Registration of 'Danatto' Soybean

'Danatto' soybean [Glycine max (L.) Merr.] (Reg. no. CV-353, PI 593655) was developed by the North Dakota Agricultural Experiment Station, North Dakota State University, and released on 3 Jan. 1996. Danatto has high yield for a small-seeded soybean developed for the natto specialty soybean market.

Danatto is an F₄-derived line, originally designated ND91-2330, with the pedigree ‘NattoKing K86’ (1) × unknown. Natto King 86 is a small-seeded soybean developed by King Agro Co.; the unknown parent was provided by a North Dakota farmer (Jon Miller, 17993 County Road 16, Wahpeton, ND 58075). The cross was made in the summer of 1988 at Fargo, ND, and the F₁ plants were grown in the 1988–1989 winter nursery (La Platina Exp. Stn., Santiago, Chile). The F₂ population was grown in the summer of 1989 and advanced to the F₃ and F₄ generation by the single-pod bulk method. Individual F₄ plants were threshed in the fall of 1990 at Fargo, ND, and evaluated as plant-row yields in the summer of 1991. ND91-2330 was first tested in replicated yield trials in North Dakota in 1992.

Danatto was evaluated in the Uniform Soybean Test 0, Northern States, in 1995 (2). It has averaged 4% lower seed yield than ‘Agassiz’ (3) and 18% lower than ‘Lambert’ (4). It matures 5 d later than Agassiz and 1 d earlier than Lambert. Seed quality scores of Danatto are similar to Agassiz and Lambert. Danatto is more susceptible to lodging than Agassiz and Lambert. Plant height of Danatto is similar to Agassiz and about 8 cm shorter than Lambert. Seeds of Danatto average 57 mg seed⁻¹ smaller than Agassiz and 68 mg seed⁻¹ smaller than Lambert.

Danatto has purple flowers, gray pubescence, tan pods, and shiny yellow seeds with yellow hila. It is a Maturity Group 0 indeterminate cultivar and is generally adapted as a full-season cultivar from 45 to 48° N lat. Danatto was evaluated in the Red River Valley of the North from 1992 to 1995 by the North Dakota State University soybean breeding project for a total of 11 location-years. In these Red River Valley tests, Danatto averaged 4% lower seed yield than ‘Minnatto’ (5) and 26% lower than ‘Dawson’ (6). In these tests, Danatto matured 7 d earlier than Minnatto and 1 d later than Dawson. Iron chlorosis scores of Danatto are inferior to Minnatto and Dawson. Danatto is not adapted to high-pH soils where Fe-deficiency chlorosis may occur. Protein content was 413 g kg⁻¹ for Danatto seed and 445 g kg⁻¹ for Minnatto. Oil content was 205 g kg⁻¹ for Danatto and 194 g kg⁻¹ for Minnatto. Sugar content was 104 g kg⁻¹ for Danatto and 94 g kg⁻¹ for Minnatto. Danatto is susceptible to Races 1 and 3 of Phytophthora sojae M.J. Kaufmann & J.W. Gerdemann.

Breeder seed of Danatto will be maintained by North Dakota State University. A small sample of seed for research purposes can be obtained from the corresponding author for at least 5 yr. Protection for Danatto under the U.S. Plant Variety Protection Act is pending (no. 9600241).

T. C. HELMS,* K. C. CHANG, AND B. D. NELSON (7)}