

length were the major components contributing for the grain yield in finger millet. Number of fingers and finger length indirectly through ear weight had contributed to grain yield. (Tables 1a,1b). The present study also brought out the positive direct contribution of days to flowering in Co9 x Co13 and Co9 x Co7, plant height in Co9 x Co13, number of fingers in MS 2863 x MS 2655 and 100 grain weight in Co9 x Indaf 9 towards grain yield.

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## K 11 - A HIGH YIELDING KARUNGANNI COTTON VARIETY FOR TAMIL NADU

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#### ABSTRACT

A new high yielding Karunganni cotton culture, TKA 188 was released as K 11 variety by the Tamil Nadu Agricultural University during the year 1993. It is a double cross hybrid derivative, matures in 130 - 135 days and suitable for low fertile vertisols of Tamil Nadu. It is highly suitable for rainfed cultivation and also for black gram intercrop cultivation. It has recorded an average seed cotton yield of 1208 kg/ha as compared to 937 kg/ha by K 10 with an increase of 28.9 per cent. Since it is one week earlier possessing better pest resistance and higher yield than K 10, it has been released for general cultivation to replace K 10.

KEY WORDS : Karunganni cotton, new variety, K 11

Karunganni cotton *Gossypium arboreum* is a diploid desi cotton which is cultivated generally as rainfed in the tracts of low fertile vertisols of southern Tamil Nadu. The variety K 10 released during 1985 was the ruling variety and has occupied more than 99 per cent the *desi* cotton area. To further improve the qualitative and quantitative characters, the breeding work has been initiated.

#### MATERIALS AND METHODS

Hybridisation work was initiated at the Agricultural Research Station, Kovilpatti with the genotypes selected from the germplasm. During the year 1982, different F<sub>1</sub>s were crossed to get double cross hybrids. In the F<sub>4</sub> population, a promising line

TKA 188 was isolated from the double cross hybrid derivatives viz., 0794-1-D/11876/0794-1-D/H450. This culture was tested in station trials (ST), multi

Table 1. Summary of yield trials (1985 - 92)

	No.of Trials	TKA. 188	K.10 (Kg/ha)	Increase Over K.10(%)
Station Trials (1985 - 92)	16	1208	937	28.9
MLT (1988 - 90)	4	1600	1368	17.0
ART (1990 - 91)	10	638	595	7.0
ART (1991 - 92)	18	391	323	21.1
AICCIPT (1985 - 92)	16	1127	836	34.8
	64	993	812	22.3

MLT : Multilocation trials ; ART.: Adaptive research trial  
AICCIP : All India Co-ordinated Cotton Improvement Project trials

Table 2. Fibre and microspinning test results of TKA 188

Properties	CIRCOT, BOMBAY 1988		CIRCOT, CBE 1992		Mean	
	TKA 188	K.10	TKA 188	K.10	TKA 188	K.10
2.5 Span length (mm)	26.9	29.5	24.0	24.7	25.4	27.1
Uniformity Ratio %	52.0	51.0	46.0	48.0	49.0	49.5
Fineness (Micronaire Value)	5.9	5.6	4.3	4.9	5.1	5.2
Maturity	0.77	0.78	0.74	0.75	0.75	0.76
Co-efficient						
Bundle Strength	27.1	27.4	21.6	21.1	24.3	24.2
Tenacity 1/8" gauge						
Microspinning for						
Nominals (1) 30 <sup>g</sup>	2129	2160	---	---	2129	2160
(2) 40 <sup>g</sup>	---	---	1642	1440	1642	1440
Elongation	---	---	5.8	5.8	5.8	5.8
Remarks	Both Spinnable to 30 counts		TKA 188 is finer than K.10 and both spinnable for 30 <sup>g</sup>			

Table 3. Performance of TKA 188 in inter-cropping system

Culture		Yield (kg/ha)			Mean	% of increase of K.10
		87-88	88-89	89-90		
TKA.188	Seed cotton	1432	806	1887	1375	16
	Black gram Co5	297	32	139	156	--
K.10	Seed cotton	1258	768	1519	1182	--
	Black gram CO5	343	30	136	170	--

location trials (MLT) and AICCIPT (All India Co-ordinated Cotton Improvement Project trials) from 1985 onwards. Due to consistent performance, the culture was further evaluated in the farmers holdings of Southern districts of Tamilnadu.

## RESULTS AND DISCUSSION

The summary of various yield trials of TKA 188 with K 10 is presented in the Table 1. In the ST, TKA 188 has given a mean yield of 1208 kg/ha which was 28.9 per cent more than K 10. In all the 64 trials, TKA 188 has given 993 kg/ha compared to 812 kg/ha by K 10. In AICCIPT, also, TKA 188 showed its superiority with 34.8 per cent more yield than K 10. The culture has the duration of 130-135 days.

The fibre quality test results (Table 2) indicated that TKA 188 is spinnable to 30S counts and finer than K 10. The culture TKA 188 was scored for four years for major pests like jassids, stem weevil and bollworms. It was resistant to jassid and tolerant to stem weevil and boll worms. It was also studied for suitability of intercropping with black gram for three years from 1987-90 (Table 3). It has given a mean cotton yield of 1345 kg/ha which was 16 per cent more than K 10.

Based on the above consistently superior performance over K 10, TKA 188 culture has been released as Karunganni 11 (K 11) cotton during the year 1993 for general cultivation in Tamil Nadu.

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