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SPACING STUDIES IN TURMERIC

P. V. BALASHANMUGAM and K. VANANGAMUDI

A spacing experiment was conducted with CO 1 turmeric to determine the optimum spacing for obtaining maximum yield of fresh rhizome. The study indicated that a wide spacing of 50 X 50 X 15 cm was found to be optimum for recording 48, 800 kg of fresh rhizome/ha.

Spacing plays an important role in turmeric yield per unit area. A close spacing of 30 cm between rows gave higher yield (Anjaneyulu and Krishnamurthy, 1979). contrarily, a spacing of 45-60 cm between rows was also found to be the optimum (Aiyadurai, 1966), This study was conducted at Agricultural Research Station, Bhavanisagar to determine the optimum spacing for turmeric growing areas of periyar and Coimbatore districts of Tamil Nadu.

MATERIALS AND METHODS

The experiment was carried out during June 1983 using randomised block design with five replications The variety chosen for this study was CO 1. The details of the spacing treatments are shown in Table 1

The plot size was 6 m X 4m .The number of plants per 24 sq. m plo were 480, 440, 400, and 360 for S_1 S_2, S_3, and S_4, respectively. Broad ridges aud furrows were prepared to plant the seed rhizomes. Uniform

basal fertilizer dose of 25 tonnes/ha of FYM and 60 Kg each of P_2O_5 and K_2O/ha were given. The application of nitrogen @ 120 kg / ha in the form of urea was done in five equal split doses one as basal and the rest on 30, 60, 90 and 120days afterplanting.

Observations on plant height in cm and number of leaves and tillers/ plant were recorded in five randomly selected plants on 180th day. At harvest, the economic characters such as number and weight in kg of mother rhizomes as well as fingers/ plant and yield in kg/ha were recorded The data were analysed by the F test for significance.

RESULTS AND DISCUSSION

The results are presented in Table 1. Regarding morphological characters. the plant height and the number of leaves and tillers/plant differed significantly among the different spacing levels. The plant height was maximum (160 . 8 cm in a closer spacing of 20 X 50 X 15. cm,. While the number of leaves and tillers/plant were maximum (25.6 and 5.2) in a wider spacing of 50 X 50 X 15 cm. It is very clear from the data that a decreasing trend was observed in respect of plant height with the increase in spacing and with regard to the number of leaves and tillers/plant, an increasing trend was observed. According toAnjaneyulu and Krishnamurthy (1979), the closer spacing effectively increased the plant height and wider spacing had more number of tillers/plants.

The differences among the number and weight of mother and finger rhizomes/plant as well as the yield/ha were found to be significant due to spacing treatments. The number of mother and finger rhizomes varied from 1 . 9 and 10 . 1 (20 x 50 x 15 cm) to 4 · 9 and 18 . 3 (50 x 50 x 15 cm), respectively. A wider spacing recorded maximum weight of mother and finger rhizomes (0 . 230 and 0 . 690 kg/plant, respectively). A maximum yield of 48 , 800 kg of fresh rhizome/ha was recorded in a wider spacing of 50 x 50 x 15 cm and this was on par with the yield recorded at 40 x 50 x 15 cm and 30 x 50 x 15 cm spacing levels. The yield was minimum in a closer spacing of 20 x 50 x 15 cm (38 · 150kg/ha). The number of plants/ha ranged from 1 ,50,120 to 2 ,00, 160. Rao *et al* (1975) found that in rich black clay loam soil. a wider spacing of 46 cm was desirable. Cantrary results were reported by Rahman and Faruque (1974), Randhawa dan Mishra (1974) and Rajput *et al* (1980) who reported that the yield decreased with the increase in spacing.

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Table 1 : Influence of spacing on the growth and yield of turmeric CV. Co 1.

	Spacing	Plant height (cm)	No. of leaves/ plant	No. of tillers/ plant	Mothe. rhizomes per plant		Finger rhizomes per plant		yield/ ha	No. of plants/ha
					Number	Weight (kg)	Number	Weight (kg)		
1	20 X 50 X 15 cm	160.8	16.3	2.1	1.9	0.120	10.1	0.460	38150	2,00,160
2	30 X 50 X 15 cm	147.1	18.6	3.8	2.4	0.160	14.7	0 580	40350	1,83,480
3	40 X 50 X 15 cm	130.6	20.8	4 4	4.1	0.195	16.8	0.630	42350	1,66,800
4	50 X 50 X 15 cm	128.2	25.6	5.2	4.9	0.230	18.3	0:690	48800	1.50,120
	CD	6.8**	4.2**	2.4**	2.2**	0 18**	7.2**	0.21**	9120**	

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RANIFALL BASED CROPPING SYSTEM IN DRY TRACTS OF ARUPPUKOTTAI

PANCHANATHAN, RM. R. KULANDAIVELU and S. MOHANDASS*

The rainfall data for the years (1950—1974) relating to Aruppukottai Taluk of Ramnad district were analysed for annual, seasonal, monthly and weekly periods and results presented in this paper. The traditional practices now in practice are discussed. Based on the rainfall pattern a suitable cropping system is suggested with minimum risk in order to utillise the rainfall efficiently and raise the income of dry land farmers of the tract.

* Water Technology Centre, Tamil Nadu Agri- University, Coimbatore - 641 003