



RESEARCH NOTE

Coconut, its health benefits and its derivatives as an ingredient in common Asian food

■ SUBHA GANGULY*

All India Coordinated Research Project on Post Harvest Technology (ICAR) Department of Fish Processing Technology, Faculty of Fishery Sciences, West Bengal University of Animal and Fishery Science, Panchasayar, KOLKATA (W.B.) INDIA (Email : ganguly38@gmail.com)

*Author for Correspondence

Research chronicle : Received : 18.12.2012; Accepted : 29.11.2013

SUMMARY :

The coconut fruit obtained from the coconut palm has numerous medical and commercial benefits. The various health related properties of coconut water, coconut milk, coconut cream, creamed coconut and other derivatives from the fruit have been highlighted in this article. The abstract provides an overall summary of different utilities and profile of different products obtained from the coconut for which it is being used as a principal ingredient by almost every consumer in Asian and Western countries in cooking and eating practices. The various derivatives from the fruit are well acceptable to consumers of all age groups, having certain limitations its high saturated fat content. Coconut has been recently proved to be a source of saturated fat that would not elevate the lipid profile in the body, except high density lipoprotein (HDL), which is good for health and absolutely no contraindications now to any age. Coconut is a highly valued ingredient in our eating practice for its enormous medical benefits. However, due to its high lipid and saturated fat content it is discouraged in the diet of patients suffering from cardiovascular ailments and hypertension. The major importance of the fruit is valued for the great medicinal properties of coconut water and the flesh of the fruit. The meat of mature coconut is a flavoring and texture improving ingredient in Indian and Asian homemade food.

KEY WORDS : Coconut, Food, Medicinal properties

How to cite this paper : Ganguly, Subha (2013). Coconut, its health benefits and its derivatives as an ingredient in common Asian food. *Internat. J. Proc. & Post Harvest Technol.*, 4 (2) : 132-134.

Coconut water is the most significant derivative from the coconut which is referred to as the clear liquid inside both mature and immature coconuts, the fruits obtained from the coconut palm. In earlier stages, it is a suspension of the endosperm of the coconuts at the development of the nucleus of the fruit. As maturity develops in the fruit, the endosperm gets deposited into the cellular phase and deposition sets in the mature fruit (Paniappan, 2002). Coconut water is a highly demanded drink in the tropics, especially in Southeast Asia, Pacific Islands, Africa, and the Caribbean. In these regions it is available in fresh, canned, or bottled forms for consumers (Conis, 2011).

Biochemical and medicinal properties of coconut water :

Coconut water acts as a natural energy or sports drink, as it is rich in mineral content especially in potassium levels. Coconut water has a high demand among consumers for its nil fat content and low contents of carbohydrates, calories, and sodium. Coconut water serves as a potential healthy drink for adults and old persons as it has promising health utilities (Yong *et al.*, 2009).

Coconut water is considered to be sterile unless the fruit is damaged from an external source. There have been reports of coconut water used for intravenous administration where normal saline solution for medical purpose was unavailable in

developing countries or on the war front (Campbell-Falck *et al.*, 2000). Coconut water is rich in mineral content with high potassium and anti-oxidant contents which has various medical utilities. Coconut water also contains cytokinin which is one of the beneficial components in it.

Coconuts in which water to be used for drinking purpose are harvested from the coconut palms when they appear green in color. Coconuts sometimes due to natural calamities fell on the ground and they are susceptible to get damaged and get exposed for being damaged by insects or pests and animals.

Other high valued products obtained from coconut :

Coconut cream and milk :

Coconut cream is also another derivative product which is comparatively less in water content. It is a thick paste like substance, while the milk is fluid in consistency. Coconut milk and cream are used as cooking ingredients for their mild sweet taste. Coconut cream is obtained during the making of milk and separates and rises above the cream during its making.

Coconut cream is generally used as a major ingredient in making of desserts and beverages. Creamed coconut is a dehydrated and solid waxy lump of coconut flesh. It is ground to a white semi-solid paste of creamy consistency. Generally, cream of coconut is non-sweet and dehydrated in consistency. It is sold in the form of a hard white block which can be stored at room temperature. It has a very prominent coconut aroma and flavor, for which it is highly in demand by the consumers.

In cookery it is chopped into pieces or grated before it is added to dishes. By adding warm water it can be made into coconut milk or coconut cream.

Creamed coconut :

Creamed coconut is added to Indian, Thai and Asian recipes to enrich curries and sauces. In the west it is primarily used in confectionery items, ice cream, and sauces.

