

Assessment of Common Practices of Turmeric (*Curcuma longa L.*) Cultivation Followed by the Turmeric Growers in Rajasthan

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1. Introduction

Turmeric production in India has assumed a great importance because of its value as an important condiments as well as a crop of medicinal value. It also finds a place on religious and ceremonial occasion. It is one of the most popular flavoring and colouring agents. It is a rich source of vitamin A, B, C and Niacin. This crop is also an important source of foreign exchange and approximately 15-20 per cent of the total production of turmeric is exported from our country.

Turmeric is grown as a cash crop in India, rank 1st in the world in respect of acreage under turmeric accounting for about 26 per cent of the world. It is grown in an area of 0.12 million hectare with an annual production of over 0.35 million tonnes (1993-94). In India the major turmeric producing states are Andhra Pradesh, Orissa, Karnataka, Tamilnadu, Assam, Maharashtra and Rajasthan.

The States of Rajasthan, Udaipur district is placed at 1st rank in terms of area and production of turmeric crop. Total area under turmeric cultivation in the district is approximately 140 hectare with a production of 569 mt. The average yield of turmeric is 4064 kg per hectare in the district (1994-95) but it is low as in other countries and even in other districts of Rajasthan. The basic reason behind the situation is the poor knowledge and adoption of improved turmeric production technology. Thus, there exist a vast scope to improve average yield of turmeric through providing adequate technical know-how to turmeric growers. Keeping the above information in mind, the present study was undertaken.

2. Methodology

The present investigation was undertaken in Jhadol Panchayat Samiti of Udaipur district in Rajasthan. Selection of Panchayat Samiti was done considering the maximum area and production of turmeric among all the Panchayat Samities of the district. Further, three village Panchayat were selected which having highest area under turmeric cultivation and six villages, two from each selected Panchayats were selected for the study purpose. From each villages 20 respondents were selected randomly in which 60 were tribals and 60 from non-tribals community. Thus, the total sample consisted of 120 respondents, out of which 60 were tribal and 60 were non-tribals. The data were collected through a well structured interviews schedule by applying a personal interview technique and statistical tests like frequency, percentage were applied for analysis of data.

3. Result and Discussion

An attempt has been made to find out the common practices of the turmeric growers for turmeric production as described below.

3.1. Common Practices Followed by Turmeric Growers

The data incorporated in the Table 1(A) clearly indicated that none of the turmeric growers in the study area was using improved variety of turmeric in his field. All the selected respondents (100%) irrespective of tribal and non-tribal category were found growing deshi turmeric rhizome in their fields.

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The data depict in Table 1(B) reveals that preparation of soil before sowing of the rhizome and preparation of beds for irrigation purpose were common for all 100 per cent selected tribal and non-tribal respondents. The data further indicates that almost all the respondents have prepared the field in the month of June for turmeric cultivation. About 60 per cent of the total selected respondents have sown turmeric in red loam soil. The other practices were uncommon for majority of respondents.

The observation of the data incorporated in Table 1(C) indicated the common practices of turmeric cultivation with respect to seed and sowing. The data shows that shading of rhizome before sowing was common for all the respondents. Likewise, plain bed sowing as a procedure of turmeric sowing was found common for 94.16 per cent of the selected respondents. A fair majority i.e. 76.66 per cent have kept depth of sowing more than 7 cm. It can be seen from the table that 75 per cent of the respondents have applied 18 q./ha. seed in their field and the 67.84 per cent respondents were reported to follow 40×30 cm P×P and R×R distance.

A close observation to the table shows that none of the respondents irrespective of tribals and non-tribals was found using treatment of turmeric rhizome before sowing in the field. The other practices were uncommon for majority of respondents selected for the study.

It can be seen from Table 1(D) that each and every selected respondents have applied FYM in the field before sowing the turmeric crop. This was followed by application of basal dressing of chemical fertilizers which was found common for 60.83 per cent selected turmeric growers. None of the tribal and non-tribal respondents have supplemented the soil with trace elements. Basal dressing of fertilizers who found used doubly by non-tribal than tribal farmers.

The data incorporated in Table 1(E) reveals that inter-culture operations for weed management was common for all respondents have practiced mulching at the time of sowing and weeding. About 69.16 per cent of the total selected respondents have practiced weeding more than tow times in their fields. Only 3.33 per cent of total respondents have used weedicides for weed control but none of them was tribal farmer.

It can also be seen from Table 1(F) that each and every selected respondents applied 6-8 irrigation in their crop. This was also observed that application of 1st irrigation just after germination was common for 76.66 per cent selected turmeric growers.. It is interesting to note that all the respondents (100%) have used open drainage system in their fields.

The observation of the data incorporated in Table 1(G) shows surprisingly that none of the listed practices were followed by the tribal respondents. Only some non-tribal respondents have used plant protection measures and not any of tribal and non-tribal farmers used biological control of turmeric pests. The data incorporated in Table 1(H) reveals that curing of turmeric by local method was common for all 100 per cent respondents. The data further indicates that almost all the respondents have harvested turmeric crop when leaves turn yellow and drying up, in middle of November to December. The other practices were not found common for majority of the selected respondents.

Table 1 Common Practices of Turmeric Cultivation Followed by Turmeric Growers.

