

Viability and Quality of Fermented Milk Made Using Local and Commercial Starters during Fermentation and Cold Storage

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Abstract

Recent trends in food consumption and lifestyle show an increased demand for foods that are not only tasty and nutritious, but also provide additional benefits related to health, i.e. functional foods. One example of functional food is probiotic fermented milk produced with lactic acid bacteria. This has been shown to be beneficial to human gut health. The present study aimed to study the viability of Lactobacillus Casei subsp. casei R-68 (LCR-68) and Lactobacillus Casei strain Shirota (LCS) during fermentation and cold storage, as well as the quality of fermented milk produced from both strains. The research was conducted using a Completely Random Design. The data obtained was analyzed using ANOVA and DN MRT. The t-test was used to compare the growth and viability of LCR-68 and LCS. Fermentation time significantly affected the pH value, total lactic acid, total LAB and protein content, but did not significantly affect the fat and ash content of the fermented milk product. The best probiotic fermented milk in terms of viability and quality was produced via fermentation for 15 hours using strain LCR-68 as a starter. LCR-68 and LCS cultured in skimmed milk showed slightly different growth patterns. However, both strains showed similar viability. The total LAB after cold storage for a month was 6.64 and 6.68 log CFU mL(-1) in the LCR-68 and LCS fermented milk, respectively. According to the results, LCR-68 can be used as a starter for making probiotic fermented milk.

Keywords

Author Keywords: Lactobacillus casei strain Shirota; Lactobacillus casei subsp. casei R-68; Probiotic fermented milk

KeyWords Plus: CASEI STRAIN SHIROTA; KEFIR; CONSUMPTION; TRENDS; DADIH; SHEEP

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