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Standardization of technology for development of guava – soybean toffee as a protein enriched product

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ABSTRACT

Guava-soya toffees are prepared by blending guava (*Psidium guajava* L.) pulp with soya (*Glycine max*) slurry for developing protein enriched product. With increase in concentration of soya, the level of protein and fat in the finished product was observed higher as a result of which the concentration of sugars decreased in the final product. Addition of guava increased the level of ascorbic acid, fibre, calcium and phosphorus. However, the product having 85% fruit pulp and 15% soya slurry recorded highest score in sensory attributes revealing better consumer acceptability. Thus, guava fruit being highly perishable and deficient in protein and fat can be utilized by blending with soybean products to yield a nutritious product.

Key words : Soya slurry, Toffees, Fruit pulp, Sensory attributes

INTRODUCTION

Guava (*Psidium guajava* L.) is cultivated in all parts of India. The tree is almost naturalised in our country and it is common to find this spreading shrub laden with aromatic fruits in some remote corner. The guava is known by different names such as amrud, piyara, peru, koyya, jamakaya, sede pandu etc.

The guava fruit is an excellent source of vit. C (Rathore, 1976) up to 2000 mg/100g fruit. Guava fruit is abundant in dietary fibre (from 5-7%), vitamin A, pectin, phosphorus, calcium and potassium. The predominant non-volatile organic compounds of guava fruit include citric, malic, lactic, ascorbic and galacturonic acids (Chan *et al.*, 1971). The strong aroma of guava fruits is attributed to carbonyl compounds.

Soybean belongs to the family Leguminosae. Its botanical name is *Glycine max*. A unique characteristic of soybean as compared to the legumes is of its high protein content. Soybean is a cheap source of quality protein (40-42%) and fat (18-20%) (Chauhan *et al.* 1993a).

Combination of guava pulp and soybean slurry in development of toffee provides the basic nutrients like

protein, fat, ascorbic acid, fibre and some minerals. It is also beneficial to afford the healthful product to masses suffering from protein-energy malnutrition (PEM).

MATERIALS AND METHODS

Ripe guava fruits of the 'Sardar' variety were obtained from Department of Horticulture, Marathwada Agricultural University, Parbhani. Pulp was extracted after proper washing of fruit by hot method (Lal and Sharma, 1987) by adding water (100 ml/kg of fruit), heated for 5-7 minutes and passed through pulper.

Soybean was procured from the local market and ground to flour. Soya slurry was prepared by mixing soya flour to water (1:5) in a blender, followed by heating to boiling (5 min) and passing through a pulper (Chauhan *et al.* 1993b).

Guava soya toffees were prepared by following the standard recipe generally used for the preparation of fruit toffees. Only the proportions of fruit pulp and soya slurry were varied to find out the acceptable combinations. Different combinations of guava pulp and soya slurry used were 100:0(T₁), 93:7(T₂), 85:15(T₃) and 78:22(T₄).