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Nutri-Food Chemistry 2018: Nutritional quality and anti-nutritional facts of tropical tuber crops- Surajit Mitra- Post-Harvest Technology

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Tropical tuber crops are used in many countries in South America, Africa and South East Asia as either a staple or a subsidiary food and are the means of feeding millions of people in the tropical and subtropical region. Being the rich starch source, the tubers are used in many counties as the staple food. Tubers are boiled, cooked, fried or transformed into delicious dishes of different forms. Bonbon potato, A significant member of tropical tuber crops has great potential to be an effective and economical source of energy in a very short time, because of its high production capacity.

Tubers and soft leaves are both a good source of vitamin B1, vitamin C? -- Calcium, carotene, iron, potassium, sodium and dietary fibre. In some countries, sweet potato flour is widely used in bakeries and confectionery. Having high orange-fleshed sweet potatoes? -- Pro-vitamin A carotene can be included in the daily diet to address the vitamin A deficiency issue in developing countries. Also gaining importance as an antioxidant food is purple-fleshed sweet potato that has high anthocyanin. As a functional food component with free-radical scavenging and antioxidant capacities, anthocyanins are linked to a wide range of health benefits including improvement of visual acuity and liver function, and prevention of obesity and diabetes. In-countries, the nutritional price of roots and tubers lies in their ability to provide one of the cheapest nutritious energy options, in the form of carbohydrates. This power, along with rice or wheat, is about one-third of that of an equal weight of grain, because tubers have high water content. However, the excessive yields of most root crops ensure a power output in keeping with hectare consistent with day that's considerably better than that of grains. Sweet potato as an example has a high-quality capacity for producing immoderate yields, up to eighty five t/ha were recorded on experimental plots, even though most plantation yields do not exceed 20 t/ha.

As proven in, potato is one of the maximum calorie-yielding vegetation in the world. Such root vegetation is in particular valuable in the tropics where maximum of the populace is based upon on carbohydrate ingredients as nutritional staples. Increased intake of purple-fleshed candy potato tubers wealthy in anthocyanins, the vital contributors of the flavonoid institution of phytochemicals, referred as bioflavonoids can play vital roles in renovation of human health. Sweet potato has now been classified as an anti-diabetic food and is considered as new world? S food security crop.

Tubers of sweet potato, elephant foot yam and yams were quantified for proximate contents consisting of carbohydrate, starch, total soluble solids, sugar, protein, fat, nutrition C, ?-carotene, antioxidant, phenol, tannin, oxalate and trypsin inhibitor using widespread methods. Irrespective of flesh and skin colour of tubers, a linear boom in dry matter, starch and total sugar content material of various cultivars of candy potato had been found for the duration of the developing periods, whilst -carotene content confirmed an increasing trend most effective up to 105 days of planting and declined thereafter. A declining trend in ascorbic acid content was determined with the maturity of the tubers. Yam cultivars have been found to have excessive nutrient and occasional anti-nutrient values. Antioxidant activities of all the cultivars of yam have been very excessive. The Dioscorea alata cultivars confirmed comparatively higher carbohydrate, protein, fat, vitamin C, -carotene, and antioxidant sports than D. Rotundata. A decreasing trend in starch, ascorbic acid, titratable acidity and carbohydrate content material of elephant foot yam corms was discovered, whilst general sugars, TSS and phenol contents have been found to growth at some stage in storage.

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