oper, the California Agricultural Experiment Station, and USDA-ARS. It has been approved for certification by the California Crop Improvement Association.

Application is being made for protection of S-101 under the Plant Variety Protection Act, Title V option. Classes of seed will be breeder, foundation, and registered and certified produced in California. Head-row seed will be produced as necessary to maintain cultivar purity. Breeder and foundation seed will be maintained by the California Co-operative Rice Research Foundation, Inc., P.O. Box 306, Biggs, CA 95917.


Published July, 1989

References and Notes

Published in Crop Sci. 29:1090–1091 (1989).

REGISTRATION OF 'A5474' SOYBEAN

'A5474' soybean [Glycine max (L) Merr.] (Reg. no. CV-234) (PI 527701) was developed by Asgrow Seed Co., subsidiary of the Upjohn Co., Kalamaizo, MI. It matures about 3 d earlier than Forrest (1) and is classified as Maturity Group V. A5474 was released because of its high productivity and disease resistance. Prior to its release in 1981, it was identified as XP5474. It has been evaluated in state experiment station soybean cultivar trials throughout the southern USA from 1980 through 1987.

A5474 originated as an F₄ plant from the cross ('Tracy' (2) 4 X D71-5234) F₁ 4 X J74-122 made in the greenhouse at Ames, IA in 1976. D71-5234 is a high protein selection from D66-7398 X PI 95960. D66-7398 is a selection from D61-3505 X (PI96035 X D61-2624), which was evaluated in Uniform Preliminary VI in 1968. D61-3505 is a selection from D49-2491 6 X PI 174862 and D61-2624 is a selection from D49-2491 4 X PI 174862. D49-2491 is closely related to 'Lee'. J74-122 is a sister line of 'Bedford' (3). The original F₄ plant was selected after screening a portion of the F₅ population for resistance to Race 4 of soybean cyst nematode (Heterodera glycines Ichinohe) in the greenhouse at Portageville, MO under a contract with the University of Missouri Delta Center. The F₅ was advanced to the F₆ by the pedigree method in Florida and Missouri.

A5474 has a determinate growth habit, white flowers, tawny pubescence, and brown pod walls. Seeds are shiny yellow with black hila. A5474 has resistance to Races 3 and 4 of the soybean cyst nematode and has the R₉c gene for resistance to Phytophthora root rot [caused by Phytophthora megasperma F. sp. (Drechs.) glycinea Kuan and Erwin]. It is resistant to the foliar diseases bacterial pustule [caused by Xanthomonas campestris pv phaseoli (Smith) Dye] and powdery mildew [caused by Microsphaera difusa Cke. & Pk.].

A5474 is susceptible to root knot nematode [Meloidogyne incognita (Kofoid & White) Chitwood], and stem canker [caused by Diaporthe phaseolorum (Cke. & ElI) Sacc. var. caulivora Athow & Caldwell]. Asgrow Seed Co. will be responsible for maintaining breeder seed.

J. G. SHANNON* AND J. A. SCHILLINGER (4)

Published in Crop Sci. 29:1090–1091 (1989).

REGISTRATION OF 'A5980' SOYBEAN

'A5980' Soybean [Glycine max (L) Merr.] (Reg. no. CV-235) (PI 527702) was developed by Asgrow Seed Co., subsidiary of the Upjohn Co., Kalamaizo, MI. It is classified as late group V maturing similar to 'Bedford' (2). A5980 was released because of its high productivity on clay or shallow soils of the Mid-south where other cultivars of similar maturity fail to achieve adequate growth.

Prior to its release in 1984, it was identified as XP5980. It has been evaluated in various state experiment station soybean cultivar trials throughout the southern USA from 1982 through 1987.

A5980 originated as an F₄ line from the cross ('Tracy' (1) 4 X D71-2634) F₁ 4 X J74-122 made in the greenhouse at Ames, IA in 1976. D71-2635 is a high protein selection from D66-7398 × PI 95960. D66-7398 is a selection from D61-3505 (PI96035 × D61-2624), which was evaluated in Uniform Preliminary VI in 1968. D61-3505 is a selection from D49-2491 6 X PI 174862 and D61-2624 is a selection from D49-2491 4 X PI 174862. D49-2491 is closely related to 'Lee'. J74-122 is a sister line of 'Bedford' (3). Generations were advanced to the F₅ by single seed descent in Florida and Mississippi.

A5980 has purple flowers, tawny pubescence and tan pod walls. Seeds are shiny yellow with black hila. A5980 is similar in growth characteristics to Bedford. However, seeds are larger averaging 15 g/100 seed compared with 12 g/100 seed for Bedford. Performance of A5980 has been superior to cultivars of similar maturity on slowly drained soils of the Mississippi delta even though it lacks a major gene for resistance to phytophthora rot [caused by Phytophthora megasperma f. sp. (Drechs.) glycinea Kuan and Erwin] (3, 4, 5).

A5980 has resistance to Races 3 and 4 of the soybean cyst nematode (Heterodera glycines Ichinohe) based on greenhouse and field evaluation. It is resistant to bacterial pustule [caused by Xanthomonas campestris pv. phaseoli (Smith) Dye]. A5980 is susceptible to root knot nematode [Meloidogyne incognita (Kofoid & White) Chitwood], and stem canker [caused by Diaporthe phaseolorum (Cke. & ElI) Sacc. var. caulivora Athow & Caldwell]. Asgrow Seed Company will be responsible for maintaining breeder seed.

J. G. SHANNON* AND J. A. SCHILLINGER (6)