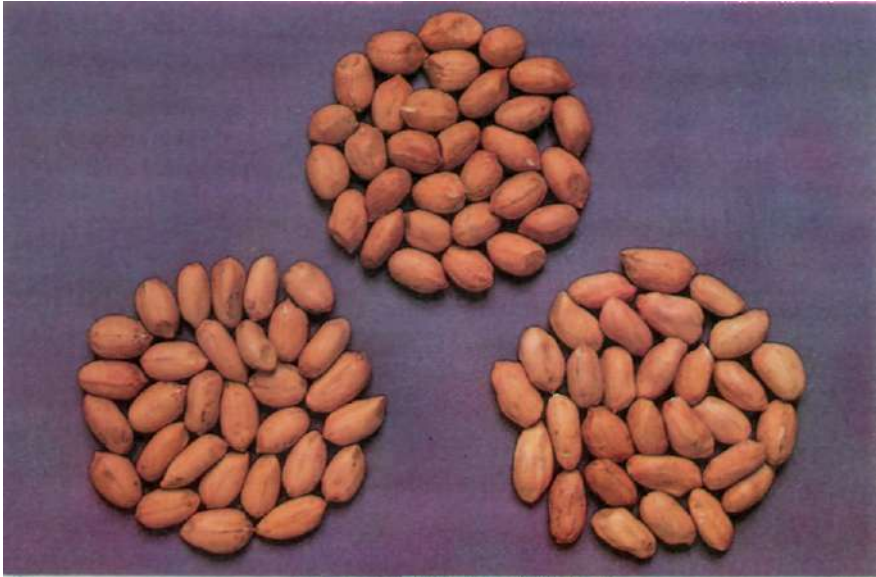

Groundnut Varieties: Nikoklia (ICGV 88438), Koukolia (ICGV 89214), and Gigas (ICGV 91098)

- Released for irrigated summer season cultivation in the coastal region of Paphos, Cyprus
- Matures in 126-136 days
- Average shelling turnover 65-71%
- Average 100-seed mass 102-127 g
- Average oil content 50-53%, and protein content 25-27%
- Tolerant of lime-induced iron chlorosis



ICRISAT

Plant Material Description no. 70

International Crops Research Institute for the Semi-Arid Tropics
Patancheru 502 324, Andhra Pradesh, India

1996

Purpose of description

Nikoklia (ICGV 88438), Koukolia (ICGV 89214), and Gigas (ICGV 91098) were released in 1995 for summer season cultivation with irrigation in the coastal region of Paphos, Cyprus.

Origin and development

ICGV 88438 is an advanced breeding line introduced in 1987 at ICRISAT Asia Center (IAC), Patancheru, India from the North Carolina State University, Raleigh, USA. It was assigned an ICGV number after initial multiplication at IAC. ICGV 89214 and ICGV 91098 were developed at IAC using the bulk pedigree method. The pedigrees of these varieties are:

Nikoklia GP NC 343 x NC Ac 17367

Koukolia (ICGV 87123 x ICG 6150) F₂-B₂-B₂-B₂-B₂-B₃

Gigas (ICGV 86564 x ICGV 87152) F₂-B₂-B₂-B₃-B₂-B₁-B₃-B₁

Performance

In 6 years (1990-95) of yield trials conducted across 10 environments in Cyprus, the seed yield of Nikoklia averaged 3.66 t ha⁻¹ and that of Koukolia 3.86 t ha⁻¹, compared with 3.31 t ha⁻¹ of the local control. Gigas was evaluated for 3 years across five environments. It gave an average seed yield of 3.57 t ha⁻¹ compared with 3.46 t ha⁻¹ of the local control. Shelling turnover in these varieties ranges from 65 to 71%, and 100-Seed mass from 102 to 127 g (Table 1).

When evaluated during the rainy (1988-91) and postrainy (1988/89-1991/92) seasons across 2-10 environments in India, these varieties produced average pod yields of 2.10-2.40 t ha⁻¹ compared with 1.91-2.30 t ha⁻¹ of the local control Chandra. They also had a higher 100-seed mass than Chandra (Table 2).

Plant characters

All the three varieties belong to the Virginia botanical group.

Nikoklia has a Decumbent 3 growth habit with medium-sized, green to light green ovate leaves. It averages 7 primary and 7 secondary branches. Plant height and canopy breadth are both 30 cm.

Koukolia has an Erect growth habit with large, dark green obovate leaves. It averages 8 primary and 4 secondary branches. Plant height and canopy breadth are 35 and 45 cm.

Gigas has a Decumbent 3 to Erect growth habit with medium-sized, green to dark green obovate leaves. It averages 11 primary and 8 secondary branches. Plant height and canopy breadth are 32 and 45 cm.

While Nikoklia matures in 126 days, Koukolia and Gigas take 136 days to reach maturity in Cyprus. They are tolerant of lime-induced iron chlorosis.

Pod/seed characters

Nikoklia has large, 2-seeded pods with moderate beak and constriction, and moderate to prominent reticulation.- The average shelling turnover is 71%, with a 100-seed mass of 103 g. The seeds are pale tan in color.

Koukolia has large, mostly 2-seeded pods characterized by very prominent reticulation, absent to slight beak, and no constriction. The average shelling turnover is 70%, and the 100-seed mass, 102 g. Its seeds are light tan.

Gigas has large, mostly 2-seeded pods with moderate beak and constriction, and prominent reticulation. The average shelling turnover is 65%. The seeds are pale tan, with a 100-seed mass of 127 g.

The quality characteristics of these varieties are given in Tables 1 and 2.

Table 1. Performance of groundnut varieties Nikoklia (ICGV 88438), Koukolia (ICGV 89214), Gigas (ICGV 91098), and the local control, 1990-95, Cyprus.

Variety	Number of environments	Seed yield (t ha ⁻¹)	Shelling turnover (%)	100-seed mass (g)	Oil content (%)	Protein content (%)	Oleic/linoleic fatty acid ratio ¹
Nikoklia	10	3.66	71	103	50	27	2.20
Koukolia	10	3.86	70	102	53	25	1.42
Local	10	3.31	66	81	49	23	1.45
Gigas	5	3.57	65	127	52	27	1.21
Local	5	3.46	68	80	49	23	1.45

1. Reported from an evaluation over a single season.

Table 2. Performance of groundnut varieties Nikoklia (ICGV 88438), Koukolia (ICGV 89214), Gigas (ICGV 91098), and Chandra the local control, rainy (1988-91) and post-rainy (1988/89-1991/92) seasons, India.

Variety	Number of environments	Pod yield (t ha ⁻¹)	Shelling turnover (%)	100-seed mass (g)	Oil content (%)	Oleic/linoleic fatty acid ratio ¹
ICGV 88438	10	2.10	67	80	49	2.4
Chandra	10	1.91	66	72	47	1.7
ICGV 89214	7	2.11	63	85	47	1.5
Chandra	7	2.00	64	70	48	1.4
ICGV 91098	2	2.40	47	88	46	1.4
Chandra	2	2.31	56	67	47	1.1

1. Average of six locations for ICGV 88438, and two locations for ICGVs 89214 and 91098.



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**Plant Material Descriptions
from the
International Crops Research Institute for the Semi-Arid Tropics**

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
- 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 breeding lines and to promote their wide utilization. Requests for seed should be addressed to the Director General, ICRISAT, or to appropriate seed suppliers. Materials for research are sent by ICRISAT to cooperators and other users free of charge.