Value addition in Cassava/ Tapioca

Introduction

Cassava scientifically Manihot *esculenta* or commonly called tapioca is one of the most important tuber crop cultivated in tropics. It is even used as staple food in many parts of the world. It is an important source of carbohydrate.

Fresh roots and leaves are used primarily as human food. Because of their perishability, most roots are usually consumed or marketed close to the centres of production. Cassava leaves can be eaten as a fresh vegetable. The leaves are more nutritionally balanced than the roots and can help to prevent certain deficiency diseases. Leaves, however, may be high in hydrocyanic acid (HCN), but the HCN can be reduced to safe levels in most cases when the liquid is squeezed out after grinding and through evaporation during cooking. Cassava is also used as a cattle feed and raw material for a number of industries.

Nutrient present in 100g cassava root

Principle	Nutrient Value	Percentage of RDA
Energy	160 Kcal	8%
Carbohydrates	38.06 g	29%
Protein	1.36 g	2.5%
Total Fat	0.28 g	1%
Cholesterol	0 mg	0%
Dietary Fiber	1.8 g	4%
Vitamins		
Folates	27 µg	7%
Niacin	0.854 mg	5%
Pyridoxine	0.088 mg	7%

Riboflavin	0.048 mg	4%
Thiamin	0.087 mg	7%
Vitamin A	13 IU	<1%
Vitamin C	20.6 mg	34%
Vitamin E	0.19 mg	1%
Vitamin K	1.9 µg	1.5%
Electrolytes		
Sodium	14 mg	1%
Potassium	271 mg	6%
Minerals		
Calcium	16 mg	1.6%
Iron	0.27 mg	3%
Magnesium	21 mg	5%
Manganese	0.383 mg	1.5%
Phosphorus	27 µg	4%
Zinc	0.34 mg	3%

Value addition in cassava

Cassava is normally used as food crop in India. The recent efforts on post harvesting technologies for converting them into value added products have changed the status of cassava from a food crop to commercial crop.

Cassava is used in the production of number of processed products like starch, sago, liquid glucose, chips, flour etc. Modified starch, carboxy methyl starch, cationic starch, oxidized starch and pregelatinized starch are being produced using cassava starch. Dextrins (yellow and white), liquid adhesives, ethanol and sweeteners are other products prepared from cassava starch. Development of starch based biodegradable plastics on industrial scale is also picking up momentum in the country recently.

Cassava chips and flour are other important value addition items from cassava tubers. Chips are used for producing flour which finds its application in adhesives, animal feed industry, in textiles and it is estimated that more than one lakh tonnes of chips are produced from cassava tubers annually in Andhra Pradesh, Tamil Nadu and Kerala.

Cassava both as a processed product and raw material for other industries is widely accepted in all over the world. Therefore value added products from cassava also have a good market moreover the value addition aids in more income generation for the farmers.