REFERENCES AND NOTES


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REGISTRATION OF 'DELSOY 4500' SOYBEAN

'DELSOY 4500' SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-283, PI 543793) was developed and released by the Missouri Agricultural Experiment Station in November 1989. This is a Maturity Group IV cultivar selected to combine high yield with resistance to soybean cyst nematode (SCN), Heterodera glycines Ichinohe Race 3.

Delsoy 4500 was selected from the cross 'Cumberland' × 'Forrest' (1,3). Early-generation selection and testing were done at the Delta Center of the University of Missouri at Portageville, MO. Individual F1 plants were evaluated in the greenhouse for reaction to SCN Race 3. Remanent seed from resistant and segregating plants was planted for field evaluation in the cyst nematode nursery at the Rhodes Farm near Clarkson, MO. Individual plants from F1 lines were again screened to select homozygous resistant plants. Progenies were grown at the Lee Farm, near Portageville, MO. Seed from individual F2 progeny were harvested for testing and seed increase. Delsoy 4500 was evaluated under the designation S83-1004 in the Uniform Regional Soybean Tests IV North, and Regional SCN test IV from 1987 through 1989 and compared with, among other cultivars, 'Douglas,' 'Franklin,' and 'Pyramid' (5, 2,4).

Delsoy 4500 exceeded the seed yield of the SCN Race 3 resistant cultivars Franklin and Pyramid on both SCN infested and noninfested soils. On noninfested soils, seed yield exceeded Douglas by 10%.

Delsoy 4500 is a mid-maturity group IV indeterminate cultivar that matures 2 d earlier than Douglas. It is resistant to SCN Race 3. It also has a good resistance to purple seed strain, caused by Cercospora kikuchii (T. Matsumoto & Tomoyasu) W. Gardner, and pod and stem blight, caused by Diaporthe phaseolorum (Cooke & Ellis) Sacc. Delsoy 4500 is susceptible to Races 1 and 7 of the phytophthora root rot pathogen, Phytophthora megasperma Drechs. f. sp. glycinea T. Kuan & D.C. Erwin. Delsoy 4500 has white flowers and gray pubescence. The seeds are yellow with buff hila, and have a 100-seed weight of 11.2 g, compared with 14.7 g of Douglas. Delsoy 4500 has 39.8% seed protein and 21.0% oil, compared with 40.9% seed protein and 20.9% oil of Douglas.

The Missouri Agricultural Experiment Station will be responsible for maintaining breeder seed. The seed will be maintained as one generation each of breeder, foundation, registered, and certified seed. Foundation seed will be produced and distributed by Missouri Foundation Seeds, Department of Agronomy, 210 Waters Hall, University of Missouri, Columbia, MO 65211.

S.C. ANAND* (6)

REFERENCES AND NOTES


REGISTRATION OF 'DELSOY 4900' SOYBEAN

'DELSOY 4900' SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-284, PI 543794) was developed and released by the Missouri Agricultural Experiment Station in November 1989. This is a late Maturity Group IV cultivar selected to combine high yield with resistance to soybean cyst nematode (SCN), Heterodera glycines Ichinohe Race 3.

Delsoy 4900 was selected from the cross Asgrow A5424 × Mack. Asgrow A5424 (J. Schillinger, personal communication, 1990) is a gray line derived from Williams × Essex (1,7). Mack (4) is a Maturity Group V cultivar with resistance to SCN Race 3. Early-generation selection and testing were done at the Delta Center of the University of Missouri at Portageville, MO. Individual F1 plants of the cross were evaluated in the greenhouse for reaction to SCN Race 3. Seed from the resistant and segregating plants was sown for field evaluation in the cyst nematode nursery at the Rhodes Farm near Clarkson MO. Individual F1 plants from F2 lines were again screened to select homozygous resistant plants. Progenies were grown at the Lee Farm, near Portageville, MO. The F1 lines were harvested for testing and seed increase. Delsoy 4900 was evaluated under the designation S82-1443 in the Uniform Regional Soybean Tests IV South from 1985 through 1987 and compared with 'Stafford' and 'Douglas' (3, 6). Delsoy 4900 was also evaluated in the Regional SCN tests from 1984 through 1987 and compared with Douglas, 'Franklin' (2), and 'Egyptian' (5).

Delsoy 4900 yielded well both in SCN-infested and uninfested fields. It exceeded the seed yield of Douglas by 10% and was equal in seed yield to Stafford in the Uniform Regional Tests. In the Regional SCN tests, Delsoy 4900 exceeded Franklin and equaled Egyptian in seed yield.

Delsoy 4900 is a late Maturity Group IV determinate cultivar that matures 7 to 8 d later than Douglas. It is resistant to SCN Race 3, and is susceptible to the root-knot nematodes Meloidogyne incognita and M. arenaria. Delsoy 4900 has purple flowers and tawny pubescence. The seeds are yellow with light brown hila, and have a 100-seed weight of 16.3 g, compared with 14.4 g of Douglas. Delsoy 4900 has 40.0%