

Assessment of physico-chemical and heat induced changes during preparation and storage of UHT milk

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Summary

This descriptive research communication describes enzymatic and physico-chemical changes during storage of UHT milk. The UHT milk sample was stored at 5 and 30°C for 4 months and analyzed regularly at an interval of one month. During storage of UHT milk, there was a significant ($p < 0.001$) increase in non-protein nitrogen, non-casein nitrogen, soluble calcium, soluble magnesium and proteolysis, while a significant ($p < 0.001$) decrease in pH was observed. There was a slight change in the particle size and zeta potential of casein micelles. Changes were more pronounced in milk sample stored at 30°C than that stored at 5°C. During storage, there occurred changes in pH, viscosity, salt balance and nitrogenous components which adversely affected its quality. It was concluded that the proteolysis led to the acidification which had destabilizing effect on the milk.