Registration of 'HARBAR' Soybean

'HARBAR SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-300, PI 561702) was developed at the Northwest Agricultural Research Center (CIANO-INFAP-SARH) Cd. Obregón, Sonora, Mexico. It was released as a high-yielding, stable cultivar adapted for production in northwest Mexico.

Harbar was derived from the cross 'Cajeme' × 'Rad'. Cajeme is a selection from the cross N44-92 ('Ogden' × 'Haberlandt') × Lee. The percentage of Rad is unknown. Harbar originated as an F₂ plant selection, was bulked in the F₂ generation, and was designated II-535-6-M. It was tested in the National Uniform Soybean Trial (North Zone) from 1985 through 1987. In these tests, Harbar averaged 6% higher in seed yield than Cajeme and was better adapted to the Yaqui and Mayo valleys of Sonora, Fuerte Valley of Sinaloa, and the soybean growing regions of Chihuahua (1).

Harbar is a Maturity Group VI cultivar similar in morphology and agronomic characteristics to Cajeme. It has a determinate growth habit, begins flowering ~47 d after planting, and reaches physiological maturity in ~119 d. Mature plants average 90 cm in height. It has purple flowers, tawny pubescence, and yellow seed with black or gray hilae. Seed weight averages 14.9. Seed protein content averages 391 g kg⁻¹ and oil content 233 g kg⁻¹. The check variety Cajeme has an average protein content of 409 g kg⁻¹ and oil content of 226 g kg⁻¹. Harbar is resistant to both lodging and shattering.

Seed of Harbar was distributed to seed-producing organizations in Sonora in 1989. Breeder seed will be maintained by CIANO in Cd. Obregón, Sonora, Mexico. Additional information on the performance and characteristics of Harbar has been published (2).

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References and Notes

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Registration of 'Pharaoh' Soybean

'PHARAOH' SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-301, PI 548645) was developed by Southern Illinois University at Carbondale. It was released as a high yielding cultivar with resistance to soybean cyst nematode (SCN) (Heterodera glycines Ichinohe) Race 3 (7).

Pharaoh originated as an individual F₁ plant selection from the F₂ line LS79-W330, which was tested in the USDA Uniform Soybean Tests—Southern Region in 1982 and 1983. Pharaoh has the pedigree 'Forrest' (3) × 'Lee'. V71-480 was derived from the cross V63-76 × V66-318. V63-76 was selected from the cross 'Hill' (5) × D53-354. V66-318 was selected from D53-184 × J22. D53-354 and D53-184 have the pedigrees D49-2525 × L46-5679. D49-2525 was derived from S-100 × CNS and was a sister line to the cultivar 'Lee' (4). S-100 was selected from 'Illin'i' (2). CNS was selected from 'Clemson' (2). L46-5679 has the pedigree 'Lincoln' × 'Richland' (8,2). The pedigree of J22 may be L37-1355 × Arks31913 (1991 update to reference 2), though this is uncertain (G.R. Buss, personal communication, 1992).

The cross was made at the University of Missouri Delta Center. The F₂ and subsequent generations were advanced at Southern Illinois University at Carbondale. The F₂ population was advanced to the F₃ via pedigree selection. F₃ plants were selected on a field infested with SCN Race 3 at Elkville, IL. Progeny were grown on a SCN race 3 infested field at the SIUC Agronomy Research Center (ARC), Carbondale, IL. An F₄ line (L579-W330) was selected and SCN resistance was verified by greenhouse screening, using Elkville soil. This line screened as homozygous for SCN Race 3 resistance but varied for maturity. Individual F₅ plants were selected and progeny were grown on the SCN Race 3 infested field at the ARC. A single F₆₈ line was selected and greenhouse screened in a number of SCN infested soils from southern Illinois.

Pharaoh was evaluated in southern Illinois regional tests from 1985 through 1991. It was included in the Illinois state soybean variety test from 1989 through 1991. Pharaoh was evaluated as experimental line LS82-1206 in the Uniform Soybean Tests—Southern Region Preliminary Group V Test in 1984, Preliminary Group IV South Test in 1985, and in the Uniform IV South Test in 1986 and 1987. It was also evaluated in the Regional SCN Tests from 1986 through 1991. The seed yield of Pharaoh exceeded that of Douglas (6) by 82% on SCN infested soils and by 6% on noninfested soils. Pharaoh exceeded the seed yield of the SCN Race 3 resistant cultivar 'Delsyo 4500' (1) by 12% on infested soils and by 5% on noninfested soils.

Pharaoh is a late Maturity Group IV cultivar that matures 4 d later than Douglas. It has a determinate growth habit, purple flowers, tawny pubescence, tan pod walls, and shiny yellow seeds with brown hilae. Seed shape is round. Seed quality scores average 1.7 for Pharaoh, compared with 2.9 for Douglas. Seed size varies around 130 mg seed⁻¹, as compared with 167 mg seed⁻¹ for Douglas. The seed composition of Pharaoh averages 399 g kg⁻¹ protein and 208 g kg⁻¹ oil, as compared with Douglas, which has a composition of 406 g kg⁻¹ protein and 208 g kg⁻¹ oil.

Pharaoh is moderately susceptible to southern root-knot nematode [Meloidogyne incognita (Kofoid & White) Chitwood] and peanut root-knot nematode [M. arenaria (Neal) Chitwood]. It is susceptible to soybean mosaic virus and pea-mottle virus. Pharaoh has no known major genes for resistance to phytophthora root rot [caused by Phytophthora sojae J.J. Kaufman & J.W. Gerdemann: syn. P. megasperma (Drechs.) f. sp. glycinea T. Kuan & D.C. Erwin] or brown stem rot [caused by Phialophora gregata (Allington & D.W. Chamberlain) W. Gams]. Pharaoh has been identified as one of the least susceptible of numerous cultivars evaluated against soybean sudden death syndrome (SDS) [caused by Fusarium solani (Mart.) Sacc.] in 5 yr of testing in Southern Illinois University's SDS research plots.

Pharaoh was released October 1989 by Southern Illinois University at Carbondale, in cooperation with the Kentucky Agricultural Experiment Station and the Missouri Agricultural Experiment Station. Breeder seed will be maintained by South-