Research Article

FACTORS INFLUENCING KNOWLEDGE LEVEL OF FARMERS TOWARDS IMPROVED TAPIOCA PRODUCTION PRACTICES IN NAMAKKAL DISTRICT OF TAMILNADU

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Abstract: Tapioca, popularly known as Cassava, is an important root crop widely cultivated in tropical countries because of its ability to grow well even under drought condition. The present study has been undertaken purposefully in Mohanur taluk of Namakkal district, Tamil Nadu. Around 120 respondents were selected randomly and the results of descriptive study revealed that the knowledge level of improved tapioca production practices were medium. The analysis showed that majority (71.66) of the respondents had medium level of knowledge towards improved production practices of tapioca followed by high (22.5%) and low level of knowledge (5.83%) respectively. Correlation analysis of knowledge with other independent variables results revealed that the age of farmers was found to be positive and significant at the level of 0.01. And variables like education, land holding, income, social participation, extension contacts, mass media exposure, innovativeness, risk orientation were found to be positive and significant at the 0.05 level. The variables like gender, occupation and family type were found non- significant at both 1 percent as well as 5 percent level of significance.

Keywords: Tapioca, Knowledge, Production practices, Correlation analysis

Introduction

Tapioca is the most important tropical root crop. Its starchy roots are a major source of dietary energy for millions of people around the world. It is native to South America and extensively grown in tropics of Africa and Asia. According to the United Nations Food and Agriculture Organization (FAO), tapioca ranks fourth as a food crop in the developing countries after rice, maize and wheat. It is the basis of a variety of products, including food, flour, animal food, alcohol, starches for sizing paper and textiles, sweeteners, foods prepared and biodegradable products. According to FAO estimates, 172 million tonnes of tapioca was produced worldwide in 2000. Africa accounted for 54%, Asia for 28% and Latin America and the Carribean for 19% of the total world production. In 2013, the world's largest producer of tapioca is Nigeria with a production of 47,406,770 tonnes. In 2018, FAO forecast the production of tapioca is about 40,73,000 tonnes. Globally 58 percent of tapioca produced is used as human food, 28 percent as animal food, 4 percent in alcohol and starch-based industries and only 10 percent is spoiled. In the year 2013, the major R&T (Root & Tuber) crops occupied about 56.11 million hectares producing 835.55 million metric tons worldwide, 43% of which was from Asia and 6.43% from India [2]. In India, Tamil Nadu and Kerala in particular have the potential to further increase productivity and compete on the international market in the export of chips and pellets. Tapioca production in Tamil Nadu (2015-16) is 2,80,000 tonnes and this state contribution is 64.69 percent (National Horticulture Board,2016). Thus Tamil Nadu is a major cultivator of tapioca in the country and influences agricultural economy especially in the western part of Tamil Nadu where this crop is predominantly cultivated. In Namakkal district (2014-15), the area and production of tapioca is being 17.38 ha and 632.98 tonnes respectively (Department of Agricultural Co-operation and Farmers Welfare, 2015). The cultivation of tapioca is manpower intensive only at the time of plantation and harvest. It provides a steady income to the farmers [1-6]. Rogers M. Everetts (2003) defined knowledge as an individual or the user learns about the existence of the innovation and seeks some understanding on how it functions [7]. This knowledge is an essential variable in the innovation decision process. A person should have a sufficient level of how-to-knowledge before the innovation test to increase the chance of adoption of innovation. The main objective of this paper is to reveal farmers' knowledge of improved tapioca production practices based on the research results.

Materials and Methods

For the present study, Mohanur taluk of Namakkal district of Tamil Nadu has been selected purposefully, since the taluk's having more area under tapioca production practices. Eight villages (Ariyur, Tholur, Aroor, Valayapatti, Mutthur, Permandapalayam, Sukkampatti, Moongilpatti) were selected randomly from Mohanur taluk. A well- structured interview schedule was prepared and pre-tested for the study. The sample population of 120 tapioca farmers has been selected based on random sampling method from the selected villages. Relevant questions on Tapioca improved production practices were collected with well-structured interview schedule to understand the knowledge levels of the respondents and answers were recorded with 3 point scale as fully correct (3) partially correct (2) and not correct (1). The data was tabulated, analyzed and interpretations were drawn on the basis of percentage analysis and correlation test. The correlation analysis has been made by using Microsoft excel and IBM SPSS.

Results

Knowledge of farmers towards improved Tapioca production practices

The [Table-1] presented the distribution of respondents based on their level of Knowledge towards improved Tapioca production practices. The majority of the respondents had full knowledge about duration of the crop (100.00%), value added product (100.00%) followed by spacing (95%), yield (94.16%), dipping solution (68%), FYM requirement (61%) respectively.

While, some of the respondents had no knowledge about pH of the soil (95%), recommended fertilizers (75.83%) and control of whitefly (45.83%) respectively. The [Table-2] presented the distribution of respondents based on their level of Knowledge towards improved Tapioca production practices. About 71.66 percent of the respondents were having medium level of knowledge towards improved tapioca production practices followed by high (22.5%) and low level of knowledge (5.83%) respectively.

