Influence of cold storage on antimicrobial, antioxidant and proteolytic activities of three different probiotic fermented milks

Published in Advances in Food Sciences (2016), 38, 82-89

Authors: Hassan, H. M. M. and Elshaghabee, F.M.F.

Abstract

Crude extracts of acidophilus, bifidus and casei fermented milks were screened for their antimicrobial, antioxidant and proteolytic activities during ten day of cold storage (5±1°C). Results showed that the antimicrobial, antioxidant and proteolytic activities of all treatments were increased after ten days of cold storage. Crude extract of casei fermented milk had higher antimicrobial, antioxidant and proteolytic activities than either bifidus or acidophilus during cold storage. Results of organic acid profiles showed that lactic acid is the major metabolites produced in acidophilus and casei fermented milks. While lactic and acetic acids were the major two metabolites produced in bifidus fermented milk. Also, levels of lactic and acetic acids were increased in comparison with non-fermented milk during cold storage period. At the end of cold storage, levels of amino acids (phenylalanine, histidine, tyrosine, aspartic acid and glutamic acid) were increased in crude extract of casei fermented milks compared two other extracts which fit well with proteolytic activity. Results of this study indicated that with increase the cold storage period, levels of amino acids and organic acids were increased which reflect to increase the antimicrobial, antioxidant and proteolytic activities.

Citation

Hassan, H. M. M. and Elshaghabee, F.M.F. (2016). Influence of cold storage on antimicrobial, antioxidant and proteolytic activities of three different probiotic fermented milks. Advances in Food Sciences, 38: 82.