

DEVELOPMENT OF ALOE VERA (*Aloe barbadensis* Miller) INCORPORATED DRINKING YOGHURT

W.M.A.S. Wijesundara and A.M.J.B. Adikari

*Department of Animal and Food Sciences, Faculty of Agriculture, Rajarata
University of Sri Lanka, Puliyankulama, Anuradhapura*

The incorporation of Aloe Vera juice in the probiotic foods can be a promising trend as a herb and functional ingredient in dairy products. The present study investigated the possibility of developing a novel drinking yoghurt incorporated with Aloe Vera juice and evaluated its sensory quality parameters. The experiment was conducted as Complete Randomized Design with four replicates. Juices of Aloe Vera was extracted using cold extraction method and drinking yoghurt was prepared by incorporating pasteurized Aloe Vera juice with four levels (10%, 15%, 20% and 25%) and compared with the control (0%). Developed product was stored at 4 °C for 20 days. Nutritional and physicochemical properties of the developed products were analyzed. Sensory evaluation was done with 33 untrained panelists using nine point hedonic scales. Titratable acidity and pH of the developed products were tested at 0, 4, 8, 12, 16, 20 days and microbial counts (Total coliform, yeast and mold) were tested at 0, 5, 10, 15, 20 days of storage. Parametric data were analyzed using one way Analysis of Variance in SAS (Ver. 9.0) and sensory data were analyzed by Friedman test in MINITAB. Results revealed that brix values were significantly different ($p < 0.05$) among treatments. Protein, ash and dry matter contents were not significantly different ($p > 0.05$) among treatments. However, fat content among treatments differed ($p < 0.05$) significantly. Sensory analysis revealed that the drinking yoghurt with 15% of Aloe Vera juice had the best sensory qualities. Titratable acidity and pH showed the significant difference ($p < 0.05$) among developed products. During storage, pH and acidity of 15% Aloe Vera juice incorporated samples were changed from 4.4 ± 0.01 to 4.1 ± 0.11 and from 0.84 ± 0.01 to 1.20 ± 0.05 , respectively. There was an interactive effect between treatment and storage time on pH and acidity for the developed products ($p < 0.05$) and it was within the acceptable range up to 16 days of storage period at 4°C. Yeast and mold counts were within the recommended values of Sri Lanka Standards Institute (SLSI) up to 15 days of storage. In conclusion, 15% of Aloe Vera juice can be incorporated to produce Aloe Vera incorporated drinking yoghurt with the best sensory attributes and the same can be stored up to 15 days at 4 °C without any quality deterioration.

Keywords: Aloe Vera, Drinking yoghurt, Sensory quality, Storage