RESEARCH ARTICLE Bhartiya Krishi Anusandhan Patrika, Volume 38 Issue 4: 417-419 (December 2023)

Adoption of Turmeric Cultivation Practices by Turmeric Growers

V.G. Khawale[1], U.R. Chinchmalatpure[1]

10.18805/BKAP651

ABSTRACT

Background: Maharashtra state in India ranks sixth in area under turmeric cultivation and Sangli, Hingoli, Nanded, Parbhani, Chandrapur are the major turmeric growing districts of Maharashtra. Recently since last few years the area under turmeric crop of Washim district in Vidarbha region is increasing day by day. In Washim district of Maharashtra state, the area and production of turmeric is 1150 ha. and 23000 tones, with productivity 20 tones per hectare. There is great potential to increase production of this crop in future, if growers are oriented towards entrepreneurship and adoption of modern technology. Hence the present study was undertaken to study the adoption level of turmeric growers about recommended turmeric cultivation practices.

Methods: The study was conducted in Washim district of Maharashtra state with the objective to study the adoption of the recommended turmeric cultivation practices by the turmeric growers. Exploratory research design of social research was used. In all, 120 respondents from 12 villages of Malegaon and Risod tehsils from Washim district were selected by random sampling method. The data were collected by person interview method.

Result: Findings of the study revealed that, majority of respondents of turmeric growers (63.33%) having medium level of adoption about turmeric cultivation practices followed by 27.5 per cent of the respondents were found low level of adoption and only 9.16 per cent of the respondents were found in high level of adoption category. The selected characteristics of turmeric growers *i.e.* Land holding, area under turmeric crop, annual income, scientific orientation and knowledge had positive and significant relationship at 0.01 per cent level of probability with adoption. Whereas, farming experience found negative significant relationship at 0.01, per cent level of probability with adoption of turmeric growers. Age, education, source of irrigation had positive and non-significant relationship with adoption level. While only extension contact had positive and significant relation at 0.05 per cent level of probability with their adoption.

Key words: Adoption, Correlation, Turmeric cultivation practices, Turmeric grower.

INTRODUCTION

Turmeric (*Curcuma longa*) is an herbaceous perennial plant and belongs to family *Zingiberaceae* which grows up to the height of 60-110 cm. with short stem and native of south Asia particularly, India. The plant is propagated through rhizomes. A few years ago, India got the patent of turmeric due to strong evidences, ancient literature and references available with our country about the turmeric. Farmers can benefit from it by growing high quality turmeric and exporting it to the foreign countries to earn foreign exchange. This export will help in raising the economy of the country and farmers as well. This will help to increase the earnings. India is the largest producer, consumer and exporter of turmeric in the world. Other major turmeric producers are Thailand, other Southeast Asian countries, Central, Latin America and Taiwan. The global production of turmeric is around 11 lakh tonnes per annum. India dominates the world production scenario contributing 78 per cent followed by China (8%), Myanmar (4%) and Nigeria and Bangladesh together contributing to 6 per cent of the global production.

Maharashtra state in India ranks sixth in area under turmeric cultivation. The area under crop was 14050 hectare with a production of 281000 tones., during 2017-18. In Maharashtra Sangli, Hingoli, Nanded, Parbhani, Chandrapur are the major turmeric growing districts (Horticultural Statistics at a Glance, 2018). Recently since last few years the area under turmeric crop of Washim district in Vidarbha region is increasing day by day. In Washim district of Maharashtra state, the area and production of turmeric is 1150 ha. and 23000 tones, with productivity 20 tones per hectare (2018-19). There is great potential to increase production of this crop in future, if growers are oriented towards entrepreneurship and adoption of modern technology (Source: SAO Akola). Therefore the present study was undertaken to study the adoption level of turmeric growers about recommended turmeric cultivation practices.

[1]Department of Extension Education, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola-444 104, Maharashtra, India.

Corresponding Author: U.R. Chinchmalatpure, Department of Extension Education, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola-444 104, Maharashtra, India.
Email: rcumesh@rediffmail.com

How to cite this article: Khawale, V.G. and Chinchmalatpure, U.R. (2023). Adoption of Turmeric Cultivation Practices by Turmeric Growers. Bhartiya Krishi Anusandhan Patrika. 38(4): 417-419. doi: 10.18805/BKAP651.

Submitted: 25-05-2023 **Accepted:** 20-10-2023 **Online:** 22-12-2023

MATERIALS AND METHODS

The study was conducted in Washim district (Malegaon and Risod tehsils) in Maharashtra state. Out of six tehsil in Washim district, two tehsil namely; Malegaon and Risod tehsils were purposively selected for the present study. From each of the selected tehsil, six villages were selected on the basis of maximum area under turmeric cultivation and from each selected village 10 farmers were selected randomly.

