References and Notes


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Registration of 'Mercury' Soybean

'Mercury' soybean [Glycine max (L.) Merr.] (Reg. no. CV-331, PI 583835) was developed by the Nebraska Agricultural Experiment Station. Mercury was released because it has a small seed size that makes it suitable for use as sprouts or in the oriental natto market. The official release date was 1 Feb. 1994.

The Nebraska experimental line designation for Mercury prior to its release was U90-3614. Mercury was derived from an F1 plant selected from the cross "T208" × 'Hobbit' (2:2). The F1 plants were grown in a space-planted nursery to maximize the number of F2 seeds per plant. Generation advance to the F2, was accomplished by a bulk seed harvest of plants grown on the University of Nebraska-Lincoln Agronomy Farm during 1986 and 1987. The F1 seed bulk was sorted into discrete seed size classes using a set of 19 round-hole screens (No. 6/64 to No. 24/64) that had hole diameters ranging from 24 mm to 95 mm. The smallest seed size classes, representing =20% of the original F1 bulk, were selected and bulked for planting in 1988. At maturity, = 300 F1 plants were visually selected for small seed size and harvested individually. Plants with gray pubescence (tt) and tan pods (l/t/t) were favored. After selection for colorless or lightly pigmented hila, 240 F2-derived F3 (F3/t) lines were grown during 1989. Mercury was one of 38 F3/t lines tested in 1990 and was selected for its small seed size, spherical seed shape, light-colored hila, and absence of seed coat wrinkling and mottling.

Mercury is a late Maturity Group II cultivar with purple flowers, gray pubescence, tan pods, and a determinate stem growth habit. Seeds are dull yellow with light buff hila, and have an average seed size of 75 mg seed−1.

Mercury was evaluated for yield, seed size, and seed composition in Nebraska from 1990 through 1993. Mercury matures 1 to 2 d later than IL-1, another determinate cultivar with small seeds (1). Compared with IL-1 in Nebraska performance tests, Mercury had 14% greater yield, similar lodging resistance and seed quality, 2.5 cm greater plant height, 4 mg seed−1 larger seed size, similar protein content, and slightly higher oil content. In the same Nebraska tests, the yield of Mercury averaged 18% less than Hobbit 87, a standard determinate cultivar. Mercury was not tested for its reaction to specific soybean diseases, so it is not known if it possesses any genes for resistance to those diseases.

Breeder seed of Mercury was distributed to the Nebraska Foundation Seed Division for planting in 1993. Distribution of Foundation seed in 1994 was limited to members of the Nebraska Crop Improvement Association who are classified as Class I growers for production of certified seed. Allocation to growers was based on an annual review of their written proposals for production and marketing certified seed of Mercury. There will be no registered seed class of Mercury.

The Nebraska Agricultural Experiment Station will maintain breeder seed. Small quantities of seed for research purposes may be obtained from the corresponding author for at least 5 yr after the release of Mercury.

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Registration of 'Saturn' Soybean

'Saturn' soybean [Glycine max (L.) Merr.] (Reg. no. CV-332, PI 583837) was developed by the Nebraska Agricultural Experiment Station. Saturn was released because it has a large seed size that makes it suitable for use in the vegetable soybean (edamame) and tofu markets. The official release date was 1 Feb. 1994.

The Nebraska experimental line designation for Saturn prior to its release was U90-3529. Saturn is derived from an F1 plant selected from the cross 'Hobbit' × 'Jogun' (2:1). The F1 plants were grown in a space-planted nursery to maximize the number of F1 seeds per plant. Generation advance to the F2, was accomplished by a bulk seed harvest of plants grown on the University of Nebraska-Lincoln Agronomy Farm during 1986 and 1987. The F1 seed bulk was sorted into discrete seed size classes using a set of 19 round-hole screens (No. 6/64 to No. 24/64) that had hole diameters ranging from 24 mm to 95 mm. The largest seed size classes, representing =20% of the original F1 bulk, were selected and bulked for planting in 1988. At maturity, = 300 F1 plants were visually selected for large seed size and harvested individually. Plants with gray pubescence (tt) and tan pods (l/t/t) were favored. After selection for colorless or lightly pigmented hila, 150 F2-derived F3 (F3/t) lines were grown during 1989. Saturn was one of 38 F3/t lines tested in 1990 and was selected for its large seed size, spherical seed shape, yellow hila, and absence of seed coat wrinkling and mottling.

Saturn is a late Maturity Group III cultivar with white flowers, gray pubescence, tan pods, and a determinate stem growth habit. Seeds are dull yellow with yellow hila, and have an average seed size of 280 mg seed−1.

Saturn was evaluated for yield, seed size, and seed composition in Nebraska from 1990 through 1993. Saturn matures 7 to 8 d later than LS301, an indeterminate cultivar with large seeds (3). Compared with LS301 in Nebraska performance tests, Saturn had similar or slightly better yield, similar lodging resistance and seed quality, shorter plant height, larger seed size, and similar protein and oil content. In the same Nebraska tests, the yield of Saturn averaged 11% less than Hobbit 87, a standard determinate cultivar. Saturn was not tested for its reaction to specific soybean diseases, so it is not known if it possesses any genes for resistance to those diseases.

Breeder seed of Saturn was distributed to the Nebraska Foundation Seed Division for planting in 1993. Distribution of Foundation seed in 1994 was limited to members of the