Registration of ‘Ohio FG5’ Soybean

Soybean [Glycine max (L.) Merr.] cultivar ‘Ohio FG5’ (Reg. no. CV-484) (PI 642768) was developed by the Ohio Agricultural Research and Development Center of The Ohio State University. It was released on 1 August 2003 because of its high seed yield, large seed, disease resistance, and acceptable seed protein content. The cultivar is intended primarily for production of tofu and other soy foods.

The new cultivar is an F$_4$-derived line, originally designated HS98–3755, from the cross ‘Ohio FG1’ × HS89–3078. The parent Ohio FG1 was described by St. Martin et al. (1996). The parent HS89–3078 is from ‘GR8936’ × Asgrow ‘A2943’ (McBlain et al., 1990). The cross from which Ohio FG5 originated was made in the summer of 1994 at Columbus, OH, and subsequent development was by early generation testing. The cultivar is derived from an F$_2$-derived line, designated HS96–8413, which was tested for agronomic traits and protein content in Ohio from 1996 to 1998. The F$_3$ selection that became Ohio FG5 was tested from 1998 to 2004 in Ohio.

Ohio FG5 has indeterminate stem habit, purple flowers, gray pubescence, brown pods, dull yellow seed coats, and yellow hila. It is classified in maturity group III (relative maturity 3.9), and is adapted as full-season cultivar from 38 to 40° N lat. In Ohio tests (2002–2004, four locations per year), seed yield of Ohio FG5 was 9% greater than that of Ohio FG1. The new cultivar matured 4 d later than Ohio FG1 and was similar to Ohio FG1 in plant height and lodging resistance. Weight of 100 seeds of Ohio FG5 averaged 22.8 g, compared with 22.2 g for Ohio FG1. Least-squares means calculated from 14 tests indicated a seed protein content approximately 8 g kg$^{-1}$ greater for Ohio FG5 in comparison with Ohio FG1.

Hypocotyl inoculation with a series of isolates of Phytophthora sojae (M. J. Kaufmann and J. W. Gerdemann) demonstrated that Ohio FG5 carries the $Rps3$ gene for race-specific resistance to Phytophthora root and stem rot. The cultivar has a moderate level of partial resistance to $P$. sojae, as shown by a score of 4.4 (Ohio FG5) in greenhouse layer tests rated from 1, best, to 9, worst (Schmitthenner and Bhat, 1994).

Breeder seed of Ohio FG5 was distributed to Ohio Foundation Seeds, Inc. for production of foundation seed in 2003. The cultivar is released to seed producers through the Agricultural Genetics Research Association, P. O. Box 6, Croton, OH 43013. 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 will not be sought.

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References


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