Thus, from two selected tehsil 12 villages were selected and from these villages total 120 turmeric growers were selected and considered as sample in present study. An exploratory research design was used. The data pertaining to selected variables were collected through a specially designed interview schedule in an informal atmosphere.

Adoption of the turmeric growers about the turmeric package of practices were measured by computing the adoption score. The teacher made test was used. For this the list of PDKV recommended package of practices for turmeric were prepared. The test was administered to the randomly selected respondents. The response of turmeric growers on each statement included under the head was obtained on three point continuums *viz*., full adoption, partial adoption, no adoption with weightage of 2, 1 and 0 score, respectively. The answers/responses of respondents were judged and categorized on the basis of mean and standard deviation in low, medium and high adoption group.

Categories	Score range
Low	Up to 24
Medium	25 to 33
High	Above 33
Mean = 28.23	SD = 4.34

RESULTS AND DISCUSSION

Profile of turmeric growers

It is revealed that, majority of the respondents (59.16%) belonged to middle age group *i.e*. between 36 to 50 years. Further 47.50 per cent of the respondents were educated up to College (Above 11th standard) and 48.34 per cent of the turmeric growers possess small land holding (01.01 to 02.00 ha). More than half of the respondents (56.66%) had 0.61 to 1.20 ha area under turmeric crop. Higher percentile of the respondents (27.50%) had annual income between Rs. 1,00,001/- to 2,00,000/-. Majority of the respondents (55.00%) had experience up to 8 to 18 years in turmeric cultivation. High percentage of the respondents (44.16%) uses well or tube well as a sources of irrigation. Majority of the respondents (45.00%) had medium extension contact for seeking information. Majority of the respondents (50.83%) had medium level of scientific orientation. Majority of the respondents (71.66%) had medium level of knowledge for cultivation of turmeric.

Practicewise adoption of turmeric cultivation practices

The pracitce wise adoption of turmeric cultivation practices was depicted in the Table 1. A study towards practice wise adoption about the recommended cultivation practices of turmeric revealed that 75.83 per cent of the growers having adoption about harvesting indices followed by harvesting done by digging (66.66%), variety (64.16%), crop duration (63.33%), soil type (60.33%), 60 per cent of the respondents having adoption of irrigation. It was followed by yield (58.33%), intercultural operation (57.50%), seed rate (56.67%), harvesting by combine harvester (53.33%), spacing (51.67%) and fertilizer management 50.83 per cent and method of sowing valued as 50 per cent of the respondents.

Table 1: Distribution of respondents according to their practice wise adoption about recommended cultivation practices of turmeric.

Cultivation practices	Respondents (n=120)	
	Frequency	Percentage
Soil type-(Well drained, crumby, fertile, medium type soil)	73	60.33
Sowing time-May-June	84	70.00
Method of sowing-Ridge and furrow (Rhizome) or Broad bed Furrow (BBF)	60	50.00
Seed rate-2250 to 2500 Kg rhizome/ha	68	56.67
Preparatory tillage-(Ploughing, decomposed FYM @ @ 40 to 50 cartload)	52	43.33
Variety PDKV-Waigaon, Selam, Phule-swarupa, Krushna, Rajapuri	77	64.16
Spacing-30-45 cm row and 22.5 to 30 cm plant to plant rhizome	62	51.67
Fertilizer management- 200:100:100 NPK kg/ha ½ dose of N-after 30 days of emergence and remaining ½ dose of N-after 45 days of 1st dose	61	50.83
Fertigation-is the application of fertilizer with water. Recommended dose with 150:60:108 kg pf NPK/ha. Is applied throughout the cropping period once in three day	49	40.83
Irrigation-(8 to 10 days of interval, Type-Furrow or drip)	72	60.00
Intercultural operation-(Weed management, hoeing and earthing up)	69	57.50
Plant protection measure		
1. For control of rhizome fly and scale.	57	47.50
2. For control of leaf spot/disease, spraying of mancozeb + carbendazim 25 gm in 10 lit. of water)	44	36.67
Crop duration-(210 to 270 days)	76	63.33
Harvesting-		
1. Yellowing of leaves followed by drying @ 50% is the major indication of harvesting stage of turmeric	91	75.83
2. Harvesting is done by digging.	80	66.66
3. With combine harvester.	64	53.33
Yield-220-350 qt/ha (Wet rhizome)	70	58.33

Table 2: Distribution of the respondents according to their adoption.

Category	Respondents (n=120)	
	Frequency	Percentage
Low (Up to 24)	33	27.50
Medium (25 to 33)	76	63.33
High (Above 33)	11	09.17
Total	120	100.00

Table 3: Relationship between profile of respondents and their adoption.

