

Using Pomegranate Peel Extract as Natural Antioxidant on Cream Cheese Manufacture from Goat's Milk

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Abstract

Background: Lipid oxidation may be the primary cause of deterioration in quality of food products. It decreases the organoleptic value of foods and imparts rancid and unpleasant flavors to the raw and end-use oil and fat products, thus making them unacceptable to consumers. Pomegranate peel is an important source of bioactive compounds and has been used in folk medicine for many centuries. The antioxidant activity exhibited by phenolic compounds from pomegranate peel has been reported in terms of reduced lipid oxidation.

Objective: The study was conducted to evaluate the possibility of utilization of pomegranate peel extract as natural preservation in goat's cream cheese which rich in fat.

Methods: cream cheese was prepared from goat's milk supplemented with different concentration of Pomegranate peel extract (0, 0.5, 1, and 2%) as natural antioxidant. Goat's cream cheese evaluated for antioxidant activity, oxidative stability, microbiological and organoleptic properties during storage periods at 4±1C° for 45 days chemical composition were determined for fresh cheese.

Results: The obtained results showed that a significant differences observed in antioxidant activity, total phenolic and total flavonoid compounds. Stored goat's cream cheese have significantly decreased in total bacterial count, proteolytic, lipolytic bacteria and yeast & mould counts than the control cheese, coliforms were not detected throughout the storage period. Organoleptic results showed that concentration of Pomegranate peels extract up to 0.5% and 1.0% respectively recorded high scores.

Conclusions: Overall, pomegranate peel extract could be successfully used as natural preservation to improve acceptability, the oxidative stability and storage quality in goat's cream cheese.

Keywords: Lipid oxidation, organoleptic, bioactive compounds
