Effect of Nisin and Potassium Sorbate on Post-Processing Acidification of Curd

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Nisin is a polycyclic antibacterial peptide which used as a preservative in cheese. It is abacteriocin effective against many Gram-positive organisms including lactic acid bacteria (LAB).Sorbic acid is an antimicrobial agent often used as a preservative in yogurt manufacturing in order to reduce the post-processing acidification and to prevent the growth of yeast and mold and fungi. Hence, the present work was undertaken to assess the effect of Nisin and potassium sorbate on post-processing acidification and the lactic acid bacterial population of curd. Curd was prepared using freeze dried curd starter cultures, and was divided into three parts. 0.015% (w/v) of Nisin and 0.1% (w/v) of Potassium Sorbate were added to two parts separately and other part was kept as control.Curd samples were analyzed LAB population, Titratable acidity % and pH for 11 days of period at 4°C of temperature. Incorporation of Nisin (1.37 log CFU/mL) in to curd reduced ($P<0.05$) the LAB population than Potassium Sorbate incorporated curd (4.48 log CFU/mL) and the control (8.45 log CFU/mL) at 11th day of refrigerated storage. Nisin incorporated curd samples showed slightly higher ($P>0.05$) pH (4.67±0.09) than the Potassium Sorbate incorporated curd(4.01±0.19)and control (3±0.6) and lower Titratable acidity % (0.98±0.05) lactic acid % than Potassium Sorbate incorporated curd (1.1±0.08) and the control (1.12±0.15) at 11th day of refrigerated storage. Therefore, this study revealed that, Nisin can reduce the post-processing acidification of curd than Potassium Sorbate upon refrigerated storage.

Key words: Curd, nisin, sorbate, post-processing acidification

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