

VALUE ADDED PRODUCTS OF PALMYRA SPROUT - PANANKIZHANGU

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ABSTRACT

This paper gives an insight about the value-added products of Palmyra Sprout and it also focuses on the health benefits of panankizhangu -which is also in rich fiber content. Palmyra Sprout is a native product of Tamil Nadu and it also reveals about the various the measures taken by the farmers in general to make it as a value-added product. The study focuses on the steps taken by the government and also the individuals in the sowing of palmseed, so that a lost sprout needs to be in limelight because of its innumerable uses.

KEYWORDS: *Naatupanai, Koonthapanai, and Thalipanai, Plamyrah, Karpaga Vriksham, Panangkilangu, Panankizhangu, Neera, Panam Karupatti*

INTRODUCTION

The Palmyra tree has long been one of the most important trees of India and Cambodia and it has got innumerable uses. In India, there are about 105 species of palm in 22 genera, of which Tamil Nadu is home to 50 per cent of all Indian palm trees. There were 30 varieties of palm trees in Tamil Nadu once upon a time, but just three—Naatupanai, Koonthapanai, and Thalipanai—are being identified these days. A palm tree takes a decade to reach a height of 15 meters. Only after maturing, it can be distinguished as male and female. The maximum height of the palm tree is around 30 meters

The male and female palms come from two different varieties. The male palm tree produces only flowers, while the female tree produces fruits as well. India has around 102 million palm trees and half of these trees' existence could be seen in Tamil Nadu, especially in the districts of Thoothukudi, Thirunelveli, Virudhunagar and Ramnad. Tamil Nadu is a pioneer in development of Palm Products Industry in India. Tamil Nadu is a potential centre for the growth and development of Palm Products Industry and attracts foreign exchange by way of export of Palm Products.

The government of Tamil Nadu recently launched an integrated Palmyra Development Mission to boost production and utilization of the state tree – Palmyra Palm. Through extensive planting, research, skill training and financial aid, the multi-pronged plan aims to revive Palmyra cultivation and aid farmers & communities.

Out of the estimated 8.59 crores of Palmyrah in India, about 5.10 crores of Palmyrah are in Tamil Nadu. Palmyra is drought-resistant and can help conserve groundwater. These trees are grown on bunds of water tanks to prevent soil erosion, and augment groundwater table and these trees are commonly seen between agricultural fields in Tamil Nadu and they are believed to recharge water. Trunks are used as rafters and pillars for house construction.

The leaves are used for thatching, making - mats, baskets, fans, hats, umbrellas and writing material. The Palmyra tree is a miracle tree referred to as Karpaga Vriksham, as every part of it is beneficial to mankind. One such product is the Palmyra sprout/Palmyra Tuber. Palmyra Sprout (*Panankilangu* in Tamil) is an underground sprout of the Palmyra palm. They are cultivated in the states of Tamil Nadu, Telangana & Andhra Pradesh. The edible palm products such as neera, palm jaggery, palm sugar, palm candy, preserved nungu, palm fruit jam and palm chocolate varieties are available in the market.

The Government of Tamil Nadu as well as many NGOs are playing a pivotal role in sowing the Palm seed on the river banks, so that its horizon enlarges and the future generations could derive the full benefit from the value added product of Panankizhangu. This Palmyra tree helps the people to eke out their living in plenty of ways. The Palmyra leaves are used in the process of weaving quite a variety of pooja baskets and family members do this as a cottage industry.

COTTAGE INDUSTRY

All portions of a palm tree are beneficial. From its leaves boxes, pooja baskets, fruit baskets, colorful chocolate boxes, pouches, winnow, hand fan, hats and so on products are produced. These cottage industrial products are exported too.

Objectives

- To emphasize the importance of Palm trees
- To find out the various kinds of value-added products of Panankizhangu
- To study the various government schemes that are available for the farmers cultivating Palmyra Trees.

Statement of the Problem

This paper attempts to explore the various uses of Panankizhangu, a forgotten root among the current generation. So an insight into this topic can really bring into fore the various value added products of Palmyra Sprouts and its health benefits.

