Registration of ICGV 86699 Peanut Germplasm Line with Multiple Disease and Insect Resistance

ICGV 86699 (Reg. no. GP-76, PI 591815) is a high-yielding elite peanut (*Arachis hypogaea* L. subsp. *hypogaea* var. *hypogaea*) germplasm line with multiple pest resistance. It was released in 1994 by the Plant Material Identification Committee of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) because of its resistance to rust (caused by *Puccinia arachidis* Speg.) and stem and pod rots (caused by *Sclerotium speg.*). It also suffers less damage due to tobacco caterpillar (*Spodoptera litura* (F.)) and jassids or leafhoppers (*Empoasca kerrii* Pruthi) than control cultivars under field conditions.

ICGV 86699 originates from a single-plant selection made from CS 29. CS 29 was developed through repeated selections from a cytologically unstable, segregating interspecific population of *[Arachis batizocoi* Krapov. & W.C. Gregory/A. duranensis Krapov. & W.C. Gregory/]'A. hypogaea* (cv. NC 2)]. It was released from the North Carolina State University at Raleigh. The single-plant selection made in CS 29 was progeny rowed, and selected plants at the time of harvest were grouped into three bulks based on their similarity in agronomic characters (including growth habit, yield, and disease reaction). These bulks were designated as B₁, B₂, and B₃ and were grown again. In subsequent generations, the same process of selection and bulking just described was repeated until the selected bulks stabilized. The pedigree of ICGV 86699 is *[Arachis batizocoi/A. duranensis/A. hypogaea* cv. NC 2]) - CS 29 - P₁ - B₂ - B₃ - B₃ - B₁.

In 20 replicated yield trials conducted during 1987 to 1990 by the All India Coordinated Research Project on Oilseeds (AICOR-PO) in different locations in India, ICGV 86699 produced 47% greater pod yield than the cultivar Kadiri 3. The average pod yield of ICGV 86699 in these trials was 1.25 t ha⁻¹. Similarly, in Myanmar, it produced 100% greater pod yield than the local cultivar 'Sinpadethe 2', with 1.42 t pods ha⁻¹.

In 12 trials conducted at ICRISAT Asia Center (IAC) over 3 yr under fungicide-free conditions, ICGV 86699 was rated 3.1 for rust and 5.9 for late leaf spot, on a field scale of 1 to 9 (where 1 = no disease and 9 = 76-100% foliage damaged), compared with a score of 8 for Kadiri 3.

ICGV 86699 has a Decumbent 3 growth habit (1), alternate branching, and medium-sized elliptic green leaves. It has 8 primary and 12 to 20 secondary branches. It matures in ~118 d in the rainy season in India. The pods are slightly reticulated and constricted, with a moderate beak. The pods are mostly two-seeded with an average meat content of 60%. The seeds are red, weigh 38 g 100 seed⁻¹, and contain 48% oil and 24% protein.

The Genetic Resources Division, ICRISAT Asia Center, Patancheru, AP 502 324, India, will maintain the breeder seed of ICGV 86699. Limited quantities of seed without limitations on uses will be made available upon request. Seed of ICGV 86699 is also deposited with the U.S. National Seed Storage Laboratory, 1111 S. Mason St., Fort Collins, CO 80521-4500.


References and Notes


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Registration of Mississippi Sclerotinia-Resistant (MSR) Alfalfa Germplasm

Mississippi Sclerotinia-Resistant (MSR) alfalfa (*Medicago sativa* L.) germplasm (Reg. no. GP-300, PI 590999) was jointly released by the USDA-ARS and the Mississippi Agricultural and Forestry Experiment Station in May 1995. MSR is the first germplasm of alfalfa developed for increased resistance to Sclerotinia trifoliorum Eriks., the causal agent of sclerotinia crown and stem rot of alfalfa and other forage legumes. This is one of the most destructive diseases of full-planted alfalfa in the southeastern and south-central USA (3).

MSR was produced as a by-product of efforts to develop and evaluate techniques to screen alfalfa for heritable resistance to *S. trifoliorum* (1). Initially 1675 plants of 'Delta' were screened by four stem- and leaf-inoculation techniques. Twenty-five phenotypically resistant plants were selected. These were polycrossed separately for the various techniques, in groups of 3 to 15 individuals, to produce four experimental populations. The populations were evaluated for resistance, in comparison with the parental cultivar, to determine the effectiveness of selection techniques and to identify additional resistant phenotypes. Nine progeny with the most resistant phenotypes, out of 2772 evaluated, were polycrossed to produce the Syn. 1 generation of MSR. These nine parents were derived from six maternal lines from Delta.