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Effect of substitution of salt substitution on biofunctional properties of cheddar cheese

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The study envisaged the impact of sodium chloride substitution with potassium chloride on the physico-chemical and biological properties (antioxidant, ACE inhibitory and caseinophosphopeptides) of cheddar cheese during storage at 4°C/ 9 months. Cheddar cheeses (triplicate samples) were prepared using NaCl only @ 2%, NaCl:KCl in 1:1 and NaCl:KCl in 1:3 combinations along with the flavor enhancer (HVP) and bitter blocker (AMP). Changes in antioxidant activity were observed to be linked with the rate of soluble peptides formation as well with the ripening time. Antioxidant activity of 1NaCl:3KCl cheddar cheese was found to be higher than the control and 1NaCl:1KCl cheddar cheese and the increase in the activity was more in the ultrafiltered cheese extract samples. Similarly ACE inhibition activitiy was found to be significantly higher ($p<0.05$) in ultrafiltered water soluble extract of 1NaCl:3KCl cheddar cheese than the control and 1NaCl:1KCl cheddar cheese. The content of caseinophosphopeptide exhibited the decreasing trend with the increasing level of KCl substitution throughout the ripening period. The results showed that replacing NaCl with KCl has accelerated the ripening of cheddar cheese to a greater extent.

Biography

Dr. Rita has completed her PhD at the age of 31 years from National dairy research Institute (NDRI), Karnal, India. She is working as Senior Research Fellow, MOFPI, at Dairy Chemistry Department, NDRI, Karnal. She has published 6 papers in reputed journals and received best oral presentation award in National Conference at SLIET-2019, Chandigarh.

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