107/B

Effect of processing temperature and preservative on quality of banana puree

K Jegatheesparan, T Mahendran and K Prasannath*
Department of Agricultural Chemistry, Faculty of Agriculture, Eastern University

Thermal processing is a technique widely used to preserve foods, which could be applied to utilize banana to produce a dessert food named banana puree. A research was performed to investigate the quality of banana puree using different concentrations of a preservative and various processing temperatures. Fresh fully ripe sugar banana fruits were peeled and dipped in different concentrations of 500 ppm, 750 ppm and 1000 ppm potassium metabisulphite solutions for 5 minutes. The treated fruits were blended and the puree was heated to different temperatures of 70 °C, 80 °C and 90 °C for 15 minutes. The processed products were filled in sterilized glass bottles and assessed for nutritional qualities and sensory attributes.

Nutritional analysis was carried out for titrable acidity, ascorbic acid and total sugars for both fresh fruits and puree. The puree heated to 70 °C had the better nutritional qualities compared to the puree heated to 80 °C and 90 °C. The titrable acidity of fresh banana was found to be 0.84% which was higher than that of puree. The banana puree heated to 90 °C showed low acid content than the puree heated to 70 °C and 80 °C as a result of evaporative loss of acids at higher temperature. The product heated to 70 °C and treated with 1000 ppm potassium metabisulphite showed better nutritional retention than the other treatments. The total sugars of this treatment reduced from 21.5 to 18.7% whereas the ascorbic acid retention was found to be superior to the other treatments. Sensory qualities were assessed for banana flavour, taste, colour, texture, absence of browning and overall acceptability of the treatments. The results of organoleptic assessment revealed that there were significant ($p<0.05$) differences between the treatments in the sensory attributes. The attractive colour was observed in the puree heated to 70 °C and higher degree of browning was developed in the fruits treated with 500 ppm potassium metabisulphite. Considering the nutritional qualities and sensory attributes, the processing temperature of 70 °C and potassium metabisulphite concentration of 1000 ppm could be used to prepare banana puree commercially.

*kprasannath@yahoo.com Tel: 065-2240490 Ext. 317