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ARKA JYOTHI - A PROMISING WATERMELON HYBRID

Watermelon is grown over a large area in central and northern districts of Kerala especially along the river beds of Bharathappuzha during summer. In order to boost up total production and productivity, improved cultivars especially Fl hybrids need to be introduced and evaluated. Hybrid vigour in watermelon was first reported by Yanagisawa and Hosono (1951) for earliness, high yield, disease resistance and transportability. A few promising watermelon hybrids are recently evolved in India both by government and private institutions. There is scope for evaluating these hybrids under Kerala conditions and to select better ones for recommendation. A study was undertaken at the College of Horticulture, Vellanikkara during 1987 to 1989 to evaluate and identify watermelon Fl hybrids possessing higher yield and quality.

Five watermelon hybrids Madhu, Milan, MHW 4, MHW 5 and Arka Jyothi were grown in a randomised block design with four replications during January-April 1987, February-May 1988 and November 1988-February 1989 seasons. MHW 4 could not be evaluated during the second season. Seeds were sown in trenches of 6 m long, at a distance of 3 m between trenches. There were 12 plants/trench/replication at a spacing of 1 m between hills and 2 seedlings/hill. Uniform cultural and plant protection practices were given as per the Kerala Agricultural University package of practices recommendations (KAU, 1986).

Table 1. Mean yield of hybrid watermelons

Hybrids	Source	Fruit yield (kg/18 m²)			Pooled mean (E1+E3)	Overall mean (E1+E2+E3)
		El	E2	E3		
Madhu	Indo-American Hybrid seeds, Bangalore	79.90	40.98	51.33	65.61	57.40
Milan	Indo-American Hybrid seeds, Bangalore	75.79	30.76	51.28	63.53	52.61
MHW 4	Maharashtra Hybrid Seeds Co. Jalna	68.64	-	42.23	55.43	55.44
MHW 5	Maharashtra Hybrid Seeds Co. Jalna	61.45	15.76	40.76	51.11	39.22
Arka Jyothi	IIHR, Bangalore	85.83	41.40	73.63	79.73	66.95
CD (0.05)		16.01		115.80	20.72	
Season X hybrid interactions					NS	

El = January-April 1987 E2 = February-May 1988 E3 = November 1988-February 1989

Table 2. Fruit characteristics of watermelon F_1 hybrids

Hybrids	Mean fruit weight (kg)	Fruit surface	Fruit shape	Flesh colour	TSS (°Brix)
Madhu	6.87	Dark green, smooth	Oblong	Deep red	10.50
Milan	5.04	Light green, smooth	Oblong	Light red	9.13
MHW 4	6.50	Dark green, smooth	Oblong	Deep red	9.94
MHW 5	4.68	Dark green, smooth	Oblong	Deep red	9.08
Arka Jyothi	9.88	Dark green with light green stripes, smooth	Round	Deep red	9.92

Details on yield and their statistical analyses are furnished in Table 1 and the fruit characteristics in Table 2. The Fl hybrids differed significantly for their total yield during all the three seasons and also in the pooled analysis. Pooled analysis over two seasons indicated that Arka Jyothi gave the highest yield (79.73 kg/18 m^2), which was on par with Madhu (65.61 kg/18 m^2) and Milan (63.53 kg/18 m^2). MHW 4 and MH 5 yielded the lowest. The mean fruit weight and total soluble solids (TSS) were also high for Arka Jyothi and Madhu (Table 2). Nath and Dutta (1970) identified Arka Jyothi (IIHR 20 x Crimson Sweet) as a promising Fl hybrid among five hybrids and six parents evaluated. Arka Jyothi has already been recommended for commercial cultivation (Chadha and Ramphal, 1989) and is doing well in some parts of northern India too (Seshadri, 1989). It has performed very well under Kerala conditions also. The hybrid can be recommended for commercial cultivation in Kerala.

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