Factors influencing the knowledge of farmers towards improved Tapioca production practices

The [Table-3] presented that the relationship between independent variables with knowledge towards Tapioca improved production practices. The age was found to be positive and significant at the level of 0.01 [5].Variables like education, land holding, income, social participation. Extension contacts, mass media exposure, innovativeness, risk orientations were found positive and significant at the level of 0.05 [6]. The variables like gender, occupation, family type were found no significant relationship with knowledge towards Tapioca improved production practices.

Discussion

From the above interpreted results, it is found that there is a medium level of knowledge towards Tapioca improved production practices [1]. The age of farmers was found to be positively and significantly correlated with the level of knowledge of tapioca growers. With the increase in age (years) leads to less knowledge of farmers. Variables like education, land holding, income, social participation, extension contacts, mass media exposure, innovativeness, risk orientation were found positively and significantly correlated with knowledge level. The variables like gender, occupation, family type were found no significant with knowledge. These variables had no relationship with the level of knowledge towards improved tapioca production practices.

Table-1 *Knowledge of farmers towards improved Tapioca production practices of tapioca (n=120)*

SN	Statements	Knowledge Level		
		FC	PC	NC
1	Recommended Tapioca Variety	88(73.33)	30(25.00)	2(1.66)
2	Suitable Soil	111(92.50)	8(6.66)	1(0.83)
3	Sett rate	81(67.50)	37(30.83)	2(1.66)
4	Setts are planted	119(99.16)	1(0.83)	0(0.00)
5	Nodes present in setts	116(96.66)	4(3.33)	0(0.00)
6	Length hand depth of sowing	90(75.00)	28(23.33)	2(1.66)
7	FYM requirement	52(43.33)	61(50.83)	7(5.83)
8	Spacing	114(95.00)	6(5.00)	0(0.00)
9	Dipping solution	41(34.16)	68(56.66)	11(9.16)
10	Important pest & Diseases	90(75.00)	28(23.33)	2(1.66)
11	Recommended Fertilizers	1(0.83)	28(23.33)	91(75.83)
12	pH of soil	2(1.66)	4(3.33)	114(95.00)
13	Control of whitefly	7(5.83)	55(45.83)	58(48.33)
14	Growing intercrop	116(96.66)	2(1.66)	2(1.66)
15	Duration	120(100.00)	0(0.00)	0(0.00)
16	Tubers uprooting method	85(70.83)	35(29.16)	0(0.00)
17	Yield	113(94.16)	7(5.83)	0(0.00)
18	Post harvest management	120(100.00)	0(0.00)	0(0.00)
19	Value added Products	120(100.00)	0(0.00)	0(0.00)

Parenthesis shows in percentage, FC= Fully Correct, PC= Partially Correct, NC= Non Correct

Table-2 *Level of Knowledge towards improved Tapioca production practices (n=120)*

SN	Level of knowledge	Frequency	Percentage
1	Low (40-45.33)	7	5.83
2	Medium (45.33-50.66)	86	71.66
3	High (50.66-55.99)	27	22.5
	Total	120	100

Table-3 *Relationship of independent variables with Knowledge towards Improved Tapioca production practices*

SN	Independent variables	Correlation (r) value
1	Age	0.217081*
2	Gender	-0.0859NS
3	Education	0.691353**
4	Occupation	0.057217NS
5	Land holding	0.40165**
6	Family Type	-0.02569NS
7	Income	0.400576**
8	Social Participation	0.474551**
9	Extension contacts	0.540431**
10	Mass Media Exposure	0.573312**
11	Innovativeness	0.55968**
12	Risk orientation	0.393003**

*** = Significant at the 0.01 level (2-tailed), * = Significant at the 0.05 level (2-tailed) NS = Non Significant*

Conclusion

From the above results, it is concluded that the level of knowledge towards Tapioca improved production practices are medium. The study established that farmer's knowledge in low, medium, high respectively. Above correlation table, shown that highly significant relationship between their knowledge and variables like education, land holding, income, social participation, extension contacts, mass media exposure, innovativeness, risk orientation. The reasons which could contributed to medium knowledge level may be the medium education level, medium extent of extension contact and social participation, mass media utilization, innovativeness, risk orientation which might have stagnant in overall knowledge level. The farmers should establish regular contact with extension worker; actively engage in social participation, mass media will give rise to more information that leads to increase their knowledge towards improved production practices. Therefore, high level of interventions are needed to enhancing productive capacity of tapioca growers and this would help to improve the existing medium level knowledge to high level of knowledge towards improved Tapioca production practices.

Application of research: This research can be applied to frame better policy makers, researcher and extension workers to work in line of farmers' perspective for improving productivity and minimizing the gap in extent of adoption and farmer friendly technologies.

Research Category: Agricultural Extension

Abbreviations:
FAO= Food and Agriculture Organization
NHB= National Horticulture Board
DACF= Department of Agricultural Co-operation and Farmers Welfare
CTCRI= Central Tuber Crops Research Institute
SPSS = Statistical Package for Social Sciences

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Study area / Sample Collection: Mohanur taluk of Namakkal district, Tamil Nadu

Cultivar / Variety name: Nil

Conflict of Interest: None declared

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