Independent variables	Calculated 'r' value
Age	0.0836^{NS}
Education	0.0607^{NS}
Land holding	0.4089**
Area under turmeric crop	0.2643**
Annual income	0.5367**
Farming experience	- 0.0905 ^{NS}
Source of irrigation	0.1164^{NS}
Extension contact	0.2113*
Scientific orientation	0.2315**
Knowledge	0.4956**

** = Significant at 0.01 per cent level of probability.

* = Significant at 0.05 per cent level of probability.

NS = Non-significant.

While in case of rest of the practices, respondents have less than fifty per cent adoption about recommended package of practices. Plant protection measures for rhizome fly and scale (47.50%). There are 43.33 per cent of the respondents about preparatory tillage. It was followed by (40.83%) of the respondents about fertigation application, (36.67%) plant protection method to control leaf spot.

Adoption level of turmeric growers

The data from Table 2, reported that the majority of the respondents of turmeric growers (63.33%) having medium level of adoption about cultivation practices of turmeric growers. It was followed by 27.5 per cent of the respondents were found low level of adoption and only 9.16 per cent of the respondents were found in high level of adoption category.

These results are in accordance with the findings of Kulkarni (1999), Ovhar (2013), Maya A (Kankate *et al*., 2018 and Mutteppa *et al*., 2019).

Correlates of adoption of turmeric cultivation practices

It could be seen from Table 3, that the adoption of respondents and their profile revealed the following results which clearly indicates that selected characteristics of turmeric growers *i.e*. Land holding, area under turmeric crop, annual income, scientific orientation and knowledge had positive and significant relationship at 0.01 per cent level of probability with adoption.

Whereas, farming experience had negative significant relationship at 0.01 per cent level of probability with adoption of turmeric cultivation practices. Age, education, source of irrigation had positive and non-significant relationship with adoption. While only extension contact had positive and significant relation at 0.05 per cent level of probability with their adoption.

The above findings are similar with the findings reported by (Chinchmalatpure 2009; Ganeshprasad, 2006; Karpagam, 2000; Mishra *et al*., 2020 and Umale *et al*., 2012).

CONCLUSION

It can be concluded that the majority of the turmeric grower had medium level of adoption, which indicates that turmeric growers are moving towards progress and for transformation of them from medium to high adoption of turmeric cultivation practices. The fact that majority of the farmers had sufficient knowledge of recommended package of practices of turmeric is a clear indication of the adoptiveness of the turmeric growers is moving forward. As majority of the turmeric growers were middle and young aged and having medium level of knowledge, this group should be imparted training, so that they can act as catalysts in motivating other farmers through communication networks.

Conflict of interest

All authors declared that there is no conflict of interest.

REFERENCES

Chinchmalatpure, U.R. (2009). Factors influencing adoption of cotton cultivation practices in the rehabilitated areas. Mysore J. Agric, Sci. 43(4): 757-762.

Ganeshprasad, T.S. (2006). An analysis of adoption, marketing and constraints of turmeric grower's in Chamarajanagar district. M. Sc. (Agri.) Thesis (Unpub.), Univ. Agric. Sci., Bengaluru.

Karpagam, C. (2000). A study on knowledge and adoption behaviour of turmeric growers in Erode district of Tamil Nadu. M.Sc. (Agri.) Thesis (Unpub.), University Agricultural Science, Dharwad (Karnataka).

Kulkarni, W.B. (1999). A study on adoption of turmeric production technology in Hingoli district. M.Sc. (Ag.) Thesis (Unpub.), Marathwada Agricultural University, Parbhani.

Maya, K.V.S., Tekale and Thakare, P. (2018). Adoption of improved cultivation practices of turmeric in Yavatmal district, India. International Journal of Current Microbiology and Applied Sciences. 7(12): 640-647.

Mishra, B.P., Kanwat, M., Gupta, B.K., Meena, N.R., Mishra, N.K. and Kumar, P.S. (2020). Correlates of adoption of improved apiculture practices in Arunachal Pradesh. Indian Journal of Extension Education. 56(2): 51-54.

Mutteppa, C.B. Krishnamurthy, H.K., Pankaja and Nishita, K. (2019). A study on extent of adoption of improved cultivation practices by turmeric growers in Belagavi district, Karnataka, India. International Journal of Current Microbiology and Applied Sciences. 8(3): 2411-2418.

Ovhar, N.D. (2013). Adoption of improved cultivation practices of turmeric by the farmers. M.Sc. (Agri.) Thesis (Unpub.), Dr.Panjabrao Deshmukh Krishi Vidyapeeth, Akola.

Umale, P.B., Chinchmalatpure, U.R. and Ambhore, S.S. (2012). Factors responsible for adoption of soybean cultivation. Adv. Res. J. Crop Improv. 3(1): 28-31.