
Pigeonpea Variety ICPL 151

- **High yielding**
- **Suitable for double cropping system**
- **Short duration (120-130 days)**
- **Short statured with determinate growth habit**
- **Resistant to sterility mosaic disease**
- **Large creamy seeds**



ICRISAT

Plant Material Description no. 41

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

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ICPL 151 is a short-duration, short-statured, high-yielding pigeonpea variety with resistance to sterility mosaic disease. It was released in 1989 as Jagriti for cultivation in the central zone of India.

Origin and Development

ICPL 151 was developed by pedigree selection from a cross ICP 6997 x Prabhat made in 1974 at ICRISAT Center. F₁ and F₂ generations were grown at ICRISAT Center and non-selected short-duration F₃ segregants bulk harvested in 1976 for sowing at ICRISAT's Cooperative Research Station, Hisar, Haryana, India, for pedigree selection. The single plant progeny was bulked in the F₆ generation as selection number ICPX 740092-B-16-1-HB.

Synonyms

Jagriti and ICPX 740092-B-16-1-HB.

Plant Characters

ICPL 151 is a semi-spreading, determinate short-statured, and compact plant. Its stem is green. Its leaves are narrow and dark green. This variety has yellow flowers with red streaks on the back of the standard petal. Its pods are green with dark purple streaks, which are borne in large loose clusters at the top of branches. It matures in about 130 days in the central zone of India (Table 1).

Seed Characters

Compared with the control variety UPAS 120, the seeds of ICPL 151 are large, round, and cream colored with a brown eye, with an average 100-seed mass of 10 g.

Performance

This variety was tested in the 1981 All India Coordinated Pulses Improvement Project (AICPIP) trials. In the central zone of India, it gave a seed yield of 1.03 t ha⁻¹ compared with the 1.18 t ha⁻¹ seed yield of the control cultivar UPAS 120 (Table 2).

Table 1. Characteristics of pigeonpea variety ICPL 151 and the control cultivar UPAS 120 in the All India Coordinated Pulses Improvement Project (AICPIP) trials, India, 1981-85.

Zone	Genotype	Time to 50% maturity (days)		Plant height (cm)		100-seed mass (g)	
		Mean	Range	Mean	Range	Mean	Range
Northwest plains	ICPL 151	136	129-139	159	150-175	10.6	10.3-11.9
	UPAS 120	139	133-144	201	197-215	6.7	6.6- 7.8
Central	ICPL 151	129	105-140	92	77-118	10.0	8.9-11.0
	UPAS 120	127	105-144	108	88-159	7.0	6.3- 6.9

ICPL 151 is suitable for rotation with wheat in northern India. It also performed well (2.60 t ha⁻¹) under late-sown conditions at Hisar. In large-scale demonstration plots at Hisar and Gwalior, the mean yield of ICPL 151 was 3.68 t ha⁻¹.

In on-farm trials on wheat-pigeonpea crop rotation conducted in Madhya Pradesh, ICPL 151 gave a seed yield of 1.50 t ha⁻¹ which was 11% higher than that of the control cultivar UPAS 120 (Table 3).

Table 2. Mean seed yields of pigeonpea variety ICPL 151 and the control cultivar UPAS 120 in the All India Coordinated Pulses Improvement Project (AICPIP) trials, India, 1981-84.

Zone	Year	No. of locations	Mean seed yield (t ha ⁻¹)	
			ICPL 151	UPAS 120
Central	1981	1	1.05	0.93
	1982	7	0.90	0.91
	1983	3	1.32	1.90
Weighted mean			1.03	1.18
Northwest plains	1981	5	2.01	2.02
	1982	7	2.04	2.20
	1984	2	2.34	2.29
Weighted mean			2.14	2.07

Table 3. Mean seed yields (t ha⁻¹) of pigeonpea (PP)-wheat rotation cropping system in farmers' fields, Madhya Pradesh, India, 1982/83 to 1985/86 cropping seasons.

Genotype	1982/83		1983/84		1984/85		1985/86		Mean	
	PP	Wheat	PP	Wheat	PP	Wheat	PP	Wheat	PP	Wheat
ICPL 151	1.81	3.70	1.21	3.05	1.54	2.87	1.44	3.64	1.50	3.30
Control (UPAS 120)	1.75	3.55	0.98	3.06	1.40	2.77	1.25	3.55	1.35	3.22
SE	±0.10	±0.07	±0.05	±0.04	±0.06	±0.05	±0.03	±0.05		
Mean	1.80	3.61	1.14	3.06	1.50	2.85	1.41	3.61		
CV (%)	12.1	4.0	8.1	2.4	8.1	3.5	4.3	2.9		

Source: Srivastava et al. (1988).

Reference

Srivastava, M.P., Tiwari, A.S., and Bansal, K.N. 1988. Pigeonpea-wheat rotation in northern Madhya Pradesh, India. International Pigeonpea Newsletter 7:21-22.



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 to 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. It serves as a world center for the improvement of grain yield and quality of sorghum, pearl millet, finger millet, chickpea, pigeonpea, and groundnut, and acts 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.