A sample of seed of LL89-605 may be obtained from the authors.

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Registration of Soybean Germplasm Line LL89-605, Resistant to Brown Stem Rot and Bacterial Blight

LL89-605 soybean [Glycine max (L.) Merr.] (Reg. no. GP-162, PI 574533) was developed cooperatively by the Illinois Agricultural Experiment Station and the USDA-ARS and released in 1993. It was released because of resistance to bacterial blight (Illinois isolate) caused by Pseudomonas syringae pv. glycinea (Coerper) Young, Dye & Wilke) and resistance to brown stem rot (caused by Phialophora gregata (Allington & D.W. Chamberlain) W. Gams) derived from P1 437821. LL89-605 originated as an F6 plant selection from the cross ‘Wells II’ x P1437821 made at the Illinois Agricultural Experiment Station (5). The F2, F3, F4, and F5 were advanced by selecting the best appearing plants in a modified pedigree method. In 1989, LL89-605 was identified and was evaluated in Illinois for bacterial blight resistance (Illinois isolate) in the greenhouse. LL89-605 was evaluated for agronomic performance in Illinois during 1989 to 1991 and in the Uniform Soybean Tests Northern States Preliminary Test IIA in 1991. LL89-605 is classified as Group II maturity (relative maturity 2.2) averaging 2 d earlier than ‘Kenwood’ and 6 d earlier than ‘Burlison’ (1, 2). It is best adapted to 40 to 43° N lat. When compared with Kenwood, LL89-605 had 10% lower yield, lower lodging score (1.4 vs. 1.8 units), shorter plants (73 vs. 90 cm) and higher seed protein (387 g kg"⁻¹ vs. 372 g kg"⁻¹).

In the greenhouse, LL89-605 was equal to P1 437821 and was better than Wells II in leaf symptom ratings for reaction to bacterial blight (Illinois isolate) (1.5 vs. 1.5 vs. 4.5 units). When LL89-605 was compared with ‘BSR 201’ (4), it was equal in resistance to brown stem rot (Oh2 isolate) in the greenhouse using the root-dip method (3) and better in field evaluations (stem symptoms rating 7.1 vs. 60.7%, based on percent of stem length browned).

LL89-605 has purple flowers, gray pubescence, brown pods at maturity and shiny seeds with imperfect black hila. It is resistant to phytophthora rot (Race 1) [caused by Phytophthora sojae J.J. Kaufmann & J.W. Gerdemann].


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Registration of Soybean Germplasm Line LN89-5612, Moderately Resistant to Soybean Cyst Nematode

LN89-5612 soybean [Glycine max (L.) Merr.] (Reg. no. GP-163, PI 574541) was developed by the Illinois Agricultural Experiment Station and the USDA-ARS. It was released because it has moderate resistance to soybean cyst nematode (SCN) (Races 3 and 14) (5, 6). Cloud was introduced from Zhijiang province, China, by the USDA in 1910 as a hay cultivar. It is not in the ancestry of any US cultivars developed for SCN resistance.

LN89-5612 originated as an F2 plant selection from the cross ‘Williams 82’ x (Williams 82 x Cloud) made at the Illinois Agricultural Experiment Station (1). The F2 generation was grown at Mt. Vernon, IL, in SCN-infested soil in 1988, when the most vigorous plants were selected. In 1989, seeds from these plants were planted in noninfested soil at Urbana, IL, and LN89-5612 was identified. It was evaluated in Illinois for resistance to SCN (Races 3 and 4) in the greenhouse in 1989 and 1992 (5), and for agronomic performance during 1990 to 1992. LN89-5612 is classified as Group III maturity (relative maturity 3.9), averaging 7 d later than ‘Resnik’ and 1 d later than ‘Linford’ (2, 4). It is best adapted to 38 to 41° N lat. When compared with Resnik in SCN-infested soils, LN89-5612 had 60% higher seed yield. At noninfested locations, LN89-5612 had 10% higher yield and 10 cm taller plants than Resnik. When compared with Linford, LN89-5612 had 13% higher yield in infested soil and 9% higher yield at noninfested locations. When inoculated with SCN in the greenhouse, LN89-5612 was susceptible to Races 1 and 5, moderately susceptible to Races 2 and 4, and moderately resistant to Races 3 and 14 (5, 6).

LN89-5612 has white flowers, tawny pubescence, tan pods at maturity, and dull yellow seeds with black hila. A sample of seed of LN89-5612 may be obtained from the authors.

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