

Abstract:

This study endeavoured to establish the physical characteristics and bacterial contamination of camel milk along market chain in North-Eastern Province of Kenya. The objective of the study was to identify various points of milk contamination with a view of developing intervention strategies that can improve milk quality leading to improved productivity for pastoralists in the region. The investigation was done on various marketed camel milk samples collected from two counties: Garissa and Wajir. This was considered important because milk is a very nutritious substance that readily supports growth of microorganisms; which is more encouraged when the conditions are hot. Parameters used to assess the physical characteristics included organoleptic tests, measurement of specific gravity, determination of pH, and alcohol test. Bacteriological parameters included: Total coliform count, Total viable bacterial count, and Resazurin test. The study showed that 289 samples [75.26%] had gross dirt/particulate matter including grass/leaves, sand/soil particles and/or black charcoal particles. Thirty four [34] samples [8.85%] had an abnormal yellowish colour. Formation of flakes in the Alcohol test was recorded in 128 samples [33.33%] indicating they were either acidic, mastitic or colostrum milk. This explains the high values of more than 10^7 cfu/ml of TCC and TVBC observed in most of the samples [80%] in the present study. *Escherichia coli* O157:H7 was identified from one of the samples that were serotyped with *Escherichia coli* O157 and H7 antisera. This organism can cause severe disease in humans. Other bacterial microorganisms isolated from the milk samples alongside the coliforms included: *Staphylococcus* species [90.10% = 346 samples], *Streptococcus* species [84.90% = 326 samples] and *Bacillus* species [45.83% = 176 samples]. Of the 346 *Staphylococcus* species isolated, 91 [23.70%] were coagulase-positive. This could have been due to inadequate washing of milk containers and poor personal hygiene of the milkers, as a result of there being inaccessibility of soap and insufficient clean water, as reported in another study. Such contaminated milk spoils easily and is a prelude to both clinical and subclinical, mastitis which results in reduced milk production; both causing economic loss to the farmer. This information is expected to be of benefit to policy-makers in their efforts towards improving milk quality and safety