

EFFECT OF DIFFERENT STABILIZERS ON QUALITY AND SHELF LIFE OF DRINKING YOGHURT

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Drinking yoghurt is a popular dairy product in all over the world. Stabilizers are added to improve the properties of the drinking yoghurt, the objective of this study was to evaluate the suitability of two different types of stabilizers; gelatin and Palsgaard in developing drinking yoghurt. The control yoghurt was produced without stabilizers and used to compare physicochemical properties of the newly developed drinking yoghurt. The preliminary studies were conducted to select the best stabilizer concentration for incorporation to the drinking yoghurt and 0.3% (w/v) and 0.5% (w/v) was selected as best incorporation levels for gelatin and palsgaard respectively. Physic-chemical, rheological and microbiological properties of drinking yoghurts were conducted over the storage at 4°C for 21 days. Nutritional properties and organoleptic properties were also analyzed during the storage period. The experiment was conducted using Completely Randomized Design (CRD) with four replicates while the Non-parametric data were analyzed using Friedman test. The titratable acidity of all types of drinking yoghurt was increased while pH was decreased during the storage period. Viscosity of gelatin, palsgaard and control yoghurt were increased up to one week of storage and gradually decreased with the storage period. Proximate analysis of drinking yoghurt revealed that there is no significant difference ($p > 0.05$) between fat and protein among three types of drinking yoghurt. Hence, there is a significant difference ($p < 0.05$) between total solids and ash contents among three types of drinking yoghurt. Yeast and mold count of the drinking yoghurt were within the acceptable range (maximum 1×10^3 CFU/g) during the storage period. The highest overall sensory acceptability was recorded for the drinking yoghurt prepared with gelatin stabilizer. In conclusion, 0.3% level of gelatin could be used to develop the drinking yoghurt with desired physic-chemical, microbiological, sensory properties and shelf life.

Keywords: Drinking yoghurt, Gelatin, Palsgaard, Properties, Stabilizer