

Alternative Uses of Arecanut Beyond Mastication

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SUMMARY

Arecanut is an important commercial plantation crop of India. It is generally used for mastication by millions of people along with other ingredients such as betel leaf, lime etc. in different parts of world as it is believed to have many medicinal properties. It is being mainly used for chewing in tender, ripe or processed forms which leads to limited export potential and often cursed for its association with pan masala and gutka. Liberal import policies have reduced the price, which are uneconomical for farmers. Hence, areca nut growers are presently facing lot of problems like price fluctuation, middlemen involvements etc. With dropping prices and wide spread worries about the ill effects of areca nut chewing, growers are shifting to cultivation of other crops like rubber and oil palm. Therefore, developing alternative uses of arecanut is the need to stabilize the market and ensure healthy prices for the growers.

INTRODUCTION

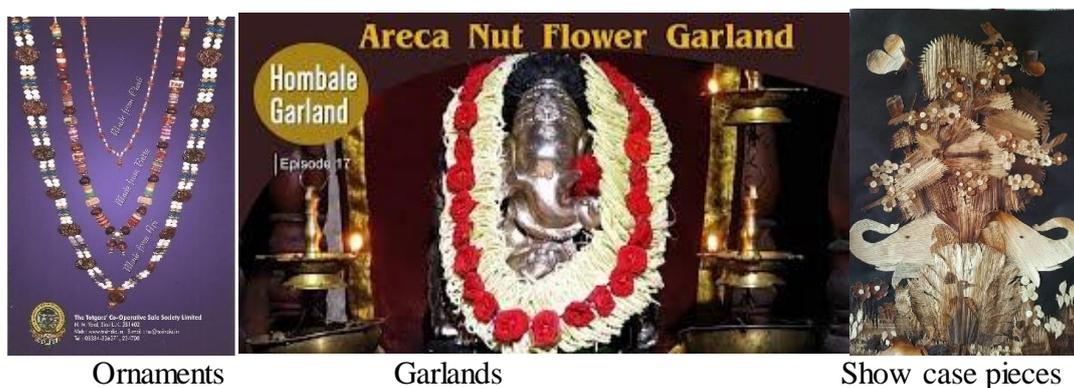
Areca nut, also known as betel nut or supari, is the seed of the palmaceous *Areca catechu* tree. Arecanut palm is an important commercial crop of India providing livelihood to a substantial number of farm families. India is the major producer and consumer of arecanut in the world and ranks first in terms of both area (58%) and production (53%) of arecanut (Mitra and Devi, 2018). Karnataka leads in area and production which accounts for 63% of total share in production followed by Kerala and Assam. It is widely grown as cash crop in Malnad belt of Karnataka by providing income and livelihood security. It is generally used for mastication by millions of people in different parts of world as it is believed to have many medicinal properties. It is chewed mainly along with other ingredients such as betel leaf, lime, fennel etc. It has also very important place in religious functions in many Asian and Oceanic countries. The use of arecanut as a masticatory has been declining since last 2-3 decades with the incursion of modern ways of living into the lives of the rural people and often cursed for its association with pan masala and gutka (Bhat et al. 2017). Liberal import policies have reduced the price, which are uneconomical for farmers. Hence, areca nut growers are presently facing lot of problems like price fluctuation, middlemen involvements etc. With dropping prices and wide spread worries about the ill effects of areca nut chewing, growers are shifting to cultivation of other crops like rubber and oil palm. Therefore, developing alternative uses of areca nut is the need of the hour to stabilize the market and ensure healthy prices for the growers.

ALTERNATE USES:

The search for developing alternate uses of Areca nut is based on finding best use for the various components of the nut and its traditional, medicinal and industrial uses. Areca tree is known to have several uses. The every components of the tree is used for one or the other purposes in human life. Many practices and uses of its components are not brought to picture due to ignorance, lack of interest, less scope for research and heavy investment requirement etc. To safeguard the future of Areca growers it is advisable some research need to be undertaken by business people, co-operatives, scholars, farmers, Universities and others connected.

Traditional Uses:

- Arecanut traditionally used as raw material for preparing garlands and decorative ornaments.
- Aesthetically, attractive and imaginative novelties can be made from areca nut taking advantage of the natural color and having variation on the surface.
- For instance, it can be used for preparing toys for small babies and different show case pieces like paper weight, statues etc.



Ornaments

Garlands

Show case pieces

Medicinal uses

In Ayurveda, arecanut was long considered as having medicinal properties. Vagbhata's (4th Century AD) reference to arecanut describes its use in the treatment of leucoderma, leprosy, cough, fits, worms, anaemia and obesity. Arecanut has pharmacological actions such as antioxidant activity, antimicrobial activity, cholinergic activity, anti-ovulatory activity, hepato-protective activity, antimigraine activity, anti-inflammatory activity, fungicidal activity, etc. Arecanut is reported to have pharmacological properties which may be attributed to its biochemical components such as polyphenols, alkaloids, polysaccharides, fat and proteins. Arecanut extract possess potential anti-oxidative activity and inhibition of free radicals and reactive oxygen species.



Liquid form

Capsule form

Powder form

Other health benefits of Arecanut

Arecanut has been found to possess the following properties.

- Prevents oral cavities, dry mouth, gum infection
- Reduce swelling in gums
- Improve digestion
- Analgesic
- Anti-inflammatory
- Wound healing property
- In the metabolic system as a digestive and carminative
- Anti-diabetic
- Used against certain skin diseases
- Used as aphrodisiac
- Improves eyesight when used as Thamboolaseva
- Helps in relieving asthma

Industrial applications

Tannin

Tannin is obtained as a by-product from the process of preparing immature betel nuts for masticator purposes. The sediments found in the tannin when it is dried, is called areca nut dust.

