
Groundnut Variety

ICGS 1 (ICGV 87119)



- A high-yielding Spanish bunch variety
- Matures in 112 days in the rainy season
- Tolerant to bud necrosis disease
- Has average recovery for pod yield from mid-season drought
- Shelling turnover of 70%
- Oil content of 51%
- Good oil quality (oleic/linoleic acid ratio of 1.44)
- Released for the rainfed cultivation in the states of Bihar, Haryana, Punjab, Rajasthan, and Uttar Pradesh in India



ICRISAT

Plant Material Description no.25

International Crops Research Institute for the Semi-Arid Tropics
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1990

Purpose of Description

ICGS 1, also known as ICGV 87119, was released in 1990 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 Bihar, Haryana, Punjab, Rajasthan, and Uttar Pradesh states in India.

It has also been released by the State Varietal Release Committee as "Spring Groundnut 84" (SG 84) for the spring-season (Feb-Jun) cultivation in Punjab. Its performance in the summer-season cultivation in Uttar Pradesh was very encouraging.

Origin and Development

ICGS 1 was bred and developed at ICRISAT Center. It originates from a single-plant selection made in a natural hybrid population of an Indian variety Robut 33-1 (now known as Kadiri 3) in 1977/78. The single-plant selection was grown in progeny rows for two seasons following the pedigree method and later advanced to uniformity by bulk pedigree method. Its pedigree is (Robut 33-1)-7-4-B₁-B₁-B₁-B₁-B₁-B₁-B₁-B₁-B₁-B₁. Kadiri 3 is an early-maturing virginia-type variety. The other parent of ICGS 1 is unknown, but may have been a spanish-type variety since the natural hybrids were identified by the presence of flowers on the main axis, and sequentially branched Spanish forms were subsequently observed in the segregating generations.

Performance

ICGS 1 has shown, on an average, 17% pod yield advantage over the national control variety, JL 24, in four years (1981-84) of rainy-season testing in the All India Coordinated Research Project on Oilseeds (AICORPO) trials in India (Table 1). It was also found to be superior to other control varieties: superior by 36% to AK 12-24 and by 11% to J 11.

In the spring-season tests (Feb-Jun) at Punjab Agricultural University, Ludhiana during 1982-85, ICGS 1, tested as Spring Groundnut 84, produced an average pod yield of 2.35 t ha⁻¹, outyielding the control variety AK 12-24 by 93% (Table 2). It recorded a mean pod yield of 1.8 t ha⁻¹ in on-farm trials in Punjab. The highest pod yield recorded in these trials was 2.64 t ha⁻¹.

Plant Characters

ICGS 1, which belongs to the Spanish botanical group, has decumbent 2-decumbent 3 growth habit with sequential flowering and medium-to-small dark green, elliptic leaves. It has 4-5 primary and 2-4 secondary branches. It matures in 112 days in the rainy season, and in 120 days in the spring season.

ICGS 1 has shown average recovery for pod yield from midseason drought and field tolerance to bud necrosis disease.

Pod/Seed Characters

ICGS 1 has mainly 2-seeded, medium-sized attractive pods with slight-to-moderate constriction, none-to-slight beak, and smooth-to-slight reticulation. It has a shelling turnover of 70%. Its seeds are tan in color with a 100-seed mass of 35 g. They contain on average 51% oil and 21% protein. The oil quality is good with an oleic/linoleic acid ratio of 1.44.

Table 1. Performance of ICGS 1 and control varieties in AICORPO trials, Zone I (Bihar, Haryana, Punjab, Rajasthan, and Uttar Pradesh), rainy seasons, 1981-84.

Trials ¹	Year	Variety	Mean pod yield (t ha ⁻¹)	Increase in pod yield over control varieties (%)		
				JL 24	J 11	A1t 12-24
IET(SB)	1981	ICGS 1	2.24	9.8	-0.1	- ²
CVT (SB)	1982	ICGS 1	2.53	6.3	22.0	-
NET (SB)	1983	ICGS 1	2.05	7.4	-	39.2
NET (SB)	1984	ICGS 1	2.47	45.4	-	33.3
Average % increase in pod yield				17.2	10.9	36.2

1. IET = Initial Evaluation Trial; CVT = Coordinated Varietal Trial; NET = National Elite Trial; SB = Spanish bunch.

2. = Not tested.

Source:

- Annual Progress Report, Groundnut, 1981/82. Annual Kharif Oilseeds Workshop, 1982. AICORPO, Directorate of Oilseeds Research, Rajendranagar, Hyderabad 500 030, Andhra Pradesh, India. p. 37-48.
- Annual Progress Report, Groundnut, 1982/83. Annual Kharif Oilseeds Workshop (Groundnut, Sesame, Niger, and Sunflower) 1983. AICORPO, Directorate of Oilseeds Research, Rajendranagar, Hyderabad 500 030, Andhra Pradesh, India. p. 60-63.
- Annual Progress Report, Groundnut, 1983/84. Annual Kharif Oilseeds Workshop (Groundnut, Sesame, Castor, Sunflower, and Niger) 1984. AICORPO, Directorate of Oilseeds Research, Rajendranagar, Hyderabad 500 030, Andhra Pradesh, India. p. 101.
- Annual Progress Report, Groundnut, 1984. XXVI Annual Kharif Oilseeds Workshop (Groundnut, Sesame, Niger, and Sunflower) 1985. AICORPO, Directorate of Oilseeds Research, Rajendranagar, Hyderabad 500 030, Andhra Pradesh, India. p. 48.

Table 2. Performance of "Spring Groundnut 84" (ICGS 1) and local variety, AK 12-24, during spring (Feb-Jun) in Punjab, 1982-85.

Varieties	Pod yield (t ha ⁻¹)				Average	Increase in pod yield over AK 12-24 (%)
	1982	1983	1984	1985		
ICGS 1	2.37	2.44	2.07	2.50	2.35	93
AK 12-24	1.30	1.41	0.85	1.30	1.22	

Source: A proposal for the release of "Spring Groundnut 84." Punjab Agricultural University, Ludhiana, Punjab, India

Plant Material Descriptions from ICRISAT

Leaflets in this series provide brief descriptions of crop genotypes identified or developed by ICRISAT, including:

- germplasm accessions with important agronomic or resistance attributes;
- breeding materials, both segregating and stabilized, with unique character combinations; and
- cultivars that have been released for cultivation.

These descriptions announce the availability of plant material, primarily for the benefit of the Institute's cooperators. Their purpose is to facilitate the identification of cultivars and lines and promote their wide utilization. Requests should be addressed to the Director General, ICRISAT, or to appropriate seed suppliers. Stocks for research use issued by ICRISAT are sent to cooperators and other users free of charge.

ICRISAT is a nonprofit, scientific, research and training institute receiving support from donors through the Consultative Group on International Agricultural Research. Its major mandate is to serve as a world center for the improvement of grain yield and quality of sorghum, millet, chickpea, pigeonpea, and groundnut, and to act as a world repository for the genetic resources of these crops. The plant materials announced in these leaflets are end-products of this work, which is aimed at enhancing the agricultural productivity of resource-poor farmers throughout the semi-arid tropics.