Pearl Millet Variety SDMV 89004

- **Medium height (1.7-2.2 m)**
- **Matures in 80-90 days**
- **Moderately resistant to ergot, smut, and downy mildew**
- **High tillering**
- **Recommended for Zimbabwe's semi-arid regions (Natural Regions IV and V)**

ICRISAT

Plant Material Description no. 64

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

1997

Purpose of description

SDMV 89004 was released in 1992 as PMV 2 by the Ministry of Agriculture, Lands and Rural Resettlement, Government of Zimbabwe, for general cultivation in the country. It is also being evaluated in farmers' fields in Botswana.

Origin and development

SDMV 89004 was developed by the Southern African Development Community (SADC)/ ICRISAT Sorghum and Millet Improvement Program (SMIP) at Matopos and Muzarabani, Zimbabwe, from a short-duration composite population constituted specifically for SADC countries in Zimbabwe, in 1985. The population was derived by random-mating for four seasons 174 medium-duration (85-100 days) superior varieties originating from ICRISAT (Patancheru, India and Niamey, Niger) and the SADC Region. Off-season facilities at Muzarabani were used to advance two generations per year.

In the 1986/87 cropping season, 361 S_1 progenies were selected and tested at Lucydale, Makoholi, Matopos, and Muzarabani. Nine high-yielding progenies were selected from the Muzarabani trial and recombined to constitute ICMV-SD 87014. Rigorous Grid Mass Selection for short duration, high tillering, large bold seeds, and long cylindrical compact panicles was done in 1989. The resultant variety was renamed SDMV 89004. From 1989 until its release in 1992, SDMV 89004 was improved every year.

Synonym. PMV 2

Performance

SDMV 89004 was widely tested for grain yield and resistance to major pests and diseases of pearl millet in Zimbabwe in 25 trials on 1-8 research stations for 4 years and on 10 sites (3 sites in 1990 and 7 sites in 1991) in communal areas for 2 years. Overall, it outyielded the local cultivar by 40% in on-station trials and by more than 100% in communal areas (Table 1).

Table 1. Mean grain yield of SDMV 89004, PMV 1, and the local cultivar, Zimbabwe, 1988-91.

Variety	Mean grain yield (t ha^{-1})					Number of sites	Superiority over PMV 1 (%)	Superiority over the local cultivar (%)
	1988	1989	1990	1991	Mean			
On-station								
SDMV 89004	2.30(1)[1]	3.04(8)	3.23(8)	2.22(8)	2.81	25	23.8	39.8
PMV 1	1.64(1)	2.52(8)	2.69(8)	1.68(8)	2.27	25	-	12.9
Local cultivar	0.52(1)	2.06(4)	2.44(8)	1.73(8)	2.01	21	-11.5	-
Informers'fields								
SDMV 89004	-	-	2.59(3)	2.15(7)	2.28	10	34.1	113.1
PMV 1	-	-	2.23(3)	1.48(7)	1.70	10	-	37.0
Local cultivar	-	-	1.48(3)	0.90(7)	1.07	10	-37.1	-

1. Figures in parentheses show number of test sites per season.

Plant characters

SDMV 89004 is medium in height (1.7-2.2 m) with a stem diameter of 30-35 mm (Table 2). Its plant spreads out during the first 3 weeks, after which it assumes an erect stature developing 3-5 productive tillers per plant. It flowers in 50-60 days and matures in 80-90 days. It has pale green leaves which are 50-60 cm long and 4-5.0 cm wide. Its panicles are 25-30 cm long, candle-shaped, compact, and nonbristled. SDMV 89004 is moderately resistant to ergot, smut, and downy mildew.

Table 2. Plant characteristics of SDMV 89004, PMV 2, and the local cultivar on 10 sites, Zimbabwe, 1988-91.

Variety	Days to flowering	Plant height (cm)	Tillering panicles plant^{-1}
SDMV 89004	54.0	186.5	3.3
PMV 1	60.5	133.0	3.9
Local cultivar	70.5	219.0	2.1

Seed characters

The grain is bold, obovate, and gray with a vitreous endosperm and an average 1000-seed mass of 8.3-11.3 g. Seed dormancy and tolerance for mold when ripening in humid conditions are adequate.

ICRISAT

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.

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