Varieties	Non-Tribal		Tribal		Total	
	F	%	F	%	F	%
Varieties						
Deshi varieties	60	100	60	100	120	100
Improved varieties	0.0	0.0	0.0	0.0	0.0	0.0
Soil Preparation						
Type of soil						
Loam	37	61.66	11	18.33	48	40
Red loam	23	38.33	49	81.66	72	60
Preparation of soil before sowing	60	100	60	100	120	100
Preparation of furrow for sowing	07	11.66	0.0	0.0	07	5.83
Specific period for soil preparation						
2 nd fortnight of April	0	0.0	0.0	0.0	0	0.0
1 st fortnight of May	04	6.66	00	0.0	04	3.33
Any other time (June)	56	93.33	60	100.0	116	96.66
Preparation of beds for irrigation	60	100	60	100	120	100
Seed and Sowing						
Treatment of turmeric rhizome before sowing	0	0.00	0	0.00	0	0.00
Shading of rhizome before sowing	60	100	60	100	120	100
Seed rate of turmeric followed						
18 Q/ha.	45	75.0	45	75.0	90	75.0
More than 18 q/ha.	15	25.0	15	25.0	30	25.0
Appropriate depth of sowing						
Less than 7 cm	44	73.33	48	80.0	92	76.66
More than 8 cm	16	26.67	12	20.0	28	23.33
Procedure of sowing						
Furrow sowing	07	11.67	0	0.0	07	05.83
Plain bed sowing	53	88.33	60	100	113	94.17
R×R and P×P distance						
22×22 cm	19	31.67	22	36.67	41	34.16
40×30 cm	41	68.83	38	63.33	79	65.84
Manures & Fertilizer Application						
Application of FYM in the field before sowing	60	100	60	100	120	100
Application of basal dressing of chemical fertilizers in the crop	52	86.66	21	35.0	73	60.83
Application of N ₂ fertilizers through top dressing	29	48.33	04	6.66	33	27.75
Supplement the soil with trace elements	0	0.0	0	0.0	0	0.0
Weed Control & Mulching						
Interculture operation for weed	60	100	60	10.0	120	100
Use of weedicide	04	6.66	0	0.00	04	3.33
Number of weedicide						
Two times	16	26.66	21	35.0	37	30.84
More than two times	44	73.33	39	65.0	83	69.16
Mulching at the time of sowing and weeding	60	100	56	93.33	116	96.66

Indian Research Journal of Extension Education

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Irrigation Scheduling						
Number of irrigation	60	100	60	100	120	100
Six to eight	0	0.0	0	0.0	0	0
More than eight						
Application of 1 st irrigation	51	85.0	41	68.33	92	76.66
Just after germination	09	15.0	19	31.67	28	23.33
20-25 days after germination						
Drainage system	60	100	60	100	120	100
Open channel	0	0.0	0	0.0	0	0.0
Underground channel						
Plant Protection Measured						
Application of insecticide	09	15.0	0	0.00	15	7.50
Application of fungicide	16	26.66	0	0.00	16	13.33
Biological control measures	0	0.0	0	0.0	0	0.0
Harvesting & Curing Practices						
When leaves turn yellow and start drying -up	56	93.33	47	78.33	103	85.83
When leaves still yellow and shading lower	04	06.67	13	21.67	17	14.16
leaves						
Harvesting time	40	66.66	42	70.0	82	68.33
Mid Nov. to Mid Dec.	20	33.33	18	30.0	38	31.66
End of Dec. to beginning Jan.	60	100	120	100	120	100
Curing of turmeric rhizome						
Curing for domestic use	60	100	60	100	120	100
Deshi method	0	0.0	00	0.0	00	0.0
Scientific method						
Storage of Seed & Marketing Practices						
Storage of the rhizome for seed purpose	60	100	60	100	120	100
Treatment of rhizome before storage	0	0.0	0	0.0	0	0.0
Storage of rhizome in the pits scientifically	48	80.00	10	16.66	58	48.33
Storage of surplus produce	0	0.0	0	0.0	0	0.0
Sale of green turmeric	60	100	60	100	120	100
Sale of cured turmeric	0	0.0	0	0.0	0	0.0

F = Frequency, % = Percentage

The observation of Table 1 (I) visualized that 100 per cent respondents irrespective of non-tribals and tribals have stored that rhizome for next crop and sale the green turmeric in the market. It is surprising to note that none of the respondents irrespective of tribals and non tribals adopted treatment of turmeric rhizome before storage for seed purpose as well as for storage of surplus produce for getting good price. None of the respondents found to process (cured) turmeric by following scientific method. Instead all the respondents found to process turmeric by deshi method.. It is also not possible due to unavailability of cold storage in the market.

4. Conclusion

It is observed in the study area that all the farmers were growing deshi variety of turmeric in their fields. They do not have knowledge about improved varieties of turmeric and very few number of

farmers prepared furrow for sowing rhizome. It was also noted that none of the farmers treated turmeric rhizome before sowing by fungicide and also none of the respondents used trace elements and very few non-tribal respondents used weedicides for weed control in their field. All the respondents had up to date knowledge regarding irrigation scheduling. None of the tribal respondents used plant protection chemicals in their field while few non-tribals used them. It was also found that all the respondents cured the turmeric for domestic use with deshi (local) method and were found storing rhizomes for seed purpose.

5. Bibliography

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