- Tannin in areca nut were being used for dyeing clothes and tanning leather.
- It can be used as an adhesive in ply board manufacture.
- Another possible use of areca tannin is as a safe food coloring agent.

- Black writing ink of acceptable quality may be prepared.
- Further, it is also useful in protecting house hold furniture by applying it like varnish.
- In the olden days tannin is used like paints to color walls.

Arecanut husk

- Fiber content of arecanut husk finds use in preparations of hard boards, paperboards, cushions and non-woven fabrics besides being a good source of furfural.
- Arecanut husk acts as a potential bio-adsorbent for remediation of chromium and can be used as a corrosion inhibitor for Al metal in a cost effective and eco-friendly manner.
- It can also be used in preparing boxes, cushioned envelopes, soft boards, pillow, beds, etc.,
- The studies carried out at the Central Food Technology Research Institute (CFTRI) Mysore (Karnataka), proved that areca husk could be chemically pulped and it can be used to prepare craft paper.
- Possibilities of producing activated carbon from the husk has offered promising result.
- Areca husk can be used as a manure as it contains 1.0-1.1 percent N, 0.4-0.5 percent P and 1.0 - 1.5 percent K. Therefore, it could be a good organic manure if properly composted.



Areca compost



Areca leaf plates



Areca Writing ink

Areca leaf plates:

Traditionally, areca leaf sheaths were treated as agricultural waste and burned. Their transformation into durable dinnerware for export is a relatively recent phenomenon. Karnataka has a thriving cottage industry of areca ware and there are reportedly 6,000 large and small “bioplate” factories in the state. Areca nuts tree leaf plate is made of completely organic material which is a fallen leaf collected from areca palm trees. The manufacturing of areca leaf plates is done using single mechanized machine designed by CFTRI Mysore. The areca leaf plates are good biodegradable natural products.

Food processing:

Areca Tea

Areca tea is the brand new product invented by Mr.NivedanNempe in 2015 from Mystic Aromatics Company which was selected for the Make in India Excellence Award by AITMC as the innovative product of the year 2014-15. It consists of processed areca granules along with secret Ayurvedic herbs and is approved by FSSAI.

Icy Areca

After a great hit of Areca tea in national and international markets, Mystic Aromatics Company came up with noncarbonated cool drink Icy Areca.It is a ready-to-drink product available in lemon and chocolate flavours.

Air fresheners made from the husk of areca nut

Areca nut husk is converted into a material that is similar to a board, added natural growth promoters and perfume to it to make air fresheners.

- Completely biodegradable
- Act as a fertiliser once thrown away
- Increase the water retention capacity of the soil

Areca Milk Mix

It was invented by an engineering student Nikhil M C from Shivamogga, manufactured and marketed by MalenaduAgri-Research & Development, Malali, Shivamogga.

- It can be consumed in the form of hot milk or cold milk shake.
- Health benefits: Energy booster Control diabetes Beneficial for brain

Fats and its Uses:

The areca nut contains 8-12 percent fatness. It can be extended by solvent extraction using hexane. It can be made edible by refining it using soda lime. The refined areca fat is harder than cocoa, butter and even better, due to its high muriatic acid content. It could be softened by undergoing certain chemical processing and then it can be used as confectionery fat. Simple mixture of areca fat with butter fat at 3:1 ratio or with cocoa fat at 1:1 ratio could give product acceptable in confectioneries.



Areca Tea



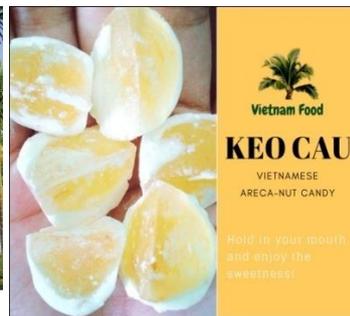
Areca milk mix



Areca soft drink



Areca Soaps



Areca Candy



Areca tooth paste

Future Prospects:

- Considering its rich chemical and physical properties, already conducted pilot research in Mizoram State had promised that it could be useful in extracting liquor.
- Another experiment conducted in CFTRI - Mysore in Karnataka proved that it could be used in preparing beverage with betel leaves.
- Further, exploiting its physical and chemical properties, production of ideal mouth freshener and tooth paste could be thought of to attract the attention of Multinational Companies.
- Further, it could be used in preparation of biscuits, soaps, rasam powder, pickle, wine, herbal powder, cool drinks, syrup, gum, sweets, vinegar and savories and in place of vanaspati.

CONCLUSION

Areca nut being a palm species has multiple uses. Seeing the crop growing pattern and longevity, it should be utilized to its fullest potential so that the farmers can get more income by utilizing the areca nut and its byproducts. Adding value to the areca nut can expand the market, moreover the demand of eco-friendly products are gaining importance in global market.

REFERENCES

- Bhat, S.K., Pandiselvam, R. and Jaganathan, D. Product Diversification in Plantation Crops: Processing and Value Addition of Arecanut. New Delhi: Today & Tomorrow's Printers and Publishers; 2017.
- Arecanut and alternative uses. Calicut: Directorate of Arecanut and Spices Development; 29th June 2015 [19th April 2022; 13th July 2002]. <https://vikaspedia.in/agriculture/crop-production/package-of-practices/plantation-crops/arecanut-and-its-alternative-uses>
- Mitra, S.K. and Devi, H., 2018. Areca nut in India present situation and future prospects. *Acta Horticulturae*. 1205: 789-794.
- Uses of areca and components. Sirsi: Totagars' Cooperative Sale Society; 30th November 2018 [30th November 2018; 13th July 2002]. <https://www.tssindia.in/index.php/other1/about-arecanut-menu/uses-of-areca-and-components>