
Chickpea Desi Variety ICCV 82108

- Released as 'Kalika' in 1990 in Nepal
- High-yielding and widely adapted variety
- Double-podded with medium-sized seed
- Resistant to fusarium wilt
- Tolerant of root rots, botrytis gray mold, and *Helicoverpa* pod borer
- Medium-duration



ICRISAT

Plant Material Description no. 56

International Crops Research Institute for the Semi-Arid Tropics
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ICCV 82108 is a high-yielding, and double-podded desi variety which has performed well over a wide range of climatic conditions in Nepal. It was released in Nepal in 1990 for general cultivation.

ICCV 82108 is resistant to race 1 of *Fusarium oxysporum* and is relatively less susceptible to *Helicoverpa armigera* pod borer, gray mold (*Botrytis cinerea*) and root-knot nematode (*Meloidogyne* spp) than the control, Dhanush. It has shown good adaptation to irrigated and rainfed conditions, and to late sowing.

Origin and Development

ICCV 82108 was developed by pedigree selection from a cross made in 1976 at ICRISAT Asia Center between segregating F₂ plants of crosses JG 62 x WR 315 and P 1363 x PRR 1. The F₂ population was screened in a multiple disease-infested field that had a high incidence of fusarium wilt, and *Rhizoctonia bataticola*, *Rhizoctonia solani*, and *Fusarium solani*. Single-plant selection was followed until F₅ when it was bulked as selection no. ICCX-761470-BP-1P-BP-BP and supplied as an entry (ICCL 82108) in the International Chickpea Cooperative Trial to the National Grain Legume Research Program (NGLRP), Nepal, in 1985/86.

Synonym

Kalika.

Performance

ICCV 82108 showed better tolerance for soil acidity, and soil-borne and foliar diseases than the local cultivars at the Agricultural Research Stations of Rampur and Parwanipur, Nepal, in 1985/86. In the national multilocal yield trials from 1986/87 to 1989/90, it produced a mean seed yield of 1.36 t ha⁻¹ which was 11% higher than that of the control, Dhanush (Table 1).

Table 1. Mean seed yield of ICCV 82108 (Kalika) and control, at different locations in Nepal, 1986/87-1989/90.

Cultivar	Seed yield (t ha ⁻¹)				Weighted mean
	1986/87	1987/88	1988/89	1989/90	
ICCV 82108	1.64	1.62	1.38	0.83	1.36
Dhanush (control)	1.56	1.33	1.35	0.64	1.22

Source: NGLRP Annual Reports, 1987 to 1990.

In the farmers' field trials, 1987/88-1989/90, ICCV 82108 maintained its superiority over the control (Table 2). The highest yield produced by ICCV 82108 under irrigation was 3.46 t ha⁻¹, while the mean chickpea yield in Nepal is 600 kg ha⁻¹.

Table 2. Mean seed yield of ICCV 82108 (Kalika) and control in farmers' field trials at different locations in Nepal, 1987/88-1989/90.

Cultivar	Seed yield (t ha ⁻¹)			Weighted mean
	1987/88	1988/89	1989/90	
ICCV 82108	1.89	1.38	0.93	1.61
Dhanush (control)	1.55	1.35	0.79	1.43

Source : NGLRP Annual Reports, 1988 to 1990.

Plant Characters

ICCV 82108 has a semi-spreading growth habit and moderate plant height (Table 3). The plant is green and has slight anthocyanin pigmentation. It has two dark pink flowers per pod per pedicel on the lower nodes. It has compound leaves with medium-sized leaflets. Like Dhanush, ICCV 82108 flowers in 80-90 days after sowing and matures in 150-160 days depending upon the growing conditions.

Table 3. Phenological and agronomic characteristics of ICCV 82108 and control recorded in Nepal and ICRISAT Asia Center.

Cultivar	Days to		Plant height (cm)	100-seed mass (g)	Wilt (%)
	50% flowering	Maturity			
ICCV 82108	89	152	48	19	14
Dhanush (control)	91	150	38	11	100

Source: NGLRP Annual Report, 1990

Seed Characters

The seeds are dark brown and medium in size, with a mean 100-seed mass of 19 g (range 16-21 g) compared with 11 g for Dhanush. The breeder seed of ICCV 82108 (Kalika) is maintained by NGLRP, Rampur, Nepal.



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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.