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Improvement of gustatory sensation of stirred type herbal yoghurt by incorporating slow cooked aloe vera (*Aloe barbadensis)* gel cubes

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Yoghurt is one of the nutritive, healthy and popular dairy products throughout the world. In the recent past there was a trend to fortify dairy products with herbal plants to manufacture unique products and to provide more health benefits to consumers. Considering the increased health concern of Sri Lankan consumers, this study was conducted to incorporate sugar impregnated aloe vera (*Aloe barbadensis*) cubes into yoghurt with a view to improving the gustatory sense and nutritional value of yoghurt. Among the preliminary experiments conducted, the slow cooking process of aloe vera with sugar syrup was selected as the best method to process aloe vera cubes. The Brix values of the sugar solutions were gradually increased up to 60, 65 and 70 during the slow cooking process of four consecutive days. At the end of the four days, aloe vera lost 67.4% of water and gained 66.8% of solid.

Three sensory evaluation tests were conducted to determine the optimum size of processed aloe vera cubes [small (< 1 cm^3), medium (1 cm^3), large (> 1 cm^3)], optimum amount of cubes [5, 10, and 15% (w/w)] to be incorporated and the best artificial colour (Green S) and flavor (vanilla flavor) combination for the stirred yoghurt. Sensory evaluation results revealed that 10% of medium size (1 cm^3) aloe vera cubes with 0.1% of vanilla flavor and 0.1% of Green S colour added yoghurt received the highest acceptance. Proximate analysis was conducted according to standard AOAC and SLS procedures. Mineral content was analyzed using the Atomic Absorption Spectrometric method. The most acceptable aloe vera yoghurt consisted of 2.5% standardized milk, full cream milk powder, sugar, gelatin and starter culture. Moisture, fat, protein, ash, total solids and milk solid non fat contents of the aloe vera yoghurt were 78.3, 3, 3.2, 0.8, 22 and 12.1% respectively. It contains 205.7 ppm of calcium, 1137.5 ppm of potassium, and 35.8 ppm of magnesium. During the fourteen days of fermentation period, pH and titratable acidity of final product were between 4.96 – 4.38 and 0.64 – 0.96% respectively. Microbiological examination for *E. coli*, yeast and mould revealed that they were within the acceptable limits. The final product has 8 days of shelf life under cold storage (4 $^oC \pm 1$). Newly developed aloe vera yoghurt improved the gustatory sensation considerably while having an approximately similar nutritional composition to the commercially available yoghurt.

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