Health Benefits of Palmyra Sprouts

- **Rich in Fiber:** Panankizhangu Powder is a natural source of dietary fiber, which is quite helpful in digestion. It is probably known for its ability to relieve constipation by normalizing the bowel movements.
- **Rich in Calcium:** Palmyra Sprout contains a significant amount of calcium and it is very much essential for muscle contraction. It also helps in building strong bones and teeth. This calcium rich sprout prevents age-related bone disorders such as osteoporosis, osteoarthritis etc.
- **Digestion:** One of the best things about sprouts is that they contain an unusually high number of enzymes. This can help boost the various metabolic processes and chemical reactions within the body.
- **Immune System:** Palmyra sprouts is a powerful booster for the immune system. Its vitamin-C content alone makes it a powerful stimulant for the white blood cells in the body to fight against the diseases.
- **Cancer Prevention:** The antioxidant activity of the organic compounds found in sprouts make it a very good anti-cancer choice.

- **Nutrient Powerhouse:** It provides vitamins, minerals, and antioxidants for overall well-being.
- **Blood Sugar Regulation:** This powder may contribute to stabilizing blood sugar levels, making it a valuable addition to a balanced diet.
- **Food energy source** for convalescents and it contains vitamins like B12 and C.

Different Varieties of Value-Added Products of Palm Products

- **Toddy:** Toddy is formed as a result of fermentation of sugar sap by wild yeasts and bacteria, which come into contact with the sap. This is an uncontrolled natural fermentation.
- **Wine:** Sterilized unfermented sap could be fermented with suitable strains of yeast to produce palmyrah wine. Sweet toddy, with a pH of 6-7, sterilized and inoculated with good wine yeast produce a very clear straw-colored wine.
- **Palm Gur Jaggery:** It is also called as palm gur. Jaggery is made by boiling neera in a galvanized iron pan at 110°C. Neera gets transformed into a viscous fluid which is poured into shells and allowed to harden. About 8 liters of neera is required to get 1 kg of jaggery. Palm jaggery is almost like jaggery which is made from Palmyra Syrup. It is highly priced due to its medicinal properties.
- **Palmyra Sprouts Flour:** A type of flour made from the sprouted seeds of the Palmyra palm tree (*Borassus flabellifer*). It is considered a nutritious and gluten-free alternative to wheat flour and is commonly used in traditional cuisines in South and Southeast Asia. Palmyra sprouts flour can be used in a variety of dishes, including baked goods, dumplings, and soups.

CONFECTIONERY

At present Palm chocolates and ginger toffee are also prepared. A mixture of glucose and palm sugar is boiled to a temperature of 120° C. The heated mixture is put into trays and mixed with powdered citric acid. A mixture of color and essence is then added. The entire mixture is mixed well and cut into slabs, allowed to cool and packed.

Palmyrah fruit pulp could be commercially utilized to produce food items and animal feed. The whole fruit contains about 40% of undiluted pulp which is dark yellow in color with its characteristic flavor and bitterness. Palmyrah pulp is mixed with other fruits for making jam, cordial, cream etc. since its pulp is bitter in taste, it is better to prepare mixed fruit jam rather than palmyrah jam separately.

Uses of Palm Trees/Palm Products

From Palmyra, quite a variety of products are being produced. They are as follows:

Palm Sugar

Palm Sugar can be substituted to cane sugar in all preparations. It has healing properties against disease of the eye.

Palm Oil

Palm oil has good consumer acceptance as cooking medium because of its price advantage. It is a good raw material for manufacturing oleo chemicals used in making soaps, candles, plasticizers etc. It has also a variety of uses, ranging from edible oil, cosmetics, pharmaceuticals to bio-fuel and bio-lubricant.

Palmyra Fruit

Palmyra Fruit pulp could be commercially utilized to produce food items and animal feed. The whole fruit contains about 40% of undiluted pulp which is dark yellow in colour with its characteristics flavour and bitterness. Palmyra pulp is mixed with other fruits for making jam, cordial, cream etc.

Neera

Neera- delicious drink extracted from the sap of the palm is popular in rural and urban areas of India. The drink has agreeable flavor, high nutritive value and medicinal properties. Neera is not only sweet and delicious, but also has the required nutrient and mineral.

