STUDY ON SHELF-LIFE OF FERMENTED LACTIC BEVERAGES CONTAINING
BIFIDOBACTERIUM LONGUM 51A

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Probiotics benefit consumer’s health as far as it stays viable in the food matrix. Fermented lactic beverages have been produced with commercial starter culture, consisting in Streptococcus salivarius subsp. thermophilus and Lactobacillus delbrueckii subsp. bulgaricus, added with Bifidobacterium longum 51A. During storage (5ºC, 28 days) have been monitored the viability of the Bifidobacterium strain, starter culture and acidity, pH, syneresis and viscosity. During shelf-life pH has lowered significantly in the first week only, dropping from 4.8 (time 0) to 4.15 (7 days). Lactic acid concentration has never changed, with average grade of 0.59 ± 0.01%. Syneresis has lowered 2.76% in the first week, without significant variation along the remaining days. Lactic acid bacteria counting remained above 10⁸ CFU/mL, with no statistical difference over time. The concentration of B. longum 51A decreased from 8.22log CFU/mL on first day to less than 6.0 log UFC/mL on the 7th day of analysis, allowing no probiotic beverage characterization. The lactic beverage showed good storage stability, although the starter culture may have influenced the viability of the probiotic, which is little tolerant to acid media. L. bulgaricus, also present in the culture, grows in low temperatures causing beverage post-acidification. Therefore, other variables are to be explored in order to find a food matrix inside which Bifidobacterium strain remains viable, or else, another starter culture combination without L. bulgaricus.