

SVPR.1 - A NEW SHORT DURATION COTTON (*Gossypium hirsutum*) VARIETY

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ABSTRACT

An improved short duration (135 days) cotton variety SVPR.1 superior to MCU.7 in yield, spinning properties and tolerance to major pests has been released for general cultivation in summer irrigated/rice fallow tracts of Tamil Nadu. This strain was developed by crossing MCU.7 x AC.129/2. SVPR.1 is a medium staple cotton with an average yield of 1542 kg/ha which is 34.9 per cent more than MCU.7.

KEY WORDS : Cotton, SVPR.1, Yield.

Cotton is grown during summer (February - March) under irrigated conditions in about 70000 ha in Tamil Nadu. In garden lands and in rice fallows, only short duration varieties ca. 135 days are preferred to suit the irrigation resources and cropping system. Under this situation, the yield level and nature of tolerance to major pests of the existing strain MCU.7 are generally low. With the object of developing a short duration cotton variety superior to MCU.7 under summer irrigated/rice fallows conditions, intensified research works were carried out at the Cotton Research Station (CRS) Srivilliputhur and the results are reported hereunder.

MATERIALS AND METHODS

Wide hybridisation programme was undertaken to develop high yielding short duration medium staple cotton varieties suitable for summer irrigated and rice fallow conditions. One promising hybrid derivative TSH.164 involving MCU.7 and AC.129/2 was isolated and evaluated in replicated yield trials at the CRS, Srivilliputhur in comparison with the existing strain MCU.7 from 1982 onwards. The culture TSH.164 was also tested in University Research Stations at Paiyur and Aduthurai under

summer irrigated conditions during 1986- 88. The culture was also entered in All India Co-ordinated Cotton Improvement Project (AICCIP) trials since 1987 and evaluated. The performance of TSH.164 was also assessed in 51 farmer's holdings under adaptive research trials (ART) in seven districts. Based on the superior performance, the culture TSH.164 was released as SVPR.1 cotton during 1991.

RESULTS AND DISCUSSION

Cotton TSH.164 (SVPR.1) was tested for its yield in 12 trials since 1982 at the CRS, Srivilliputhur. This culture recorded a mean kapas yield of 1542 Kg/ha as compared to 1143 Kg/ha in MCU.7 representing an increase of 34.9 per cent. In the three multi- locational trials conducted at the research station, SV PR.1 gave a mean kapas yield of 1286 Kg/ha which was 11.4 per cent more than MCU.7. In the 5 AICCIP trials and in 51 ART also, SVPR.1 substantiated its superiority over MCU.7 recording 32.7 and 12.0 per cent respectively (Table 1). The performance of this culture was encouraging in Kamarajar, Nellai Kattabomman, Dharmapuri, Madurai and V.O.Chidambaranar districts.

Table 1. Mean performance of SVPR.1 in different trials

Particulars	No. of trials	Kapas yield in kg/ha		
		SVPR.1	MCU.7	% age on MCU.7
1. Cotton Research Station, Srivilliputtur	12	1542	1143	134.9
2. TNAU - Research Station (MLT)	3	1286	1154	111.4
3. AICCIP Trials (Summer)	5	1560	1176	132.7
4. Adaptive Research Trials	51	1552	1386	112.0
Mean	71	1485	1215	122.2

Table 2. Fibre and spinning properties of SVPR.1

Particulars	Summer 89*		Summer 90*		Summer 89**	
	SVPR.1	MCU.7	SVPR.1	MCU.7	SVPR.1	MCU.7
2.5% Span length (mm)	26.7	25.1	27.2	24.4	25.8	23.9
Uniformity ratio %	48	50	47	48	48	49
Fineness						
a. Millitex	150	138	135	125	114	114
b. Micronaire value	3.80	3.50	3.43	3.18	2.9	2.9
Maturity Coefficient	0.73	0.69	0.68	0.68	0.62	0.64
Bundle strength (1/8" gauge)	22.9	24.3	-	-	25.6	25.5
CSP Value	2199	2107	2410	2157	2088	1964

* - Test conducted by Cotton Technological Laboratory, Coimbatore.

** - Test conducted by CTRL, Bombay.

The reaction of this culture to major pests and diseases under field and controlled conditions was tested during 1989 and 1990. Cotton SVPR.1 showed relatively low incidence of bollworms (11.6) and stem weevil (40.3%) than MCU (14.5%, 54.5% respectively) and was moderately resistant to *Alternaria* and bacterial leaf blight.

In respect of spinning and fibre tests performed both at the Technological Laboratories, Coimbatore and Bombay, the culture SVPR.1 was found to be distinctly superior to MCU.7 (Table 2).

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As such the cotton variety SVPR.1 is superior to the existing strain MCU.7 in respect of yield, and fibre properties. Besides this, it is short in duration (135 days) and medium in staple length as that of MCU.7

Thus the cotton variety SVPR.1 was identified to be a good substitute for MCU.7 under summer irrigated and rich fallow conditions.

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PAIYUR 2: A NEW RED GRAIN SORGHUM VARIETY FOR SALEM DISTRICT

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ABSTRACT

Paiyur 2 red grain sorghum is a new grain cum fodder variety suitable for cultivation in the rainfed tracts of salem district. It was tested as IS 15845, a pureline selection from germplasm accession, in the station as well as in the adaptive research trials. It has recorded an average yield of 2113 kg of grain and 8789 kg of fodder per ha in 90-95 days duration. The yield increase was 61 and 36 per cent for grain and fodder over the ruling variety Co4 respectively. The grain and fodder qualities are acceptable to the farmers. The incidence of shoot fly, stem borer, downy mildew, grain mould, sugary and charcoal rot was relatively less in the new variety. The earheads are semicompact and elliptical possessing medium sized grains.

KEY WORDS : Paiyur2, Red Grain Sorghum, Salem District

In Dharmapuri and Salem districts of the north western zone of Tamil Nadu, sorghum is being cultivated in an area of 1.52 lakh ha both under rainfed (70%) and irrigated conditions. In the rainfed areas of Dharmapuri district, the ruling land race in *Thalaivirichan cholam* (*Sorghum roxburghii* (L) Moench), Co2 and Co19. In Salem district,

kharif and *rabi* sorghum is covered with red grain sorghum *Sorghum subglabrescens* (L) Moench.) Co4. Intensive efforts were made to develop a high yielding short duration red grain sorghum variety superior to Co4 for grain and fodder and the results are reported.