

PACKAGE AND PRACTICES OF TAPIOCA CULTIVATION IN SOUTHERN PART OF INDIA

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ABSTRACT

Tapioca (Manihot esculenta Crantz), commonly known as cassava, holds significant agricultural importance in various states of India, notably Tamil Nadu, Kerala, and Maharashtra. This perennial shrub, cultivated for its storage roots, serves diverse purposes in food, feed, and industrial applications. The article comprehensively covers the package and practices of tapioca cultivation in the southern part of India, exploring factors such as climate, soil conditions, land preparation, planting techniques, varieties, fertilizers, irrigation, and disease management. Additionally, it provides insights into popular tapioca varieties like H-97, Sree Harsha, Sree Prabha, Sree Jaya, Sree Vijaya, Sree Rekha, and Sree Apoorva, each with distinct characteristics and suitability for different regions. The cultivation practices outlined aim to optimize tapioca yield and quality, contributing valuable insights to the agricultural community.



INTRODUCTION

Tapioca (*Manihot esculenta* Crantz belonging to the family Euphorbiaceae) commonly known as cassava, tapioca grown different state in India. Tapioca crop most of the Tamilnadu, Kerala, and Maharashtra etc. This is a perennial shrub grown primarily for its storage roots for food, feed and industrial products. Cassava grows to a height of 1-3 m with erect stems and spirally arranged simple lobed leaves with petioles. The plant produces flowers on a raceme. Tubers are usually cylindrical, tapered and brown in colour and can be harvested 5-12 months after planting. Tuber is eaten raw and after cooking. It is also used as a source of starch, flour and ethanol. The cassava roots are processed and are known as tapioca. In India tapioca pearls or small balls are popular diet for patients. The package and practices for tapioca cultivation are as follows:

Climate and Soil: Tapioca crop cultivation any type soil was grown in India. Most of the well drained soil preferably red lateritic loam with a pH range of 5.5 -7.0. Tapioca crop best in tropical, warm humid climate region with well distributed rainfall of over 100 cm per annum.

Land Preparation for Cassava Cultivation: Tapioca crop preparing the land depends on the type of soil. For example, tapioca is cultivated as mounds if the soil is heavy and textured. Under irrigated conditions, furrow method of cultivation is followed. The land is ploughed 4-5 times to loosen the soil. Farm Yard Manure, superphosphate, lindane dust etc. are applied to the soil while ploughing. Beds with good drainage facilities are then prepared for tapioca cultivation.

Planting time: Tapioca crop can be planted at any time of the under irrigated condition. Most of crop planted during month April – May month in rainfed crop and other month in monsoon season (Kharif Month).

Planting materials: Tapioca crop Prepare sets of 15 cm long with 8 – 10 nodes from the middle portion of the stem. Avoid mechanical damage while preparation and handling of setts. The cut end should be uniform. Dip the setts in Carbendazim solution before planting. Plant the setts vertically with buds pointing upward on the sides of ridges and furrows. 17,000 20,000 setts are needed for planting one ha.



Tapioca crop Variety:

Sr, No	Variety	Characters
1	H-97	This Variety high yielding and matures in 10 months.They are resistant to drought, leaf spot, scale insect spider mite and mosaic diseases. Tubers contain 27-31% starch. Average yield is 10-15 tonnes per acre.
2	Sree Harsha	H-97 is a high yielding hybrid variety of tapioca with medium tall plants(1.5-2 m). Tubers with 27 - 31 percent starch and their avarage Yield is 25-35 T/Ha.

		Maturity period is 10 months. They are field tolerant to drought conditions as well as to Cassava Mosaic Disease (CMD) . They are also field resistant to leaf spot, spider mite and scale insect.
3	Sree Prabha	Hybrid variety of tapioca is excellent for cooking.They can be cultivated in low land as well as upland areas.They are tolerant towards spider mite and leaf spot.
4	Sree Jaya	Sree Jaya is an early maturing (6-7 months) cassava variety especially suitable for low land cultivation as a rotation crop in paddy based cropping system. It has conical tubers with purplish rind, white flesh colour and has excellent cooking quality
5	Sree Vijaya	Sree Vijaya is a high yielding variety of tapioca with excellent cooking quality. Duration is 6 months. It is a selection from the germplasm of cassava. Recorded an yield of 25-28t/ha. Starch content is 27-30%. The tuber flesh colour is light yellow after cooking.
6	Sree Rekha	Sree Rekha is a high yielding top crossed hybrid variety of tapioca with excellent cooking quality. They are suitable for upland and low land cultivation. Maturity period is 8-10 months and average yield is 45-48 T/Ha. They are field tolerant to leaf spot and spider mite.
	Sree Apoorva	It is a triploid variety and the plants are erect, non-branching type.They are suitable for cultivation in Kerala and Tamil Nadu.Starch content is 33%.This variety is used for both extracting starch as well as in cooking.Tuber size is big and flesh is white in color.

Fertilizers and Manure: Tapioca crop Farm yard manure is commonly used for cultivation at the time of ploughing. About 10 -15 tonnes of farm yard manure per acre is applied. Phosphate, nitrogen and potassium fertilizer is applied after 80-95 days of planting. Once the first rains set in 2 Kg of Azotobacter is applied on the field.

Irrigation: First irrigation is given at the time of planting. Life irrigation is given on the 3rd day followed by once in 7 – 10 days upto 3rd month and once in 20 – 30 days upto 8th month.

Diseases and Plant Protection: Some of the common diseases found affecting tapioca crop are:- Anthracnose, Cassava Mosaic Disease, Leaf Spot, Bud Necrosis, Root rot and Tuber scale

Diseases control: These diseases are controlled using disease free stakes for plantation. Resistant varieties developed by research centres are also used for cultivation of tapioca. Some insects affecting tapioca are:



Plant Protection: Tapioca crop mostly common affected in various insect are Nematodes, Grasshoppers, Cassava scales, Witches' broom.

Insect control: Regular field inspection is the best way to control the spread of diseases and insects. Another method is to practice intercropping pattern. Crops like maize, groundnut, black grams are cultivated which help in controlling the diseases.

Harvest

Crop can be harvested at 9 to 11 months after planting. During tuber maturity, the leaves become yellow and 50 % of leaves become dried and sheds off. The soil near the stem base of the stem shows cracking. Tubers can be uprooted by using fork or crow bar.

Tapioca Crop Yield: Tapioca crop yield in irrigate condition 40-50 t/ha and rainfed condition 20-25t/ha

CONCLUSION

In conclusion, the cultivation of tapioca in the southern part of India encompasses a set of meticulously designed practices that account for the crop's adaptability and economic significance. The choice of varieties, from high-yielding hybrids like H-97 and Sree Harsha to early-maturing options like Sree Jaya, highlights the diversity in options available to farmers. Emphasizing optimal climate and soil conditions, the article underscores the importance of proper land preparation, planting techniques, and nutrient management for successful tapioca cultivation. Disease and pest management strategies, including the use of disease-resistant varieties and intercropping, further contribute to sustainable tapioca farming. The



comprehensive information provided serves as a practical guide for farmers and agricultural enthusiasts, fostering the continued success of tapioca cultivation in the southern regions of India.

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