Kottan - Palm Leaf Basketry of Tamilnadu

Palm leaf Basketry is one among the well-known crafts of Tamil Nadu State. Palm tree also known as Palmyra tree is one of the important trees in Tamil Nadu, whose basketry is the major source of income for the rural communities. Palm leaf baskets made have an intricate designs, and it is a special attraction. The products are mainly used for local or daily activities. The palm leaf basketry is locally called "Kottan" in Tamil Nadu.

The 'Aachis' of Chettinad used to make varieties of baskets out of tender palmyra leaves and leaf stems, which are called 'Kottans' and 'Koodais' respectively. Panai Palm Leaf Sewing Purse are also made from Palm Leaves Products

Varieties of products are made using the palm leaf - baskets, fruit baskets, mats, pen stands, flower vases and gift boxes. The baskets are used as storage containers as well as decorative items.

Panam Karupatti

This Karupatti has a greater demand and it is produced from the Padani collected from the palm tree and it has got more uses.

Palm kernel oil is an edible plant oil derived from the kernel of the oil palm tree *Elaeis guineensis*. Palm oil also forms the basis of soap products.

Palm Seed, Palm Oil, Palm Soap



Figure 1

USES OF PANAM KARUPATTI

Digestive Enzymes

Karupatti activates digestive enzymes, which helps in regular bowel movement.

Skin Health

Karupatti prevents pimples, wrinkles and acne, thereby nourishing the skin.

Headaches

Karupatti along with ghee helps to constrict blood vessels and controls pain.

Weight Loss

High amount of potassium in Karupatti reduces water retention and bloating, thereby facilitating weight loss.

Vinegar

Production of vinegar involves fermentation of the palm sap under direct sunlight for more than two hours. Acetic acid is the most important substance present in the vinegar formed. This acetic acid is produced from the fermentation of ethanol. The fermented product, ethanol is then partially oxidized to acetic acid by *Acetobacter aceti* bacteria.

GOVERNMENT SCHEMES

Welfare Schemes

About 30,000 Scheduled Caste artisans are engaged in Palm Products Industry such as tapping of Neera, manufacturing of Palm Jaggery, Palm Fibre and Date Palm Baskets.

Points Programme of the Government

- **Evergreen Revolution:** Palm seeds plantation programme has been formulated under Waste Land Development Programme of the Agriculture Department.
- **Food Security:** Neera and Palm Jaggery are being consumed as natural vitamin food. Awareness has been created among the public about the nutritious value of these edible palm products.
- **Livelihood Security:** Providing training to artisans and the technical know- how of the research made on preservation of Palmyrah Nungu to palmgur artisans and also in exporting Palmyrah Nungu, Palm Fibre and Palm Leaf articles to foreign countries.
- **Ecological Security:** Palmyrah is declared as the "State Tree" of Tamil Nadu. Palmyrah tree prevents soil erosion and protects natural wealth. The palm products are free from pollution environment and eco-friendly.

Financial Assistance

Farmers would receive attractive subsidies to buy critical harvesting tools, climbing machines etc. which are affordable for many small cultivators.

Wider Applications

Scientific expertise would be leveraged for contemporary applications in food, cosmetics, packaging etc. and developing export potential in global markets. The comprehensive plan will help rediscover the heritage tree's economic viability.

CONCLUSION

Palmyra Sprouts are quite beneficial towards human health and also emphasizes the various palm products available in the market. It has really rekindled the individuals to focus on the rich fiber content in Palmyra Sprouts. Government and NGOs/ individuals are taking concrete measures to bring back the legacy of this Palm Tree and the various uses of palm products towards humans.

REFERENCES

1. <https://www.sciencedirect.com/topics/chemical-engineering/palm-oil>
2. <https://www.ocl-journal.org/articles/oclj/pdf/2006/01/oclj2006131p9.pdf>
3. <https://typeset.io/topics/palm-kernel-oil-2qnuoy3z>
4. <https://pubmed.ncbi.nlm.nih.gov/19001776/>