



## Research Paper

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# Standardization of recipe for preparation of nectar from sweet orange (*Citrus sinensis*. Osbeck) var. SATHGUDI and its storage

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**ABSTRACT :** The investigation on standardization of recipe for preparation of nectar from sweet orange (*Citrus sinensis* Osbeck) var. sathgudi was conducted in the Processing laboratory of the division of Post Harvest Technology, Indian Institute of Horticultural Research, Bengaluru from November, 2008 to June, 2009. The experiment comprised of 3 treatments of recipe (Varying juice 20% to 24% with fixed TSS of 15° Brix and 0.3 per cent acidity) in Factorial Completely Randomised Design with five replications. The recipes were analysed for chemical composition and sensory quality attributes at 0, 3 and 6 months of storage in ambient conditions. During storage period, the TSS, acidity, reducing sugars, non-enzymatic browning increased, while pH, total sugars, non-reducing sugars, ascorbic acid and antioxidant activity decreased. In sensory evaluation, the nectar comprising of 24 per cent Juice, 15° Brix and 0.3 per cent acidity retained significantly highest score for colour, consistency, flavour and over all acceptability up to 6 months of storage.

**KEY WORDS :** Nectar, Sweet orange, Sensory analysis, Storage, Acidity, Antioxidant activity

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Citrus fruits rank first in the world with the production of 100 million tonnes among fruits (FAO, 2006). Oranges constitute 65 per cent, mandarins 19 per cent, lemons and limes 11 per cent and grapefruits 5 per cent of the world citrus production (Ismail and Zhang, 2004).

Sweet orange (*Citrus sinensis* Osbeck) is the second largest citrus fruit cultivated in India. Oranges occupy an area of 2,14,800 ha with a production of 14,43,800 tonnes with a productivity of 6.7 tonnes/ha (Anonymous, 2008). Post harvest handling losses of citrus fruits are 5-10 per cent in the most developed countries and 25-30 per cent in developing countries. Sweet oranges are produced in Andhra Pradesh, Maharashtra, Karnataka, Punjab, Haryana and Rajasthan states.

Sweet oranges are mainly consumed in fresh form and their utilisation as processed products is very meagre. However, during the peak harvest season, the availability of the fruits exceeds the demand and the market price is very low. Therefore, the value addition of sweet orange fruits

becomes necessary in order to minimise the glut in the market. Utilisation of fruits for preparation of nectar or other processed products would benefit the grower and also the consumer. Sweet orange nectar is cheap and can be used readily without dilution and also become viable alternative to synthetic carbonated drinks (Deka *et al.*, 2002). Keeping these in view, investigations were conducted to standardise the recipe for the preparation of sweet orange nectar and to study changes in composition and quality during the storage.

## RESEARCH METHODS

The experiment on standardization of recipe for preparation of nectar from sweet orange (*Citrus sinensis* Osbeck) var. sathgudi was carried out in the Processing laboratory of the Division of Post Harvest Technology, Indian Institute of Horticultural Research, Bengaluru from November, 2008 to June, 2009. The experiment was laid out in a Factorial Completely Randomized Design with five replications. The experiment comprises of 3 treatments of different recipes *viz.*,