

# ENRICHING OF YOGHURT BY ADDING DIFFERENT EDIBLE OILS



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## ABSTRACT

Edible oils constitute valuable natural antioxidants as the bio active compounds and therefore yoghurt can be enriched by fortification with edible oils. Therefore, the aim of this present study was to investigate the nutritional and physical properties and shelf life of yoghurts incorporated with edible oils namely, sunflower oil, and olive oil and sesame oil, at the rate of concentration 1.5% (w/w). Yoghurt samples were analyzed for physico - chemical and sensory properties during refrigerated storage at 4 °C. The physico-chemical (ash, dry matter, fat, titratable acidity, pH, mineral contents) and sensory characteristics (colour, taste, texture, flavor and overall acceptability) were analyzed, at day 1, week 1, week 2, week 3 and week 4 of storage.

Ash, dry matter, fat, pH, titratable acidity and mineral contents, were significantly difference ( $p < 0.05$ ) among the treatments at day one. The results of this study revealed that, the ash ( $0.85 \pm 0.05\%$ ) and dry matter ( $26.28 \pm 1.55\%$ ) content were significantly ( $p < 0.05$ ) higher in yoghurt incorporated with of olive oil. Fat content was significantly ( $p < 0.05$ ) higher in yoghurt incorporated with of sesame oil, ( $8.70 \pm 0.17\%$ ). pH was significantly higher in yoghurt incorporated with olive oil ( $4.97 \pm 0.02\%$ ). And titratable acidity was significantly ( $p < 0.05$ ) lower in yoghurt without oil added ( $0.24 \pm 0.40\%$ ). Syneresis of yoghurt was significantly ( $p < 0.05$ ) higher in yoghurt with olive oil after 1 hour of syneresis. Whereas higher syneresis was observed in sunflower and olive oil added yoghurt after 2 hour of syneresis. Sesame oil added yoghurt showed the highest antioxidant activity (0.311) and least value (0.166) showed in without oil added yoghurt at 593 nm absorbance.

During storage, the ash and dry matter content were significantly ( $p < 0.05$ ) increased and fat content was significantly ( $p < 0.05$ ) increased. pH content was significantly ( $p < 0.05$ ) decreased and titratable acidity was increasing with the storage period. At week one, the higher antioxidant value (0.389) showed in sesame oil added yoghurt and least value (0.175) showed in without oil added yoghurt. Organoleptic properties were evaluated through the panel of 30 members. As a results of organoleptic characteristics revealed that, 1.5% of sunflower oil added yoghurt had the highest mean score of overall quality of all sensorial properties namely, colour, taste, texture, flavor, and overall acceptability. Results revealed that most of the panelist accepted. Yoghurt made from 1.5% of sunflower oil than other types of yoghurt. Finally, it could be concluded that the edible oil is enriching the yoghurt manufacture and it is very much important in improvement of human nutrition.

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