Registration of ‘HS0–3243’ Soybean

Soybean cultivar HS0–3243 [Glycine max (L.) Merr.] (Reg. no. CV-482, PI 641001) was developed by the Ohio Agricultural Research and Development Center of The Ohio State University (OARDC-OSU). It was released on 1 August 2005 because of its high seed yield in Ohio and its resistance to Phytophthora root and stem rot (caused by Phytophthora sojae) (Kaufmann & Gerdemann).

The cultivar HS0–3243 derived from an F₄ plant of the cross ‘Kottman’ (St. Martin et al., 2001a) × HS93–4118 (St. Martin et al., 2001b). The cross was made in the summer of 1996 at Columbus, OH, and subsequent development was by early generation testing. The F₄-derived line, HS98–7582, was tested in Ohio from 1998 to 2000. The F₄₅ selection designated HS0–3243 was tested in multiple Ohio locations from 2000 to 2004. It was also tested regionally in the USDA Uniform Preliminary Test IIIB in 2002 (Crochet, 2002).

The cultivar has indeterminate stem habit, white flowers, light tawny pubescence, tan pods, and yellow seeds with a black hilum. It is classified in maturity group III (relative maturity 3.1), and is adapted as a full-season cultivar from 41 to 43° N lat. In regional tests (Crochet, 2002), yield of HS0–3243 was similar to that of ‘Macon’ (Nickell et al., 1996) but less than that of ‘IA3010’. Seed weight was smaller than the regional checks at 14.8 cg seed⁻¹. In Ohio tests (2002 to 2004, four or five locations per year), seed yield of HS0–3243 was 6% greater than that of ‘Dilworth’ (Fioritto et al., 2004), a current public cultivar in Ohio. The cultivar HS0–3243 matured at the same time as Dilworth, was 71 cm tall, compared to 79 cm for Dilworth. Yield of HS0–3243 was similar to that of Kottman, but HS0–3243 matured 4 d earlier.

In Ohio, seed of HS0–3243 has averaged 405 g kg⁻¹ protein, compared with 403 g kg⁻¹ for Dilworth and 419 g kg⁻¹ for Kottman. Oil content has averaged 203 g kg⁻¹, compared with 207 g kg⁻¹ for Dilworth and 200 g kg⁻¹ for Kottman.

Hypocotyl inoculation with a series of isolates of P. sojae demonstrated that HS0–3243 carries the Rps₄k and Rps₃ genes for race-specific resistance to Phytophthora root and stem rot. Partial resistance to P. sojae is fair, with a score of 5 on a scale of 1 (best) to 9 (worst), using the procedure of Schmitthenner and Bhat (1994).

Breeder seed of HS0–3243 was distributed to Ohio Foundation Seeds, Inc. for production of Foundation seed in 2004. The cultivar is released to seed producers by a non-exclusive license for production and sale as a brand. A small sample of seed for research purposes can be obtained from the corresponding author. Recipients of seed are asked to acknowledge the source of germplasm if it is used in the development of new germplasm, cultivars, or genetic stocks. U.S. Plant Variety Protection for HS0–3243 will not be sought.


References


S.K. St. Martin, M.K. Feller, R.J. Fioritto, S.A. McIntyre, and C.H. Sneller, Dep. of Horticulture and Crop Science; A.E. Dorrance, and S.A. Berry, Dep. of Plant Pathology, Ohio Agric. Res. and Development Ctr., The Ohio State Univ., Columbus, OH 43210-1086. Research supported in part by grants from the Ohio Soybean Council and gifts from the Ohio Seed Improvement Assoc. Salaries and research support provided by state and federal funds appropriated to the Ohio Agric. Res. and Development Ctr., The Ohio State Univ. OARDC-OSU Manuscript no. HCS05-22. Registration by CSSA. Received 18 Aug. 2005. Accepted 4 Mar. 2006. *Corresponding author (stmartin+@osu.edu).

doi:10.2135/cropsci2005.08-0265

Published in Crop Sci. 46:1811 (2006).