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Evaluation of chemical and microbial properties of Iranian white brined cheese using a grain, yogurt and commercial cheese culture as a starter

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In this research, the chemical and microbiological characteristics during a 60-day ripening period of white brined cheese produced using five different starter cultures were examined. Starter cultures included traditional kefir grain as an un-defined, commercial kefir (DG 500L), commercial yogurt (Lactina), traditional yogurt and commercial cheese starter culture (FRC-65) as a control. Results of statistical analysis showed that starter culture type had a significant impact (effect) on pH, acidity, fat, protein, moisture, coli form, enterobacteria, total count, mold & yeast and lactococcus level (p < 0.01), and as well as on lactobacillus level (p < 0.05). Ripening period had significant effect on pH, acidity, fat, protein, coli form, total count, mold & yeast, and lactobacillus level (p < 0.01). Moisture, enterobacteria and lactococcus level in cheese were not affected by ripening period. Parameters including pH, fat and protein content showed decreasing trend during ripening except for acidity. Among chemical analyses cheese produced with traditional kefir had highest pH and cheese produced using commercial kefir showed highest acidity and moisture. Among microbial parameters cheese produced with commercial kefir started the lowest total microbial count and after that cheese using traditional kefir started. Traditional kefir grain can be used as a starter culture in production of white brined cheese. Finally, the residual sugars including lactose, glucose and galactose were analyzed with the help of HPLC, cheese samples produced using kefir grain had the highest galactose at the end of ripening period after 60 days.

Keywords: White brine cheese, kefir, starter culture, chemical and microbial profiles

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Natural substances & health care: Taurine and Analogues; Nutraceuticals and functional food components

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and food have a common origin. A food can be regarded as ‘functional’ if it is satisfactorily able to demonstrate its beneficial and or more target functions in the body thus improving the state of health and strengthening the well being and or participating of risk of diseases. Such nutraceuticals in broader term must remain as component of food rather than individually as capsule forms. There is increasing evidences that sulfur amino acids (SAA) play an important metabolic and functional role in human disease prevention. It is further observed that SAA also provide elemental Sulfur require for growth and development, and in source of energy and nutrient needs of various life processes. Taurine has long been placed under such category. To add little known functional food until now is mother’s milk of which taurine is component. It is possible and feasible to modulate via food supplemented with such agents. Taurine supplemented food and formula have provided long range of beneficial covering the entire life activities, from vision to brain and smoking to drinking. It has anti diabetic to anti ageing properties involved in variety of ways to improve the quality of life to make it more happier and healthier. Some of the taurine exhibit similarly. Hence taurine such potential require further extension and enlargement but with logistic support.