



## ALMONDS - GOOD TO GO!



One of the biggest trends driving snacking innovation is “**Health and Consumers want to have pleasure**”, their cake and eat it, but not feel guilty for doing so. Trend analyst, reports that new snack introductions in Europe for ‘health’ and ‘pleasure’ sharply increased by 33 percent and 24 percent, respectively between 2009 and 2010. Manufacturers are responding to the consumer call for healthier snacks, with numerous new products featuring a healthy positioning. This makes almonds ideally suited to lead this trend. Not only are almonds versatile and delicious their nutrient content also makes them a popular choice. **Compared to other tree nuts, almonds are the nuts highest in protein, vitamin E, calcium, fibre, riboflavin and niacin.** They provide a uniquely delicious, hearty taste and satisfy crunch that consumers crave. Almonds are the top nut described by global consumers as being satisfying and consumers also rank almonds as being the most nutritious nut.

## Jaggery - Health Benefits

Jaggery making are one of the oldest agriculture based occupation in India. The sugar industry in India contribute to the socio-economic development of rural population. Currently, the industry produces around 300-350 Mt white sugar and 6-8 Mt jaggery. Jaggery is a natural traditional sweetener made by the concentration of sugarcane juice and is available in solid blocks, semi-liquid and granular forms.

Jaggery contains most minerals and vitamins present in Sugarcane juice. On the contrary, production of sugar however involves several chemical treatments, thus eliminating the originality of sugarcane qualities. **Jaggery is regarded as the medicinal sugar.** The health benefits of jaggery (both palm and sugarcane) have been recognized over 3000 years ago, in Ayurveda. The table below summarises some of the health benefits of jaggery.



## Jaggery as a functional food

- Blood purifier, potential to treat throat and lungs infections, potential to prevent disorder of bile
- Micro-nutrients present possess cytoprotective, anti-toxic, anti-oxidant and anti- carcinogenic properties.
- Used in formulations for remedies to jaundice, breathlessness, kidney problems.
- Prevents rheumatic afflictions, prevents disorder of bile, possess nutritive properties of high order.
- Rich source of iron
- Efficiency to encounter the genotoxic affects induced by arsenic
- Likely to alleviate silicosis
- Enhance translocation of particles from the lungs and hence is a protective agent for workers in dusty and smoky environments.
- Cooling and diuretic effect, serves as a cardiac tonic too.

## How Safe Are Food Colours ?

Nature has provided a wide range of colours in flowers, fruits and vegetables. This has made human beings develop an instinct to get attracted to foods and drinks which bear colours. Colours can make food look more appealing and appetizing, food colours are available as liquids, powders, gels, pastes. Colour additives are used to offset colour loss due to exposure to light, air, temperature extremes, moisture and storage conditions. But how safe is food colour and how effective is the regulation in India?

**Natural food colour is any dye, pigment or any other substance obtained from vegetable, animal, mineral that is capable of colouring foods or drug. Grass, Beet root, Turmeric are some of the natural sources from which colours are extracted.**

However, natural colours may not be suitable for high-heat applications. Synthetic food colours are also called artificial colours.

These are manufactured by chemical reaction and are commonly used in food and pharmaceutical industries. **Some of the common food colour are Tartrazine, Sunset Yellow, Amaranth, Allura Red, Quinoline Yellow, Brilliant Blue, Indigo Carmine and chocolate brown,** While synthetic colours are produced by chemical reaction, some organisation extract natural colours from plant material, such colours have a high shelf life.



Food colours have also been the subject of controversy in the west; for instance, **cochineal and carmine (also called carminic acid) are derived from Insect**. These colorant are used to impart deep red shade to fruit juices, strawberry milkshakes and candies. Some synthetic colours have been reported to cause attention deficit hyperactive disorder in children.

**Generally the impurities fall into four categories- Dye intermediates, Insolubles, Metallics, and subsidiary dyes.**

Dyes intermediates refer to unreacted dyes that remains in the end product. Insoluble refer to water insoluble contaminants. Metallic refers to Lead, Arsenic, Iron, Nickel, Cadmium. Subsidiary dyes are generated due to secondary reactions between parent component of raw materials. So long as the non-active components are within the permissible limits, they are okay.

Expert says "If we have 99% active colour and 1% is the lead contaminant, then this can be a serious hazard. But if we have 90% active colour component and balance are non active component like Sodium Chloride, metal, moisture etc within the limits, then this is a safer proposition.

**What is alarming is the alacrity with which food colours are used for non food application. Metanil yellow that is not a food colour are used in Mumbai and Gujarat widely for colouring food items and delicacies like Ghatis.**

The ubiquitous pan (betel leaf) is coloured with bright red/ green non-food colours. In Jaipur food colours are used for non food application even though it is illegal. Moon dal (pulses) is glazed with Tatrazine, tea is given an artificial colour. China too has grappled with milk adulteration.

**Annato, is a natural yellow colour used in Amul butter. Annato seeds are grown widely in Ratnagiri.** They are similar to fenugreek seeds but have good colouring potential. Extraction of natural colour is done using oil or solvent. Until two years back, there was a requirement for food colour to be sold with the ISI label. With that restriction removed, it has now become free for all. The enforcement of regulation has to be stricter and the unorganized sector need to be kept in check. India has severe regulatory restrictions on food colour but also as many unscrupulous traders and trade practices.

**Some colours that are used in Holi festival also get substituted as Food colours. Now if this is not alarming, nothing else is. At the end of the day no one has the right to play with lives of others.**

## Biocolour From *Beetroot*



Natural colours are usually derived from seed, roots, fruits, vegetables, algae, microorganisms etc. and these are often termed as “biocolour” because of their biological origin.

Beetroot (*Beta vulgaris*) has been known for ages as a mean of imparting red colour for other foods apart from being an attractive food itself. **Betalins from beetroot possess high antiradical effect and antioxidant activity** representing a new class of dietary cationized antioxidants. The betalin group contains approximately 50 red pigments termed betaxanthin.

Processing of beetroot in the powder form changes its physio-chemical properties particularly the colour. It is generally recognized that several factors including heat, pH, light, metals and other chemicals, affect the stability of colour, in red pigmented foods during preparation, processing and storage. The methods of degassing, addition of antioxidant and stabilizers, control of pH, minimal heat treatments etc. has been reported to prevent the loss of pigment. In the present investigation measures such as extraction of pigment with suitable solvents, use of additives, alteration in physical form by using carrier and processing method was undertaken to develop biocolour from beetroot and its stability was improved.

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