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## Training needs of tapioca growers on value added products of tapioca

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### Abstract

In South India tapioca is widely grown in Kerala and Tamil Nadu. The cultivation of tapioca is spread widely in Kerala as food crop and slowly became industrial crop in Tamil Nadu due to the high industrial value for its products. Tapioca is an enterprise that provides support to the rural industrial sector. More than 5 lakhs of rural people are directly employed in tapioca based industries. This has given employment for the rural mass and augments the economic growth of rural India. Though it is a industrial oriented crop, tapioca farmers do not get appreciable remunerative income. Value addition in tapioca can significantly increase the income of tapioca growers. Value added tapioca products fetch good returns for tapioca growers and this process significantly enhances their socio-economic status. Hence, a study was undertaken to identify the training needs of tapioca growers on value added products of tapioca. The study was taken up in the tapioca predominant districts of Salem, Dharmapuri, Namakkal and Villupuram in Tamil Nadu State with a sample size of three hundred growers selected based on random sampling procedure.

This study revealed that majority of the respondents perceived training need for "Preparation of Vadagam," "Preparation of tapioca rava", "Preparation of noodles", "Preparation of tapioca pappads", and "Preparation of Vermicelli".

**Keywords:** Training Needs, Value added products of tapioca.

### Introduction

Tapioca (*Manihot Esculenta* Crantz) is an important root crop widely cultivated in tropical countries as a staple food and it is mainly grown for its tuber which is used as supplementary food. It belongs to the spurse family *Euphorbiaceae*. It is also called as monioc, mandioca and yucca in different parts of the world. This perfectly innocuous and high calori ed food employed as a table vegetable with confectionary and edible uses had its origin from South America. It is a rich source of carbohydrate, thiamine, riboflavin, niacin, vitamin C and calcium. Tapioca branded as the poor man's crop, is particularly valued for its drought tolerance, ability to grow on poor soils and relative resistance to disease and insect pests. Tapioca as a food security crop, can be left in ground without harvesting for some time, makes it a very useful crop as a security against famine.

World production of tapioca in 2013-14 is estimated at over 277 million tonnes from an area of about 20 million hectares. Nigeria (20 per cent), Thailand (11 per cent), Indonesia (9 per cent) and Brazil (8 per cent) are the world's largest producers with respect to area under tapioca. In tapioca cultivation, India ranks 25<sup>th</sup> in area, 11<sup>th</sup> in production and 1<sup>st</sup> in productivity (34.95 tonnes/ha). Tapioca is cultivated in an area of 0.21 million ha in India, with a total production of 7.74 million tones. This tuber crop is largely cultivated in Tamil Nadu (64 per cent), Kerala (32 per cent) parts of Andhra Pradesh (1.5 per cent), Nagaland (1.2 per cent) and Assam (0.5 per cent).

Tamil Nadu State stands first (64 per cent) in respect of tapioca production and also processing of tapioca into starch & sago. The cultivation of tapioca spread widely in Kerala as food crop and slowly became industrial crop in Tamil Nadu due to its high industrial value for its products. Tapioca is being cultivated in major 14 districts including Namakkal (21 per cent), Dharmapuri (19 per cent), Salem (15 per cent), Villupuram (14 per cent), Trichy (9 per cent), Erode (5 per cent), and Thiruvannamalai (5 per cent) in an area of 1.21 lakh hectare (Srikanth, 2018) [3].

Edison (2005) [2] reported that tapioca provides ample scope for diversification and value addition. There lies a vast opportunity for non-traditional uses of tapioca in the form of value added foods, animal feed formulation, production of starch, sago as well as commodity chemicals like citric acid and high fructose syrup.

Tapioca serves as raw material for paper, laundry, pulp textiles, pharmaceuticals, glue,

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plywood, rubber, medicine and glucose industries. Value added products like starch, sago, liquid glucose, dextrin, vitamin C and high fructose syrup are made from tapioca, apart from food preparation like noodles, vermicellis, sauce, ice-cream, bread, cake, puddings, fruit pies, soups and other aesthetic value products. Of late, the starch based biodegradable plastics developed from tapioca have received wide attention due to the ability to reduce pollution load, besides being eco-friendly.

Industrial units with diversification of varieties of tapioca based value added products had survived many competitions and market fluctuations. The enormous potentialities of tapioca as a raw material for industry are an insurance for the thousands of marginal farmers of this produce (Chadha, 1996) [1].

In the textile industry, starch is required for sizing of cotton yarn before weaving in India or in World. In India Sizing industries require 60,871 tonnes of tapioca starch by 2010-2011 and 69,208 tonnes by 2015-16 (Srinivasan and Anantharaman 2004) [4].

