

## Sago Preparation from Tapioca: A Traditional Staple with Modern Appeal

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### SUMMARY

Sago, also known as sabudana, is a versatile food product derived from the starch of the tapioca plant (*Manihot esculenta*). Originating in South America, tapioca is now extensively cultivated in tropical regions and serves as a significant carbohydrate source. The traditional process of sago preparation includes harvesting mature cassava roots, peeling, washing, grating for starch extraction, drying, granulating into pearls, roasting for digestibility, and packaging. Sago offers high energy content and is gluten-free, making it suitable for people with celiac disease. It is commonly used in traditional Indian sweets, puddings, soups, and as a thickening agent in sauces. Additionally, sago-based snacks like sabudana papad are popular in various regions. The cultivation and processing of tapioca require sustainable practices due to its water-intensive nature. While mechanization has modernized sago production, the traditional essence of the process continues to be preserved in kitchens worldwide. Efforts toward eco-friendly production include water-efficient processing, solar drying, and using by-products as animal feed, helping minimize the environmental impact.

### INTRODUCTION

Sago, a versatile and widely enjoyed ingredient, originates from the starchy roots of the tapioca plant (*Manihot esculenta*). This traditional process transforms nutrient-rich tapioca into small, pearl-like granules that are used in a variety of culinary dishes worldwide. Native to South America and cultivated extensively in tropical regions, tapioca is a Euphorbiaceous woody shrub renowned for its edible tuberous roots. These roots are not only a significant source of carbohydrates but also provide essential nutrients like calcium, phosphorus, and vitamin C, making tapioca a valuable crop for both sustenance and nutrition. In many cultures, particularly in tropical regions, sago made from tapioca is an important dietary staple. Kerala, a state in southern India, showcases tapioca's cultural significance, where it is known as the "poor man's vegetable" and is a beloved secondary staple food. Local dishes such as boiled cassava served with fish curry (*kappayum meenum*) and kappa biriyani (cassava mixed with meat) highlight its culinary importance. Beyond traditional uses, the modern appeal of tapioca-based sago extends to a wide range of processed products that cater to global markets, blending cultural heritage with contemporary culinary trends. The preparation of sago from tapioca remains a fascinating example of how traditional food processing methods have evolved to meet modern demands, offering a nutritious and versatile ingredient that continues to find new uses in kitchens around the world.

### The Journey from Tapioca to Sago

**Harvesting Tapioca:** The process begins with harvesting mature cassava roots, typically 9-12 months old. The roots must be free from diseases and pests to ensure high-quality sago.

**Peeling and Washing:** Once harvested, the cassava roots are peeled to remove the thick outer skin. The peeled roots are then thoroughly washed to remove dirt and impurities, preparing them for further processing.

**Grating and Extraction:** The cleaned tapioca is grated to release the starchy content. This grated mixture is soaked in water and then filtered through a fine sieve to separate the starch from the fibrous material. The starch settles at the bottom, forming a thick slurry.

**Sedimentation and Drying:** The tapioca starch slurry is allowed to settle, and the excess water is carefully drained off. The starch residue is then dried under the sun or in a mechanical dryer to remove moisture.

**Granulation:** The dried tapioca starch is processed through a machine that transforms it into small, round sago pearls. The granules are rolled and polished to achieve a uniform size and shape.

**Roasting:** To make sago more digestible, the granules are roasted in large pans, further enhancing the flavor and texture.

**Packaging:** Finally, the processed sago is packed in airtight containers or bags to preserve its quality and extend shelf life. It is now ready to be used in various culinary applications.

### Nutritional Benefits of Sago

Sago is an energy-rich food due to its high carbohydrate content, making it an excellent source of quick energy. It is gluten-free, making it suitable for people with gluten sensitivity or celiac disease. However, it has a low protein and fiber content, so it's often paired with protein-rich foods or vegetables to create balanced meals.

### Culinary Uses of Sago

**Traditional Sweets and Desserts:** Sago is commonly used to prepare traditional Indian sweets like "sabudana kheer," a creamy pudding made with milk, sugar, and flavored with cardamom. It's also a key ingredient in the popular dish "sabudana khichdi," often consumed during fasting periods in India.

**Puddings and Soups:** The pearls add a unique texture to puddings and soups. When cooked, they become translucent and have a slightly chewy consistency, making them a delightful addition to desserts like sago pudding and beverages like bubble tea.

**Crisps and Fryums:** Sago can be used to make crispy snacks such as "sabudana papad," which are deep-fried or roasted to create crunchy treats enjoyed across various regions.

**Thickening Agent:** Due to its starch content, sago is often used as a thickening agent in sauces and soups.

### Ensuring Quality During Preparation

For high-quality sago, proper processing techniques are crucial. Any shortcuts in drying or granulation can affect the texture and cooking quality of the sago pearls. Ensuring that the tapioca is well-processed from start to finish results in sago pearls that cook evenly and maintain a good texture in dishes.

### Sustainability and Modern Applications

Today, with increasing awareness of sustainable agriculture, efforts are being made to ensure that the cultivation of cassava and the production of sago are eco-friendly. Techniques such as water-efficient processing, solar drying, and using the by-products as animal feed help minimize waste and environmental impact.

The traditional art of sago preparation has not only stood the test of time but continues to evolve with modern culinary trends. Whether in age-old recipes or trendy desserts, sago remains a beloved staple that brings the essence of tapioca to kitchens around the world.

### Uses of Sago in Culinary Delights

Tapioca sago finds extensive use in various culinary dishes across different cultures:

**India:** Sago is commonly used in preparing *khichdi*, *kheer*, and *vada* during fasting periods. It serves as a light, nutritious option for those observing traditional fasting rituals.

**Thailand:** Known as "sakoo," sago is used in desserts like *sakoo sai moo* (sago dumplings stuffed with pork) and sweet coconut milk puddings.

**Philippines:** Tapioca pearls are a staple ingredient in desserts such as *taho* (a sweet tofu-based snack) and *buko pandan* (young coconut with pandan-flavored sago).

**Western Dishes:** Sago is also used in puddings and bubble tea, giving them a unique chewy texture.

### Challenges in Sago Production

Despite its popularity, sago production faces some challenges. Tapioca is a water-intensive crop, and regions with insufficient rainfall may struggle with sustainable cultivation. Additionally, traditional processing methods can be time-consuming, and there is a need to balance quality with efficiency in modern production.

### CONCLUSION

Sago preparation from tapioca is an age-old process that combines traditional wisdom with modern techniques to produce a versatile food product enjoyed across the world. While mechanization has made production more efficient, the essence of traditional sago-making remains intact, preserving a culinary tradition that transcends borders.

### REFERENCES:

KAU Agri- Infotech Portal, <http://www.celkau.in/crops/Tuber%20Crops/tapioca.aspx>

Krishnakumar, T., Sankarakutty, S. M and Giri, N. (2024). Tapioca: Processing and Storage. *Recent Advances in Root and Tuber Crops*. 342-353