Registration of ‘Brim’ Soybean

‘Brim’ soybean [\textit{Glycine max} (L.) Merr.] (Reg. no. CV-309, PI 548986) was developed by the USDA-ARS, in cooperation with the North Carolina Agricultural Research Service and the Arkansas Agricultural Experiment Station. It was released in 1990 to provide a cultivar of Maturity Group VI with high productivity and resistance to soybean mosaic virus.

Brim is the bulked increase of an \( F_4 \) line from the cross ‘Young’/N73-1102 (1). The parents of N73-1102, were the cultivars Tracy (2) and Ransom (3). Young and N73-1102 were mated in 1978 at Clayton, NC, and the \( F_1 \) was grown in the USDA Soybean Winter Nursery at Isabella, PR, the following winter. The \( F_1 \) progeny were inbred to the \( F_4 \) generation using single-seed descent. Initial yield testing of the line occurred in North Carolina in 1982 and 1983. Prior to release, the breeding line was designated N82-1198. Brim was tested in the Uniform Preliminary VI Nursery in 1984 at eight environments. It was subsequently tested in the Uniform Group VI Nursery at about 29 locations each year from 1985 to 1987.

Brim matures 3 d earlier than ‘Leflore’ and has produced 7.2\% higher seed yield than Leflore. The average seed protein concentration of Brim was 423 g kg\(^{-1}\), compared to 422 g kg\(^{-1}\) for ‘Leflore’ and 197 g kg\(^{-1}\) for Clay. Agassiz is classified as a late Group 00 maturity (relative maturity 00.9), averaging \( \approx 6 \) d later than ‘Meteor’ and \( \approx 3 \) d earlier than Clay (3). It is best adapted as a full-season cultivar to latitudes 46° to 48° N. Agassiz has determinate growth habit, purple flowers, gray pubescence, and brown pods at maturity. Seeds are yellow, with buff hila and very good seed coat luster. In comparison with Clay, Agassiz has a yield advantage of \( \approx 2\% \) in Uniform Soybean Tests and \( \approx 10\% \) in Minnesota Tests (5). Lodging scores of Agassiz and Clay are similar. Agassiz is \( \approx 3 \) cm taller than Clay and Agassiz are 18 mg smaller, \( \approx 5 \) g kg\(^{-1}\) higher in oil, \( \approx 3 \) g kg\(^{-1}\) lower in oil than seeds of Clay. Agassiz is slightly poorer in seed quality than Clay, 2.3 vs. 2.0 on a scale of 1 = very good to 5 = very poor. The iron deficiency chlorosis scores of Agassiz and Clay are similar, both being intermediate. Agassiz is susceptible to powdery mildew \( \textit{Microsphaera diffusa} \) and has higher rust scores than Clay. Agassiz is classified as an Maturity Group 00 cultivar, growing through 1991 under the designation M84-456. It was evaluated in the Uniform Soybean Tests, Northern States, Test 00, from 1989 through 1991 (5).

Agassiz is resistant to diseases, bacterial pustule \( \textit{Xanthomonas phaseoli} \), downy mildew \( \textit{Peronospora exigua} \), and to frogeye leafspot caused by \( \textit{Microsphaera sojina} \) and to gray leaf spot caused by \( \textit{Cercospora sojina} \), by \( \textit{Phytophthora sojae} \). Brim is resistant to diseases, bacterial pustule \( \textit{Xanthomonas phaseoli} \), and oil concentrations for Brim are 423 and 197 g kg\(^{-1}\) seed.

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References and Notes

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