Flour is made from tapioca dried chips and this finds applications in gum industry, in making Kumkum (vermillion) and in making colours applied to faces, during celebrations, festivals etc. Plywood industries use tapioca starch as a glue for furniture making. Thippi and peel are used as an ingredient in poultry and cattle feed preparations. Tapioca chips and pellets are in great demand for animal feed

in foreign countries. Value addition is a widely talked subject at present. It is a potential resource which can generate more income to farmers. Considering the importance of value addition a study was taken up to identify the training needs of tapioca growers on value added products of tapioca.

### Methodology

The study was conducted in the tapioca predominant districts of Salem, Dharmapuri, Namakkal and Villupuram in Tamil Nadu State. Attur, Harur, Rasipuram and Sankarapuram taluks were purposively selected since they have the largest area under tapioca cultivation in Salem, Dharmapuri, Namakkal and Villupuram districts respectively. A total number of 300 tapioca growers were selected following the proportionate random sampling method. The data were collected through personal interview using a well-structured, pre-tested interview schedule. The collected data were properly analysed using statistical procedures and the results are tabulated.

### Findings and Discussion

#### Training Needs of Tapioca Growers in preparation of value added products

The specific subject matter areas in value added products where the tapioca growers perceived the need for training are given in Table 1.

**Table 1:** Training needs of tapioca growers in value added products

(n=300)

S. No.	Items	Most Needed		Needed		Not Needed		Mean Score
		No.	Per cent	No.	Per cent	No.	Per cent	
<b>Method of preparation of the following products</b>								
1.	<i>Vadagam</i>	178	59.33	24	8.00	98	32.67	2.27
2.	<i>Tapioca rava</i>	157	52.33	60	20.00	83	27.67	2.25
3.	Noodles	132	44.00	85	28.33	83	27.67	2.16
4.	<i>Tapioca pappads</i>	155	51.67	5	1.67	140	46.67	2.05
5.	Vermicelli	142	47.33	28	9.33	130	43.33	2.04
6.	Biscuit	123	41.00	62	20.67	115	38.33	2.02
7.	Bread	96	32.00	85	28.33	119	39.67	1.92
8.	<i>Thattuvadai</i>	119	39.67	16	5.33	165	55.00	1.85
9.	Cake	85	28.33	73	24.33	142	47.33	1.81
10.	Wafers	76	25.33	64	21.33	160	53.33	1.72
11.	Ice cream	67	22.33	73	24.33	160	53.33	1.69
12.	<i>Pakoda</i>	82	27.33	12	4.00	206	68.67	1.59
13.	Murukku	5	1.67	18	6.00	277	92.33	1.09
14.	Tapioca flour	0	0.00	0	0.00	300	100.00	1.00
15.	Sago	0	0.00	0	0.00	300	100.00	1.00
16.	<i>Chips</i> (Finger, sliced)	0	0.00	0	0.00	300	100.00	1.00
17.	Macroni	0	0.00	0	0.00	300	100.00	1.00
<b>Average mean score</b>								<b>1.67</b>

It could be inferred from Table 1 that majority of the respondents perceived training need for preparation of vadagam (Mean Score-MS 2.27). This is followed by training need for preparation of tapioca rava (MS 2.25), preparation of noodles (MS 2.16), preparation of tapioca pappads (MS 2.05), preparation of vermicelli (MS 2.04), preparation of biscuits (MS 2.02), preparation of bread (MS 1.92), preparation of thattuvadai (MS 1.85), preparation of cakes (MS 1.81), preparation of wafers (MS 1.72), preparation of ice cream (MS 1.69), preparation of pakoda (MS 1.59) and preparation of murukku (MS 1.09).

Further it could be observed from the table that no respondent had expressed training need in preparation of chips (MS

1.00), preparation of tapioca flour (MS 1.00), preparation of sago (MS 1.00) and preparation of macroni (MS 1.00). Hence, they did not express training need in the above said value added products.

The respondents perceived training need for preparation of value added products. At the time of harvest, market is flooded with tubers and there is price fall and also keeping quality of tubers is poor. Hence the farmers are forced to sell their produce immediately after the harvest. They sell their produce through middlemen. Middlemen are charging heavy rate of commissions and brokerage to sell their tubers. Hence the farmers expressed their interest in value added products which could be stored for a longer time and it can fetch them

better returns.

### **Conclusion**

The study revealed that majority of the respondents perceived training need for 'preparation of vadagam', 'preparation of tapioca rava' 'Preparation of tapioca pappads' and 'preparation of vermicelli'. Value addition is a potential resource which can generate more income to farmers. Hence they need to be motivated and provided with necessary support for value addition in tapioca.

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