EVALUATION OF NUTRITIONAL, PHYSIO-CHEMICAL AND SENSORY PROPERTIES OF SAPODILLA PULP INCORPORATED SET YOGHURT

R.M.S. Madhubhashini[1], U.L.P. Mangalika[2] and W.A.D. Nayananjalie[1], W.A.P.P. Weeragalle[2], M.V.I. Kumari[2]

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

[2]*Dairy Technology Laboratory, Veterinary Research Institute, Gannoruwa, Peradeniya, Sri Lanka*

The health benefits of yoghurt can be improved by incorporating different fruit pulps. Sapodilla (*Manilkara zapota*) is more nutritious and underutilized fruit species in Sri Lanka. This study was conducted to develop a value added set yoghurt, flavoured with the acceptable combination of milk and ripened sapodilla fruit pulp. Experiment was consisted with four treatments namely, plain set yoghurt as the control, addition of sapodilla pulp at the rate of 5%, 10% and 15% w/w. Organoleptic and "physiochemical" properties of all yoghurt samples were determined. Acidity, pH, coliform, yeast and mould counts were evaluated at 0, 5, 10, 15 and 20 days of storage at refrigerator. Parametric and sensory data were analyzed using Analysis of Variance procedure in SAS and Friedman test in MINITAB, respectively. Sensory data showed that, the sample incorporated with 5% sapodilla pulp had the best qualities. Moisture content was significantly increased ($p<0.05$) while total solids were decreased with the incorporation of sapodilla pulp as it contains more moisture. Significantly lower ($p<0.05$) pH (4.0 – 4.2) was observed in sapodilla added samples compared to the control (4.7). Further, significantly higher ($p<0.05$) protein contents (5.58 - 5.73%) and total solids (29.34 - 29.64%) were observed in control and 5% sapodilla added yoghurts compared to 15% sapodilla added yoghurts. There was no significant difference ($p>0.05$) observed for fat and ash contents among the treatments ($p>0.05$). In prepared yoghurt samples, acidity was increased and yeast and mould counts were reduced over the storage period. *Escherichia coli* was not detected and yeast and mould counts were accordance with the Sri Lanka standards (824:1989) for a period of 15 days at refrigerated storage. The lowest cost of production (Rs.13.65) was reported in 5% sapodilla added yoghurts. In conclusion, yoghurt incorporated with 5% (w/w) sapodilla pulp has better organoleptic properties and nutritional value and can be stored under refrigerated conditions for 15 days without any quality deterioration while producing at lower cost.

Keywords: Milk, Physiochemical properties, Sapodilla, Sensory evaluation, Yoghurt