



A Study on Cultivation Practices of Turmeric Farmers in Erode District

KEYWORDS

Cultivation, Technology, Productivity, Irrigation

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ABSTRACT *The study deals with the cultivation practices of turmeric farmers in erode district. The turmeric growers suffering with problems on various aspects like monsoon failures, lacks of technology, storage problem, problems with private vendors and intermediaries. The results indicated that the agricultural development strategy for developing countries need to be geared towards increasing the productivity of land under cultivation, with reduced cost, higher efficiency use of inputs with little or no harm to both human and the environment.*

INTRODUCTION

Turmeric (*Curcuma longa*) (Family: Zingiberaceae) is used as condiment, dye, drug and cosmetic in addition to its use in religious ceremonies. India is a leading producer and exporter of turmeric in the world. Andhra Pradesh, Tamil Nadu, Orissa, Karnataka, West Bengal, Gujarat, Meghalaya, Maharashtra, Assam are some of the important states cultivates turmeric, of which, Andhra Pradesh alone occupies 35.0% of area and 47.0% of production. Turmeric can be grown in diverse tropical conditions from sea level to 1500 m above sea level, at a temperature range of 20-35°C with an annual rainfall of 1500 mm or more, under rain fed or irrigated conditions. Though it can be grown on different types of soils, it thrives best in well-drained sandy or clay loam soils with a pH range of 4.5-7.5 with good organic status.

STATEMENT OF THE PROBLEM

Traditionally turmeric cultivations were developed only by small growers. The turmeric cultivation in Tamilnadu does generate more employment opportunities-especially among the people in rural areas. Right from the stage of nursery formation to the harvesting stage, a lot of manual labour is required. Introduction of machines in turmeric cultivation is almost impossible due to its peculiar nature and hence a turmeric grower has to rely mainly upon human labour for preparation of land, mulching, weeding, manuring, spraying of pesticides and harvesting. The grower faces many problems in cultivating turmeric, such as High cost of fertilizers & pesticides, Non availability of labour during peak time, High weed problem, more chance for disease attack. Shortage of irrigation and etc. Hence, in this context the present research "A study on cultivation practices of turmeric farmers in erode district" is carried out in the aim of find out the solution for production Problems faced by the farmers of the erode district.

OBJECTIVES OF THE STUDY

1. To study the Factors Motivating farmers to prefer turmeric cultivation
2. To study the cultivation practices of turmeric farmers.
3. To explore the cultivation problems which are faced by the turmeric farmers.
4. To offer suggestions to overcome the problems in cultivation of turmeric.

SCOPE OF THE STUDY

This study is undertaken to examine the cultivation practices of turmeric farmers in erode district of Tamil Nadu. This study confines only to erode district as this district is the first in terms of area under turmeric cultivation. This study aims to analysis cultivation practices of turmeric farmers along with the satisfaction level of the farmers. It also aims to analyze the cultivation problems of the turmeric farmers in erode district of Tamil Nadu.

REVIEW OF LITERATURE

Senthil kumar, Manivannan (2011) in their study deals with the production and marketing of turmeric and chilli in Erode District. The main objective of the study is 1. To study the socio economic factors influencing production and marketing of turmeric and chilli 2.To study the ways and means to increase the productivity and effective marketing. They concluded that India's turmeric and chilli sector faces stiff challenges in increasing the efficiency in several of its sub-sectors: improving the technology in turmeric and chilli cultivation and processing, reforms in the marketing of turmeric and chilli and products domestically and internationally.

Moghe, Zakiuddin, Arajpure (2012) in their study entitled "Design and Development of Turmeric Polishing Machine" examine the polishing machine for washing turmeric to remove unwanted impurities and scales of harvested turmeric. The paper presents the new design of turmeric polishing machine which is based on designed for manufacturing, assembly and maintenance. They concluded that the designed machine is very simple in operation, efficient in polishing of harvested turmeric at a good speed of production. This machine seems very simple at same time very efficient in polishing about 50 kg of harvested turmeric at a speed about of 75 rpm for about 20 min.

CULTIVATION PRACTICES

Turmeric-Varieties

A number of cultivars are available in the country and are known mostly by the name of locality where they are cultivated. Some of the popular cultivars are Duggirala, Tekurpeta, Sugandham, Amalapuram, Erode local, Alleppey, Moovattupuzha, and Lakadong.

The improved varieties of turmeric are- Suvarna, Suguna, Sudarsana, Prabha, Prathibha, Krishna, Sugandham, Roma, Suroma, Ranga, Rasmi, Rajendra, Sonia, Alleppey,

Supreme, Kedaram.

Preparation of Land

The land is prepared with the receipt of early monsoon showers. The soil is brought to a fine tilth by giving about four deep ploughing. Hydrated lime @ 500 kg/ha has to be applied for laterite soils and thoroughly ploughed. Immediately with the receipt of pre-monsoon showers, beds of 1.0 m width, 15 cm height and of convenient length are prepared with spacing of 50 cm between beds. Planting is also done by forming ridges and furrows.

Seed material

Whole or split mother and finger rhizomes are used for planting and well developed healthy and disease free rhizomes are to be selected. The optimum spacing in furrows and ridges is 45-60 cm between the rows and 25 cm between the plants. A seed rate of 2,500 kg of rhizomes is required for planting one hectare of turmeric.

Weeding and Irrigation

Weeding has to be done thrice at 60, 90 and 120 days after planting depending upon weed intensity. In the case of irrigated crop, depending upon the weather and soil conditions, about 15 to 23 irrigation's are to be given in clayey soils and 40 irrigation's in sandy loams.

