REGISTRATION OF ‘SPRY’ SOYBEAN

‘SPRY’ SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-291, PI 553051) was developed by the Illinois Agricultural Experiment Station and the USDA-ARS and released in August 1991. It was released because of its tall determinate \( (dt^1) \) growth type and higher yield when compared with cultivars of similar maturity.

Spry is an F6 line selected from the cross L78-8694 × L78L-449. Spry was developed in a recurrent selection program begun in the 1950s to develop tall determinate soybeans (with the \( dt^1 \) gene) adapted to the Midwest. In each cycle, early generation visual selection for plant type was followed by field performance testing of \( F_4 \) or \( F_5 \) lines for 2 to 3 yr prior to recombining. The development that led to the female parent began with the crossing of ‘Hawkeye’ (4), with indeterminate stems, with ‘Lee’ (2), with determinate stems. Two determinate selections were intercrossed and a selected line (L66-1322) from this was crossed to ‘Harosoy’ (5), to which the \( dt^1 \) gene had been transferred by backcrossing (L62-535) so that all progeny of the cross would be determinate. A selection from this (L71-3628) was crossed to ‘Elf’ (1). From this, L78-8694, the female parent of Spry, was selected.

The development of the male parent began with the development of determinate isolines of ‘Clark’ (2) (Group IV) and Harosoy (Group II). Both isolines were quite short. To increase its height, the Clark isoline was modified by adding the gene \( E1 \) for delayed flowering and maturity and the gene \( e^2 \), which restored the maturity of Clark but left some of the late-flowering effect of \( E1 \). This Clark-\( dt^1 \) \( E1 \) \( e^2 \) isolate (L66-531) was crossed with Harosoy-\( dt^1 \) (L62-535) and L69L-3 was selected. L69L-3 was crossed with a high-performing early Group V determinate selection from Mississippi (D66-12392, which was in Group V of the Uniform Soybean Tests, Southern States, in 1968 and 1969). A selection from that cross (L73-4124) was then crossed with ‘Essex’ (3), producing L78L-449.

L78L-449 was crossed to L78-8694 in the greenhouse in the 1979-80 winter and the F1 grown at Urbana in 1980. The F2 to F4 were grown and harvested in bulk at the USDA winter nursery in Puerto Rico (F2 and F4) or at Urbana (F3). One or two pods were taken from each plant, with visual selection for tall plant type in the F2. The F2 was grown at Urbana in 1982, and 65 plants were selected for plant type and grown at Urbana in 1983. F6 rows with tall growth were selected (including Spry that was designated L83-3804) and tested in 1984 to 1990 at Urbana and locations in southern Illinois. Spry was entered in the regional Preliminary Test IV in 1987 and in Uniform Test IV in 1988 to 1990.

Spry is classified as Group IV maturity (relative maturity 4.8) averaging 6 d later than ‘Spencer’ (6). It has unusually rapid early vegetative growth and does best in environments where this is an advantage, such as drouthy soils, and often yields relatively poorly under conditions where lodging is a problem. Spry is best adapted to approximately 38 to 39° N lat. When compared with Spry, L78L-449 averaged 2.5% higher yield and better seed content. When compared with Spencer, Spry has 2.3 vs. 1.4 units) and has smaller seeds (164 vs. 175 mg seed\(^{-1}\)).

Spry has purple flowers, tawny pubescence, tan pods at maturity, and dull yellow seeds with bulk susceptible to phytophthora rot (Races 1, 4 and 7) \( \text{caused by} \) Phytophthora megasperma (Drechs.) \( T. \) Kuan & D. C. Erwin\], soybean cyst nematode \( \text{caused by} \) Heterodera glycines Ichinohe\], brown stem \( \text{rot caused by} \) Phialophora gregata (Allington & D.W. Chamberlain) \( W. \) Gams\], and sudden death syndrome \( \text{caused by} \) Fusarium solani (Mart.) Sacc.\]

Application will be made for Plant Variety Protection for Spry under Title V permitting Foundation, Registered, and Certified classes beyond Breeder seed. Breeder seed of Spry will be maintained by the Illinois Agricultural Experiment Station, Urbana, IL.

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References and Notes


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