

Physico-chemical and Organoleptic Characteristics of the formulated Green Mango Juice

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Abstract

Mangoes are consumed mostly in the form of fresh fruit and juice. Mango fruits are rich source of dietary fibre, β -carotene, vitamins B and C. Therefore, the present study was conducted to develop green mango juice as a new value added product using raw mango fruit (cv. *Chembatan*) for use as a delicious and refreshing fruit drink. Green mango juice was formulated using mango pulp at different concentrations of 3, 6, 9, 12 and 15% (v/v) according to the Sri Lankan Standards of Specification (SLS) for fruit juices.

The results of physico-chemical analysis revealed that titrable acidity, ascorbic acid and total sugar increased while the pH decreased from 3.21 to 3.09 with the increase in the pulp concentration from 3 to 15% whereas total soluble solids remained same as 15°Brix for all five formulations. The titrable acidity of formulated green mango juice ranged from 0.26 - 0.37% citric acid equivalents. The highest total sugar of 21.4% was observed in juice with 15% of pulp and the lowest value of 15.4% in juice with 3% of pulp. The vitamin C, titrable acidity and total sugar contents of juice made with 9% of mango pulp were 28.2 mg/100ml, 0.31% and 18.3%, respectively. There were no microbial populations observed in the mango juice during the formulation and at the end of the storage period. Result of sensory evaluation showed that there were significant differences ($P>0.05$) among treatments with respect to quality attributes such as colour, aroma, taste, consistency and overall acceptability. Juice with 9% of mango pulp had the highest mean value and significantly differed ($P>0.05$) from the other pulp concentrations. Based on the quality assessments, the formulated green mango beverage with 9% of pulp concentration was found to be superior in terms of quality and could be stored at 30°C for a minimum period of six months without any significant changes in nutritional and organoleptic characteristics.

Keywords: Green mango juice, nutritional quality, sensory evaluation, shelf life