

Standardization of mixed fruit beverage based on sapota [*Manilkara archras* (Mill) fosberg] fruits

S.D. CHAUDHARI, S.N. VAGHANI AND Y.N. TANDEL

Accepted : July, 2009

See end of the article for authors' affiliations

Correspondence to:

Y.N. TANDEL

Krishi Vigyan Kendra,
Navsari Agricultural
University, NAVSARI
(GUJARAT) INDIA

ABSTRACT

The present investigation was carried out at the Department of Process Technology, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari during the year 2007-08. Eight treatments of different blends of fruits and spices were used and replicated thrice. Perusal of results revealed that mixed fruit sapota beverage combined with 50% blend, 50°brix and 0.2% acidity, which were packed in glass bottles (300 ml) and stored under ambient temperature (20 – 35°C) was found to be most stable and acceptable product from overall acceptability. With the advancement in storage period, increasing trend was noted in TSS and total sugars whereas decreasing trend was measured in non-reducing sugar and acidity in all treatments. The overall acceptability score of mixed fruit sapota beverage declined significantly as the advancement of storage.

Key words : Sapota, Mixed fruit, Beverage

Sapota [*Manilkara achras* (Mill) Fosberg] is popularly known as Chiku and mainly used for table purpose. According to NHB (2007), sapota is considered to be largest producer (10.28 lakh tonnes) of fruits in the world. The sapota fruits are highly perishable; it is hardly marketable for 2-3 days. The fully ripe fruits become soft and have a very short shelf life, such ripe fruits are very difficult to be handled and transported. Therefore, fruits need to be disposed off as early as possible after harvest. To overcome these constraints, processing of sapota fruits into suitable value added products might be helpful. At present, sapota is utilized for halwa, shrikhand, milk shake, ice cream and mixed fruit jam (Chundawat, 1998), Nectar (Alves *et al.*, 2001), juice (Lakkond *et al.*, 2003). Several efforts have been made in past to utilize the sapota fruit as a sole form into value added products and some of which got good marketable value. Now-a-days production of sapota increasing every year so very large scope to think over an alternative approach to increase the income of sapota grower and to get foreign exchange. So, the new idea of blending sapota fruit with suitable fruit and process into value added product. It seems to be the best solution for sapota processing.

MATERIALS AND METHODS

At Navsari (South Gujarat), the experiment on standardization of mixed fruit beverage technology was laid out in Completely Randomized Design (CRD) with three replications and eight treatments as per detailed given below.

Treatment No.	Blends (%)	TSS (°brix)	Acidity in RTS (%)
T ₁	32	40	0.3
T ₂	40	40	0.3
T ₃	40	50	0.3
T ₄	50	50	0.3
T ₅	44	55	0.3
T ₆	55	55	0.3
T ₇	50	50	0.2
T ₈	50	50	0.4

The different blends of fruits *viz.*, sapota (150g), star apple (100g), pineapple (100g), tamarind (100g), kokam (100g), water (200ml) and spices *viz.*, cumin (30g), clove (10g), cinnamon (10g) and water (50ml) were used in above mentioned proportion (percentage) for the preparation treatments. The well ripened healthy fruits with firm and sound texture having good flavour were selected.

The prepared pulp of different fruits and spices were mixed together and known quantity of water was added then homogenized by stirring. Extract was separated according to treatment then sugar and citric acid were added to maintain TSS and acidity required for different treatments. Bottles of 300 ml capacity were used for filling the beverage up to base leaving 1.5-2.5cm from head space and sealed with crown corking machine. Filled bottles with beverage base were pasteurized at 90°C for half an hour. Bottled product was stored at an ambient temperature (20-35°C). Then subsequently periodical