Coconut milk and its implications in traditional medicinal practices :

Coconut milk has tremendous importance especially in Ayurvedic traditional medicinal purposes. It is generally used to maintain the electrolyte balance and to rule out dehydration

losses. Also, it is used for treatment of ulcers in the mouth (Nneli and Woyike, 2008). Some recent studies have suggested that coconut milk has anti-microbial properties in the gastrointestinal tract, hyperlipidemic balancing qualities and useful for topical applications (Paniappan, 2002; Campbell-Falck *et al.*, 2002). In addition, the coconut milk contains auric acid as saturated fat which has medicinal utilities in the cardiovascular system (Mensink *et al.*, 2003). Coconut milk also possesses lauric acid in appreciable quantity. It is a saturated fatty acid which elevates high density lipoprotein cholesterol levels in blood. It has been proven through research that the coconut oil is much better in comparison to saturated fats due to the health risks imposed by the latter (Amarasiri and Dissanayake, 2006; Tarrago-Trani *et al.*, 2006). Research has proved that partially hydrogenated coconut oil creates trans-fatty acids which impose serious health risks for the consumers (Singh *et al.*, 1996; Amarasiri and Dissanayake, 2006).

Coconut milk is rich in medium chain fatty acids. Medium chain fatty acids do not increase the cholesterol level in the blood and yet helps in body weight maintenance (Kaunitz, 1986). However, due to all the discussed health benefits of coconut oil, the United States Food and Drug Administration, World Health Organization, International College of Nutrition, the United States Department of Health and Human Services, American Dietetic Association, American Heart Association, British National Health Service and Dietitians of Canada do not envisage the consumption of significant level of oil obtained from coconut as it is rich in high quantities of saturated fatty acids.

Conclusion :

Coconut is a highly valued ingredient in our eating practice for its enormous medical benefits. However, due to its high lipid and saturated fat content it is discouraged in the diet of patients suffering from cardiovascular ailments and hypertension.

The major importance of the fruit is valued for the great medicinal properties of coconut water and the flesh of the fruit. The meat of mature coconut is a flavoring and texture improving ingredient in Indian and Asian homemade food.

LITERATURE CITED

- Amarasiri, W.A. and Dissanayake, A.S. (2006).** Coconut fats. *Ceylon Med. J.*, **51**(2) : 47-51.
- Campbell-Falck, D., Thomas, T., Falck, T. M., Tutuo, N. and Clem, K. (2000).** The intravenous use of coconut water. *Am. J. Emerg. Med.*, **18**(1) : 108-111.
- Conis, Elena (2011).** Coconut water: A health drink that's all it's cracked up to be? *Los Angeles Times*. Retrieved March 24, 2011.
- Kaunitz, H. (1986).** Medium chain triglycerides (MCT) in aging and arteriosclerosis. *J. Environ. Pathol., Toxicol. & Oncol.*, **6**(3-4): 115-121.
- Mensink, Ronald P., Peter, L. Zock, Arnold, D.M., Kester and Martijn, B. Katan. (2003).** Effects of dietary fatty acids and carbohydrates on the ratio of serum total to HDL cholesterol and on serum lipids and apolipoproteins: a meta-analysis of 60 controlled trials. *American J. Clin. Nutr.* (American Society for Clinical Nutrition), **77**(5) : 1146-1155.

- Nneli, R.O. and Woyike, O.A. (2008).** Anti-ulcerogenic effects of coconut (*Cocos nucifera*) extract in rats. *Phytother. Res.*, **22**: 970-972.
- Paniappan, S. (2002).** The mystery behind coconut water. *The Hindu*. Retrieved January 16, 2012.
- Singh, R.B., Mori, H., Chen, J., Mendis, S., Moshiri, M., Zhu, S., Kim, S.H., Sy, R.G. and Faruqui, A.M. (1996).** Recommendations for the prevention of coronary artery disease in Asians: a scientific statement of the International College of Nutrition. *J. Cardiovasc. Risk.*, **3**(6) : 489-494.
- Tarrago-Trani, M.T., Phillips, K.M., Lemar, L.E. and Holden, J.M. (2006).** New and existing oils and fats used in products with reduced trans-fatty acid content (pdf). *J. American Diet. Association*, **106**(6) : 867-880.
- Yong, J.W.H., Ge, L., Ng, Y.F. and Tan, S.N. (2009).** The chemical composition and biological properties of coconut (*Cocos nucifera* L.) water. *Molecules*, **14**(12) : 5144-5164.

2th
Year
★★★★★ of Excellence ★★★★★