
Chickpea

Kabuli Variety ICCV 6



- **High yield and wide adaptation**
- **Resistant to fusarium wilt and tolerant of root rots**
- **Tolerant of *Heliothis* pod borer**
- **High nodulation capacity**
- **Well suited for both irrigated and rainfed areas**
- **Adapted to normal and late sowing**



ICRISAT

Plant Material Description no. 12

International Crops Research Institute for the Semi-Arid Tropics
Patancheru, Andhra Pradesh 502324, India

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Purpose of Identification

A high-yielding and wilt-resistant kabuli variety identified for release in Central and North-West Plain zones of India.

Origin and Development

ICCV 6 was developed by pedigree selection from a cross of L 550 (ICC 4973) and L 2 (ICC 4965) made in 1973/74. Following single plant selection in F₂ to F₆ generations at ICRISAT Center, Patancheru, and at Hisar, it was identified as resistant to wilt in a wilt-sick plot and was bulked in the F₇ generation as selection no. ICCX 7385-15-1-1H-1P-BP. In 1980/81 it was tested in a replicated yield trial at Hisar in which it ranked first out of 49 entries. It was contributed as an entry in the coordinated varietal trial (kabuli) of the All India Coordinated Pulses Improvement Project in 1981/82.

Synonyms. ICCX 7385-15-1-1H-1P-BP; ICC 32.

Performance

ICCV 6 was tested in the All India Gram Coordinated Varietal Trial—Kabuli (GCVT-K) from 1981/82 to 1984/85. In the Central zone of India it produced a mean-seed yield of 2.04 t ha⁻¹ compared with 1.81 t ha⁻¹ of the check cultivar L 550 over a period of 3 years from 1981/82 to 1983/84 (Table 1). It was also tested in the North-West Plain zone of India from 1981/82 to 1984/85 where it gave a mean seed yield of 2.05 t ha⁻¹ as against 1.69 t ha⁻¹ of L 550 (Table 2).

After its identification for release in the Central zone, it was evaluated in minikit trials in farmers' fields in Madhya Pradesh state where ICCV 6 (1.59 t ha⁻¹) outyielded the check L 550 (1.22 t ha⁻¹) by a margin of 30%.

Table 1. Mean seed yield (t ha⁻¹) of ICCV 6 and L 550 in the Kabuli Coordinated Varietal Trial, Central Zone, India, at several locations, from 1981/82 to 1983/84.

	1981/82	1982/83	1983/84	Weighted mean
ICCV 6	1.19	5.21	1.43	2.04
L 550	0.99	4.83	1.28	1.81

Table 2. Mean seed yield (t ha⁻¹) of ICCV 6 in the Kabuli Coordinated Varietal Trial, North-West Plain Zone, India, at several locations, from 1981/82 to 1984/85.

	1981/82	1982/83	1983/84	1984/85	Weighted mean
ICCV 6	1.46	No data	2.86	2.24	2.05
L 550	0.98	No data	2.41	2.04	1.69

Plant Characters

ICCV 6 is semierect, of moderate plant height with predominantly basal branching. Being a kabuli, plant parts are green without anthocyanin pigmentation, and the flowers are white.

The variety flowers between 60 and 70 days after sowing in central India, and between 75 and 85 days in northern India. It matures in 130-170 days depending on the growing conditions in different zones.

ICCV 6 is the first kabuli variety that combines high yield potential with resistance to races 1 and 4 of *Fusarium oxysporum* wilt (Table 3) and a high degree of tolerance of root rots.

It is tolerant of attack by *Heliothis* pod borer (3.4% borer damage compared with 9.2% in L 550 at Hisar in 1984/85), and is also relatively tolerant of soil salinity. It has a high nodulation capacity. ICCV 6 has given high yields under both irrigated and rainfed conditions. It is also adapted to late sowing.

Table 3. Incidence of *Fusarium oxysporum* wilt (%) in ICCV 6 at ICRISAT Center in 1977/78 and 1982/83 through 1985/86.

	1977/78	1982/83	1983/84	1984 ¹	1984/85	1984/85
ICCV 6	10.3	19.0	19.0	7.0	10.3	25.8

1. Pot screening.

Seed Characters

The seeds of ICCV 6 are salmon white and shaped like an owl's head. They are of medium size with a mean 100 seed mass of 20 g, ranging from 18 to 22 g. Comparative data for L 550 are similarly around 20 g.

The seeds are attractive to consumers, with a mean protein content of 21.3%, compared with 20.3% for L 550. The sugar, starch, and ash contents of ICCV 6 are similar to those of L 550. Cooking the seeds takes a slightly longer time than that required for L 550 seeds.

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 educational 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.