Mixed Cropping

Turmeric can be grown as an inter crop with chillies, colocasia, onion, brinjal and cereals like maize, ragi, etc.

Curing of Turmeric Rhizomes

Harvested rhizomes are washed well to remove the dirt and other impurities. Afterwards, finger rhizomes are separated from the mother rhizomes and cooked in boiling water for 1 hour under slight alkaline condition (100g of sodium bicarbonate or sodium carbonate in 100 liters of water). For boiling turmeric, usually copper galvanized/iron or earthen vessels are used. It takes 40-60 minutes of boiling to reach the correct stage. Mother rhizomes are also cured in the same way. Mother rhizomes and finger rhizomes are generally cured separately.

Drying of Cured Turmeric

Cooked turmeric rhizomes are sun-dried on bamboo mat or on a drying floor for 10-15 days. The dry recovery varies from 15-30% depending on variety, location and cultural practices. The dried turmeric is subjected to polishing either manually by rubbing it on concrete flooring or mechanically in power operated drums. Turmeric powder is added to the drum either as powder or as emulsion for giving bright colour to the rhizome.

Sorting and Grading of Turmeric

Grading is done based on the size, color, and shape. Major grades used are 'finger', and round 'split'. Cured turmeric is also marked under its varietal names.

Preservation of Seed

- * Rhizomes for seed are heaped in the shade of trees or in well ventilated sheds and covered with turmeric leaves.
- * Sometimes the heap is plastered over with earth mixed with cow dung

RESEARCH METHODOLOGY

Nature of research design

The research design adopted in the study was descriptive design, which is concerned with the descriptive of a group.

In descriptive research in such a way that the respondents is able to understand clearly what the researcher wants and provides distinct information to measure the data.

Area of the study

The area of the study is in Erode city.

Sources of data

The study is based on primary data collection. The data has been collected from the turmeric cultivators. The secondary data was collected from the articles, journals, newspapers and various websites.

Sampling design of the study

The sampling technique in this project is convenient sampling. A sample of 100 respondents was taken into account for this study.

Tools for analysis

The following are the tools applied on the respondents given by the respondents to analyze and derive the result.

1. Percentage analysis
2. Chi-square analysis

PERCENTAGE ANALYSIS

Table-1

Factors Motivating farmers to prefer turmeric cultivation

S. No	Motivating factors	High Motivation	Medium Motivation	Low motivation	Percentage
1.	Good storage facility	49	35	16	100
2.	Possibility of inter-cropping	71	25	4	100
3.	Cash crop	79	19	2	100
4.	Profitability	70	20	10	100
5.	Attractive price	63	25	12	100
6.	Soil suitability	55	33	12	100
7.	Adequate water	41	36	23	100
8.	Easy marketability	35	40	25	100
9.	Long term crop	40	34	26	100
10.	Easy loan facility	35	40	25	100

The above table reveals that, 79 per cent of the farmers are highly motivated by cash crop, 71 per cent of the farmers are highly motivated by possibility of intercropping, 70 per cent of the farmers are highly motivated by profitability of the turmeric cultivation followed by attractive prices, soil suitability, good storage facility, adequate water, long term crop and easy loan facility.

Majority of the farmers are highly motivated by cash crop to prefer turmeric cultivation.

CHI- SQUARE ANALYSIS

Table-2

Educational qualification (vs.) experience of farmers in cultivating turmeric

Educational qualification	Years of experience in cultivating turmeric				
	Less than 5 years	5-10 years	10-20 years	Above 20 years	Total
No formal education					
Primary level	3	5	3	2	13
Higher secondary level	8	5	5	4	22

Graduates	3	12	9	6	30
Others (Agricultural, etc)	3	1	1	0	3
Total	20	33	30	17	100

Ho: There is no significant association between Educational qualification and experience of the farmers in cultivating turmeric

Result: Calculated value: 8.33 ; Table value : 21

Degrees of freedom 12 at 5% level of significance

Inference: Since the calculated value of χ^2 is less than the table value, the null hypothesis is accepted. Hence it can be concluded that there is no significant association between Educational qualification and experience of the farmers in cultivating turmeric.

SUGGESTIONS

1. Extension contact and mass media participation was found to be significantly associated with the technological gap in turmeric cultivation practices. The line department in collaboration with Spice Board and State Agriculture Universities should essentially organize extension activities during off season followed by regular field visits and interaction meetings to promote increased adoption of turmeric production technologies.
2. Government has to create better infrastructure to counter the problems faced by the turmeric growers

like proper electricity supply, good varieties, planting material and chemical fertilizers in the turmeric growing areas.

3. There is need to have a consortium of progressive turmeric growers, scientists from different institutes, representatives of turmeric growers associations and lead input providers to tackle the genuine problems of turmeric growers in an organized manner and develop appropriate strategy for turmeric production.
4. Proper storage facilities to be arranged and proper training may be given to improve their storage practice in order to get remunerative price for turmeric.

CONCLUSION

India, at present is the largest producer, consumer and exporter of spices in the world. Turmeric is one of the important spice crop grown in India. It is mainly used as a food flavourant and colourant. In medicine it is also used as a stimulant, stomachic, expectorant and rubefacient. Looking to the importance of turmeric as well as the other spice crop, Government of India established an All India Co-ordinated Research Project on Spices (1971) in order to accelerate production, processing and management of technologies to achieve self reliance in spice. To enhance the productivity popularization of cost-effective, eco friendly production technologies among the farming community are the need of the hour. The indigenous technical knowledge acquired by the farmers need to be tested and refined with the modern techniques. This will help the farmers to increase the productivity from their existing system.

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