

ABSTRACT

The quality of liquid milk products manufactured at the milk processing plants are determined by analyzing them for total solids, fat, viscosity and microbial quality to determine the quality of the liquid milk. Out of the various standard and rapid methods available to analyze each quality parameter, the most widely used techniques are the rapid methods. Hence it is important to investigate whether the rapid methods yield agreeable results compared with standard methods. A study was conducted to investigate whether a significant difference exist between the estimated values for each quality parameter analyzed using standard and rapid analytical methods. The liquid milk products used in the study were Milo and sweetened condensed milk. From each product 25 batches were analyzed and two samples were randomly drown from each batch in order to have 50 samples from each product. The collected samples were then analyzed for total solid %, fat % and viscosity using both rapid and standard methods. Rapid methods used to analyze total solids %, fat % and viscosity of milk products were respectively Refrctometry, Gerber method and viscotester method and the standard methods were the sand solid method, mojonnier method and viscometer method. Standard Total plate count technique and rapid Resazurin methods for determination of microbial quality were compared using 150 samples of fresh milk. The results were statistically analyzed using ANOVA and Regreesion analysis. The results revealed that there was a significant difference between the values obtained from rapid and standard methods used to determine fat %, total solid % and viscosity in sweetened condensed milk. Regression analysis showed that there is a negative correlation ($r = - 0.542$) between the time to decolorize Resazurin (Rapid test) and Total plate count (Standard method) used to analyze microbial quality in fresh milk. The results of the study conducted on Milo and sweetened condensed milk indicated that the widely used rapid analytical techniques do not show agreeable results with standard analytical techniques.

Key words: Analyze, Mojonnier method, Gerber method, Sand solid, Refractometry, Viscotester, Viscometer, Resazurin , Total plate count, Correlation, Viscosity, Rapid method, Standard method, ANOVA test, Regression analysis.