Registration of 'Lancaster Soybean'

'LANCASTER' SOYBEAN [Glycine max (L.) Merr.] (Reg. no. CV-304, PI 561860) was developed by the Nebraska Agricultural Experiment Station. It was released in 1992 because of its superiority in yield and seed protein content to public cultivars of similar maturity, especially in Nebraska environments.

Lancaster is derived from an F₁ plant selected from the cross K1047 × 'Mead' (4). The line K1047 is a breeding line from Kansas selected from the cross 'Tracy' × 'Bonus' (1,3). The population was inbred to the F₂ generation at the University of Nebraska-Lincoln Agronomy Farm, Lincoln, NE, by single-seed descent. The F₂ plant rows were grown in Lincoln during 1985. Lancaster was evaluated for yield in Nebraska from 1986 through 1991 and in the Uniform Soybean Tests Northern States, Preliminary Test III B, during 1989 and Uniform Test III from 1990 through 1991 under the designation U86-62062.

Lancaster is a maturity Group III cultivar with purple flowers, tawny pubescence, tan pods, and a determinate growth habit dt,dt). Seeds are dull yellow with black hila. Lancaster matures 3 to 4 d later than 'Burlison' (2), and is best adapted as a full-season cultivar from approximately 40 to 42° N lat. Lancaster averaged 12% higher yield than Burlison in irrigated tests in Nebraska during 1990–1991. Compared with Burlison in regional tests, Lancaster has similar lodging resistance, 15 cm shorter plant height, better seed quality, similar seed size, almost 2% higher seed protein content, and 3.5% higher oil content. Because of its 440 g kg⁻¹ seed protein, Lancaster may be useful in situations where a very high-protein meal is desired. Lancaster has excellent seedling emergence, as measured by hypocotyl elongation at 25°C, and its determinate growth habit may be advantageous under irrigation and narrow-row culture.

Lancaster is heterogeneous for resistance to race 4 of phytophthora rot (Phytophthora sojae J.J. Kaufmann & J.W. Gerdemann). It has moderate resistance to pod and stem blight [caused by Diaportha phaseolorum (Cooke & Ellis) Sacc. var. sojae (S.G. Lehman) Whemeyer]. Lancaster is susceptible to soybean mosaic virus, purple stain [caused by Cercospora kikuchii (Matsumoto & Tomoyasu) M.W. Gardner], brown stem rot [caused by Phialophora gregata (Allington & D.W. Chamberlain) W. Gams] and bacterial tan spot [caused by Curtobacterium flaccumfaciens pv. flaccumfaciens (Hedges) Collins & Jones].

Breeder seed of Lancaster was distributed to the Nebraska Foundation Seed Division for planting in 1992. The Nebraska Agricultural Experiment Station will maintain breeder seed. Small quantities of seed for research purposes may be obtained from the corresponding author.

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References and Notes


Registration of 'ICGV 86590' Peanut Cultivar

'ICGV 86590', an Indian peanut cultivar (Arachis hypogaea L. subsp. fastigiata Waldron) (Reg. no. CV-49, PI 562530), was released in 1991 by the Central Sub-committee on Crop Standards, Notification, and Release of Varieties, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, for rainy-season cultivation in peninsular India, where rust (Puccinia arachidis Speg.) and late leafspot [Phaeosarciopsis personata (Berk. & M.A. Curtis) Arx] are serious problems. In 25 tests conducted by the All India Coordinated Research Project on Oilseeds (AICORPO) during 1988 to 1990 in India, ICGV 86590 produced an average of 22% higher pod yield than JL 24, the most popular cultivar in peninsular India (1). In the same trials, it also outyielded local cultivars CO 2 by 30%, TMV 2 by 89%, KRG 1 by 38%, and TG 3 by 51%. ICGV 86590 was bred at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The cultivar was derived from a cross between a Spanish breeding line (X 14-4-B-19-B), and a rust- and late leafspot-resistant valencia germplasm line (PI 259747) (2), by bulking resistant plants in six successive generations grown in rainy-season disease nurseries by following a mass pedigree method. These nurseries included spreader rows and had naturally occurring rust and late leafspot to near-epidemic proportions. The pedigree of ICGV 86590 is (X 14-4-B-19-B × PI 259747)F₂-B₁-B₂-B₃-B₄-B₅.

ICGV 86590 has an erect growth habit, with compound sequential inflorescences and medium, elliptic, green to dark green leaves. Its maturity ranges from 96 to 123 d over different locations and years during the rainy season in India. It has 65% meat. Pods are mostly three- to two-seeded, with slight to moderate ridges and slight reticulation, and slight to moderate beaks and constrictions. Seeds are tan, with a 100- seed weight of 32 g, and contain 48% oil and 23% protein. Because of the compound inflorescence and three- to two-seeded pods, it is difficult to classify this cultivar either as a Spanish or Valencia botanical type.

ICGV 86590 had resistance or tolerance to multiple stress factors when tested at various locations in India (1). It was resistant to rust and tolerant of late leafspot when tested at 6 locations against rust and 12 locations against late leafspot. It also showed less field incidence of bud necrosis disease compared with JL 24 at ICRISAT Center and other locations. When compared with popular Indian cultivars JL 24, Gangapur, and Kadiri 3, it was less susceptible to stem and pod rots caused by Sclerotium rolfsii Sacc. (1). It also suffered less from Spodoptera littoralis (F.), leafhopper [Empoasca kerri Pruthi], and collar rot (Aspergillus niger Tiegh.) attacks.