



Research Paper

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Standardization of sweet orange and kokum blended RTS beverage using sugar substitutes

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ABSTRACT : The investigation on standardization of sweet orange and kokum blended RTS beverage using sugar substitutes was carried out at the Processing laboratory in the Division of Post Harvest Technology, Indian Institute of Horticulture Research, Bengaluru from November, 2009 to June, 2010. Sweet orange and kokum at the ratio of 88 :12 RTS beverage with sugar and sugar substitutes and their combinations revealed that the treatments 50 per cent sucrose + 50 per cent fructose and 50 per cent sucrose + 50 per cent sucralose were at par with sucrose in respect of overall acceptability scores and these were rated the better recipes in sensory evaluation. Highest TSS of 14.60 Brix⁰, pH 3.31, acidity of 0.28 per cent, ascorbic acid of 6.53 mg/100g, reducing sugars of 12.48 per cent, non-reducing sugars of 3.58 per cent and total sugars of 14.12 per cent were recorded in 50 per cent sucrose + 50 per cent fructose, sucralose and 50 per cent sucrose + 50 per cent fructose, sucralose, 50 per cent sucrose + 50 per cent fructose, 50 per cent sucrose + 50 per cent fructose, 50 per cent sucrose + 50 per cent aspartame, 50 per cent sucrose + 50 per cent fructose, respectively. The TSS, titratable acidity and reducing sugars were increased, while pH, total sugars, non-reducing sugars and ascorbic acid were decreased during storage. The sweet orange and kokum blended RTS beverage with sugar substitutes had storage stability upto 6 months.

KEY WORDS : Blended beverage, Sugar substitutes, Sathgudi, Sensory analysis, Storage, Sweet orange

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Sugar substitutes are the food additives used in very small quantities to sweeten foods which provide zero or few calories and offer attractive dietary options for diabetics and people who are trying to limit calorie intake and reduce the risk of tooth decay (Meister and Kava, 2006). Population suffering from diabetes is increasing year by year in India. Inclusion of sugar substitutes in place of sugar for preparation of sweet orange and kokum blended RTS beverage would greatly benefit diabetics and health conscious population. Sweet orange juice is known for its health promoting properties (Ladaniya, 2008). Kokum has tremendous potential for its medicinal qualities. It is a major source of hydroxy citric acid and is a potent inhibitor of obesity in mammals (Nageswara Rao and Sakarish, 1988), anthelmintic, antidiabetic, cardiogenic, treatment against piles, tumours, pains and heart complaints (Sampathu and Krishna Murthy, 1982). Preparation of blended fruit beverages with sugar

substitutes is a new area of research and hence an investigation was carried out to standardize recipe for sweet orange and kokum blended RTS beverage preparation using sugar substitutes.

RESEARCH METHODS

The experiment on standardization of recipe for preparation of sweet orange and kokum blended RTS beverage using sugar substitutes was carried out in the Processing laboratory of the Division of Post Harvest Technology, Indian Institute of Horticultural Research, Bengaluru from November, 2009 to June, 2010. Sweet orange fruits (var. sathgudi) of optimum maturity and colour were procured from the sweet orange gardens of Anantapur district, Andhra Pradesh and they were washed in running potable water, peeled using stainless steel knives, albedo portion was removed, juice sacs were separated from segments and blended in a mixer. The