FTI NEWSLETTER

Food Technology®

FTI Food Tech Pvt. Ltd.
Website-www.foodtechinc.com

[For Internal Circulation only]

June, 2014
Quarterly

"Curry Leaves as Nutraceutical Products"

CURRY LEAVES are the sweet smelling leave of small tree, Murraya Koenigii (Linn.) Spreng. Of Rutaceae family native to South.

The leaves are a good source of fibre, vitamins, minerals and antioxidants. Curry leaves are mainly used for cooking in the southern parts of India in order to provide flavour to the curries, vegetables, pickles, chutneys, soups, butter milk, south Indian sambar preparation as well as non vegetarian items, however, mainly used in vegetarians food.

It imparts to the smell and taste of food in addition to the food value. It's properties include much value as an anti-diabetic, antioxidant, antimicrobial, anti-inflammatory, hepatoprotective, antihypercholesterolemic as well as efficient colon carcinogenesis. Micronutrient malnutrition is a cause of concern in developing countries. Nutritionally caused blindness, iodine deficiency disorders and iron deficiency anemia are some of the major problems of micronutrient deficiency seen especially in children.

One of the measures to prevent mal-nutrition through food based approaches. Green leafy vegetables are less expensive and easily available sources of micronutrients. The use of green leafy vegetable requires promotion to improve micronutrient status.

Curry leaves are generally used in very small quantities for seasoning. Because of a slightly hard texture, curry leaves are generally discarded from the dish while eating. Hence, the nutrition potential of curry leaves remains underutilized. It is better to promote curry leaves in an edible form where larger quantities can be incorporated in the diet.

One way to ensure greater consumption of curry leaves is to use curry leaves in dried form. Drying curry leaves also ensures shelf stability and convenience for use when required.

"Banana – A Boon"

Banana (Musa sp. Cavendish,) a dessert fruit for the millions is also affection ately called "Apple of Paradise". Banana is an important fruit crop of many tropical and subtropical regions of India. It is cultivated in India in an area of 830.5 thousand ha and total production is around 29,779.91 thousand tons.

Main banana growing states are **Tamil Nadu, Maharashtra, Gujarat, Andhra Pradesh** and **Karnataka**. There are several hundreds of cultivars of banana spread throughout the world. In India, the number is estimated to be over 300. However, only a few specific cultivars are commercialized in the country. The varieties marketed in India generally consist of Poovan, Dwarf Cavendish (Basrai), Hillbanana (Virupakshi), Chaarakeli, Red banana (Lalkela), Nendran and Elachi.

Banana is used as staple food. It is a rich source of energy (67-137cal/ 100g) and contains moderate quantities of b – carotene, ascorbic acid, niacin, inositol and minor quantities of pyridoxine, thiamine, riboflavin, pantothenic acid and folic acid. Banana is also rich in potassium and is used in the dietetic management of celiac diseases in children and sodium restriction in some patients.

Banana crop is not seasonal and its fruits are available throughout the year, though its cultivation is mostly confined to the tropical and subtropical humid regions of India. Banana being a highly perishable fruit suffers from post – harvest losses to the extent of 30-45 % during the glut seasons. The shelf life of fresh produce can be extended by surface coating, prepackaging, vacuum packaging and processed into various value added products.

Presently many processing techniques are available to convert the fresh produce into their value addition products such as squash, cordial and RTS (from clarified juices), jam, wine, puree, bars, dehydrated figs, banana milk shake powder, banana flour, banana chips and sweet coat banana from specific varieties. Some of the products, preparations are as uner:

Processed products of banana

Process for Canning of banana

Principle: Destruction of spoilage organisms within the sealed container by means of heat.

Process: Selection of fruits → Grading → Washing → Peeling → Cutting into slices of 12 mm thickness → Preparation of 30obx sugar syrup → Filling and Syruping → Exhausting at 82 - 100^0 C for 6-10 min. → Sealing → Processing at 100^0 C for 20 min. → Cooling → Storage.

A New Technique for assessing 'freshness' of packed foods

Foods are packed in rigid as well as flexible containers and the packaging materials used can be metal, plastics, paper, laminates etc depending on the functionality and shelf life desired.

While transparent packaging may provide some clue regarding the appearance of the product based on which some consumers decide whether they are good or bad, there is not sure way of arriving at a decision about the quality without opening the sealed pack.

Recent news that scientists have come out with a gadget that can "tell" whether the packed food is good for eating, is indeed welcome news and it is worth evaluating the efficacy and relevance of the new gadget for the industry, retailer and consumer.

When a food is packed in any container the industry has a few options to extend the life of the product to some extent through manipulation of the gas composition inside. Most products are packed in plastic pouches and sealed under atmospheric condition. The head space within the pack is air containing mostly about 21% oxygen, 78% Nitrogen, 1% Argon and some trace gases like Carbon Dioxide and others.

It is the presence of oxygen in the air which causes quality deterioration in food through oxidative chemical reactions and support for growth of microorganisms if the water activity in the product is conducive for them. Oxidation becomes a critical issue in dry products, especially if the concentration of oil component in the product is significantly high.

Oxidative rancidity is one of the major problems for the fried product industry and there are many antioxidants deployed for retarding rancidity in such products. Vacuum packing and nitrogen flushed packing are also employed to protect food from rancidity and consequent flavour deterioration.

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