806/B

Development of a passion flavoured ready to serve chilled tea drink

W G K M S Rathnayaka[1*], A M C U Binduhewa[2] and M A J Wansapala[1]

[1] *University of Sri Jayewardenepura, Gangodawila, Nugegoda*
[2] *Industrial Technology Institute, Colombo 7.*

Chilled tea is a commercially attractive and ready to serve drink containing antioxidant properties of tea. However it is still not popular among local consumers due to unavailability Island wide, at a reasonable price. Existing chilled tea products are not fully accepted by the Sri Lankans since they are imported or exported with less familiar flavours. A ready to serve chilled tea drink was developed using passion fruit flavour which was identified as familiar to Sri Lankan taste in preliminary experiments. Ascorbic acid was the antioxidant and retard discolouration of the beverage. The storage life of the product was determined.

Ceylon black tea leaves of 10 % were steeped in water at 100 °C for 5 minutes. The tea extract was cooled immediately to 10 °C, centrifuged at 3000 rpm for 15 minutes and decanted. The initial beverage was formulated and the composition was optimized through sensory evaluation by a screened and trained sensory panel. All comparisons were conducted by preference test and the results were analyzed by Friedman test. The finalized composition was 15.0 % of tea extract, 12.0 % of sugar, 72.8 % of water, 0.1 % citric acid, 120 ppm of sodium benzoate, 150 ppm of ascorbic acid and 80 ppm of passion fruit flavor by weight of the final product. The product was heated at 85 °C and hot filled. The quality of the final product was evaluated on microbiological, chemical and sensory acceptability parameters. The microbiological tests (aerobic plate count, yeast & molds and enumeration of coliforms) conducted according to SLS 516 parts I, II and III resulted in zero counts ensuring safety of consumption. Storage life of the finalized product was determined by storing bottles at 7 °C, 28 °C, 37 °C and 50 °C for six weeks. They were analyzed for microbiological, chemical and sensory quality at two weeks intervals.

The final product had 0.19 % of titratable acidity, 6.474 X 10^{-3} mg tannin/ ml, 3.41 % of total sugar, 12.1 ºBrix of Total Soluble Solids, pH of 2.85 and lightness value of 26.13. The physical treatment was successful, where sedimentation was absent in the final product. The panelists scored on odour, colour, taste, astringency and overall acceptability without significant difference on the decision. The high scores revealed that the product was highly acceptable. The minimum storage life was confirmed as six weeks at 28 °C, since the drink stored at 28 °C was not significantly different in sensory qualities compared to the reference after six weeks.

kalanifst@gmail.com Tel: 071-5478133