

---

# Sorghum Variety ICSV 145

---



- Tall (1.8-2.4 m)
- Matures in 105-110 days
- Resistant to *Striga asiatica* (White-flowered)
- Particularly recommended for *Striga*-endemic areas of India
- Acceptable *roti* and excellent porridge quality



ICRISAT

Plant Material Description no.17

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

1988

## Purpose of Description

ICSV 145 was recommended in 1987 by the All India Coordinated Sorghum Improvement Project (AICSIP) for cultivation in *Striga*-endemic sorghum-growing areas of India. It has been specifically bred for resistance to the white-flowered strain of *Striga asiatica* that occurs in India.

## Origin and Development

ICSV 145 is a pure line variety selected from a cross between IS 18475 (555), a low stimulant producer that is resistant to *S. asiatica* and IS 18468 (168), a high-yielding adapted variety released in India as CSV 5 . The succeeding segregating ( $F_2$ - $F_6$ ) generations of this cross were sown in *Striga-sick* fields at ICRISAT Center (Patancheru), Akola, Bijapur, and Bhavanisagar in India, making it possible to select *Striga*-resistant single plants with desirable agronomic traits. The selection No. 1-1 which appeared to be uniform across locations was named as SAR 1 in 1981. ICSV 145 was tested in AICSIP advance *Striga* trials as SPV 694 from 1982 to 1986 and was found to be highly resistant to *Striga* and to produce high grain yields in the *Striga-sick* fields (Table 1). In 1984, it was recommended for farmers' field testing particularly in *Striga*-endemic areas in the Indian states of Maharashtra, Andhra Pradesh, and Karnataka. ICSV 145 was recommended in 1987 for cultivation in the *Striga*-endemic areas of India.

**Synonyms:** SAR 1, SPV 694

**Table 1. *Striga* reaction (SR) and grain yield (Yield) under *Striga*-sick field conditions of ICSV 145 at six Indian locations.**

Cultivar	Akola		ICRISAT Center		Indore		Parbhani		Bijapur		Nandyal	
	SR <sup>1</sup>	Yield <sup>2</sup>	SR	Yield	SR	Yield	SR	Yield	SR	Yield	SR	Yield
ICSV 145	6	3200	1	3200	3	1900	3	6500	4	1200	1	4300
Resistant control N 13	2	2700	0	500	3	1400	0	3900	2	800	0	3900
<b>Susceptible controls</b>												
CSH 5	280	1300	88	2900	48	2400	55	5700	61	500	27	3700
CSH 1	242	1100	66	2800	52	1600	59	4600	99	200	27	3400

1. SR = Emerged *Striga* plants m<sup>-2</sup> averaged over seasons.

2. Yield = Yield (kg ha<sup>-1</sup>) averaged over seasons.

## Performance

ICSV 145 has been confirmed to be *Striga* resistant over locations and seasons and supported on an average 3 emerged *Striga* plants m<sup>-2</sup> as compared to 88 for CSH 1, and 95 for CSH 5, susceptible controls that are released sorghum hybrids in India. It yielded 2900 kg ha<sup>-1</sup> as compared to 2300 kg ha<sup>-1</sup> for CSH 1 and 2400 kg ha<sup>-1</sup> for CSH 5, under *Striga*-sick field conditions (over 10 multilocal trials). Under *Striga*-free conditions it yields 3100 kg ha<sup>-1</sup> as compared to 3700 kg ha<sup>-1</sup> for CSV 11, a released sorghum cultivar in India, ICSV 145 also yields a good quantity of green fodder (up to 12.2 t ha<sup>-1</sup>). For 3 years (1984,1985, and 1986) the variety was grown in farmers' field trials to test its stability for *Striga* resistance and grain yield. The farmers were satisfied with the *Striga* resistance and grain yield of ICSV 145.

## Plant Characters

ICSV 145 is a variety that takes about 63 to 65 days from germination to 50% flowering and matures in 105 to 110 days. The plants are 1.8 to 2.4 m tall and remain erect until the grain reaches maturity. The plants have tan pigmentation, moderately juicy stalks, and leaves of medium size with dull green midribs. The panicle is semi-compact and well exerted. The glumes are creamy white, they cover more than half the grain, and are free-threshing. The variety is moderately susceptible to diseases and insect pests, but is susceptible to grain molds. ICSV 145 responds well to nitrogenous fertilizers and can be sown to a population of 180 000 plants ha<sup>-1</sup> at a spacing of 45 x 15 cm.

## Seed Characters

ICSV 145 has round, medium-sized grains (100-seed mass = 2.7 g) of light creamy color. The pericarp is thin and lustrous. The grain contains about 10% protein and 3.25% lysine (100 g<sup>-1</sup> protein). *Roti* prepared from ICSV 145 are of good quality, and comparable to those prepared from CSV 11 and CSH 11. The porridge quality is excellent and comparable to that of M 35-1 (Maldandi).

### 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.