renamed HM8473. It was tested as HM8473 in Ohio in 1985 and 1986 trials and in the Uniform Soybean Tests, Northern States, in 1985. HM8473 was renamed GR8836 by AGRA.

GR8936 has purple flowers, tawny pubescence, tan pods and dull yellow seed with black hila. It is a Maturity Group III soybean, and is generally adapted from 39 to 41° N lat. In comparison with ‘Resnik’, a sister-line, it is one day later in maturity and 1% higher yielding in Ohio tests, but 1% lower yielding in regional tests. In comparison with ‘Harper’, GR8836 has 11% higher yield in Ohio. In comparison with A3127, GR8836 is resistant to Pmg and one or two days later in maturity, and 5% higher yielding. GR8836 and Resnik are very similar in height (84 cm), lodging score (1.7), Fe chlorosis tolerance scores (3.3 and 3.6, respectively), and shattering score (1.0).

GR8836 is resistant to at least 19 of the 25 described races of Pmg (susceptible to races 12, 16, 19, 20, and 25) and to soybean mosaic virus (SMV) seed mottling. It is also moderately resistant to purple seed stain (caused by Cercospora kikuchii T. Mat. & Tomoy.), downy mildew (caused by Peronospora manshurica [Naoum.] Syd. ex Gaum.), pod and stem blight [caused by Diaporthe phaseolorum (Cke. & Ell.) Sacc. var. sojae (Lehman) Wehm.], powdery mildew (caused by Microsphaera diffusa Cke. & Pk.), and brown stem rot [caused by Phialophora gregata (Allington & Chamberlain) W. Gams]. GR8836 differs from Resnik in being less susceptible to SMV seed mottling and brown stem rot and in having 54,000 and 43,000 Dalton seed proteins.

Breeder seed of GR8836 was distributed to the foundation seed organization in Ohio for increase in 1987. Breeder seed will be maintained by the Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, Ohio 44691. GR8836 is protected under Title V of the Plant Variety Protection Act.


References and Notes

4. Dep. of Agronomy and Dep. of Plant Pathology, Ohio Agric. Res. and Development Ctr., R.L. Cooper, USDA-ARS, The Ohio State University, Wooster, Ohio 44691. Research supported in part by gifts from the Ohio Seed Improvement Association. Salaries and research support provided by state and federal funds appropriated to the Ohio Agric. Res. and Development Ctr., The Ohio State University. Manuscript No. 74-89. Registered by CSSA. Accepted 31 July 1989. Corresponding author.

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REGISTRATION OF ‘GR8936’ SOYBEAN

‘GR8936’ soybean [Glycine max (L.) Merr.] (Reg. no. 247, PI 534648) was developed by the Ohio Agricultural Research and Development Center of The Ohio State University (OARDC–OSU). It was released in 1988 because of its high seed yield in state tests and its multirace resistance to phytophthora rot [caused by Phytophthora megasperma f. sp. glycinea (Drechs.) Kuan & Erwin] (Pmg). GR8936 has been licensed to the Agricultural Genetic Research Association (AGRA) with exclusive rights to sublicense, produce, promote, market and the cultivar.

GR8936 originated as an F$_2$ plant selection from the cross ‘A3127’$^4$ × L24. A3127 is a commercial cultivar; L24 is a ‘Williams’ (3) backcross population with the $R_{ps}$-k gene for Pmg resistance and is closely related to ‘Williams 82’ (2). The cross, designated OX799104, was made at OARDC–OSU in summer 1979 and the crossed seed grown at the Puerto Rico Winter Nursery of the Iowa State University during winter 1979–1980. The F$_2$ was grown in Ohio in 1980 and a single pod per plant harvested to form a bulk F$_3$. The F$_3$ and F$_4$ generations were grown in Puerto Rico during winter 1980–1981. The bulk F$_3$ was grown in Ohio in 1981 and it was the source for several plant selections, including OX799104–2. OX799104–2, one of the F$_3$-derived lines, was tested for Pmg resistance and grown in 1982. Yield tests were conducted in 1982, 1983, and 1984 in Ohio. OX799104–2 was redesignated HM8486 prior to entry in the 1985 Uniform Soybean Tests, Northern States. It was evaluated from 1985 to 1986 in Ohio tests. HM8486 was named GR8936 by AGRA.

GR8936 has white flowers, tawny pubescence, tan pods, and dull yellow seed with black hila. It is a Maturity Group III soybean, and is generally adapted from 39 to 41° N lat. In comparison with A3127, it is of the same maturity and

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