

Topic of dissertation: “Effect of storage period on calcium and folic acid fortified yoghurt”.

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ABSTRACT

Lactose-intolerant people need to avoid milk since it contains a high amount of lactose (4.7%) but the calcium and other minerals present in milk can be supplemented by the intake of yoghurt where lactose gets converted to lactic acid. Therefore it is very beneficial for the lactose-intolerant people. Also the vegetables providing calcium and other minerals may not be available all the year round and hence consumption of yoghurt will help to meet the requirements. Calcium is a very important mineral in the diet especially with women at menopausal age. It is also important for pregnant women, growing children and the elderly. It has been suggested that folic acid deficiency is the most common vitamin deficiency. Folic acid deficiency is known to cause neural tube defects. The objective of this study is to observe the effects of calcium and folic acid, fortified differently, on the quality attributes, sensory characteristics and storage life of low-fat yoghurt. Calcium and folic acid were added during mix preparation at 0%, 30%, 60% and 90% of their recommended dietary allowance (RDA) per 100 ml milk. In other words, the milk contained 120, 240 and 360 mg of calcium and 60, 120 and 180 µg of folic acid in the treatments. The yoghurt mixes were first heated to 40°C (*Olga Cueva, 2008*) and the innoculum was added at the rate of 15 ml per 100ml of yoghurt mixes. After mixing, the inoculated yoghurt mixes were poured into 100 ml sterilized plastic containers and incubated at 37°C for 6-7 hours. The various quality and sensory parameters were then observed on days 1, 3, 6 and 9 of refrigerated storage. Incorporation of calcium at 30%, 60% and 90% RDA significantly increased ash, titratable acidity, syneresis, and texture scores. The values for ash content ranged from 0.8-0.9%, the values for titratable acidity ranged from 0.64-1.31% and that the values for syneresis ranged from 6.1-8.2ml for 30ml of yoghurt. There was slight increase in flavour scores and taste, slight decrease in appearance and colour and no change in moisture content, protein and fat content of calcium fortified yoghurt. The values for taste scores ranged from 7.5-9 on a 9 point Hedonic scale. Incorporation of folic acid at 30%, 60% and 90% RDA decreased flavour scores, appearance and colour. There was no significant change in moisture, syneresis, titratable acidity, ash, protein, fat, texture and taste scores. The values for taste scores for folic acid fortified yoghurt ranged from 7-9 on a 9 point Hedonic scale. Based on the sensory characteristics mainly, 60% level of fortification of both calcium and folic acid can be considered for the preparation of a beneficial and healthy, fortified yoghurt.