



Tropentag, September 18-21, 2016, Vienna, Austria

“Solidarity in a competing world —
fair use of resources”

Shelf Life of Raw Milk Based on Storage Containers

FAITH NDUNGI, PATRICK MULIRO, ABDUL FARAJ, JOSEPH MATOFARI, RUTH MOMANYI

Egerton University, Dairy, Food Science and Technology, Kenya

Abstract

Deterioration of milk quality contributes to high milk post-harvest losses. One of the factors that leads to this deterioration is the type of containers used to store and transport milk to collection centres after milking. The commonly used containers are plastic containers, mazzi cans (the recommended food grade containers), aluminum cans and stainless steel cans. The utilisation of the mazzi cans may be hindered by some factors like transporters' preference, road terrain and container carrying capacity. The utilisation of plastic containers has been reported to increase deterioration of milk quality compared to the other containers. Farmers and operators of milk collection centres have reported that milk rejection is higher for milk stored in plastic containers. This study therefore aimed at determining the shelf-life (keeping quality) of raw milk stored in the four commonly used containers. A liter of milk was stored in each of the containers and transported using a motorbike from the farm to the laboratory at Olenguruone cooperative in Nakuru County. Titratable acidity, alcohol test and resazurin test were carried out on the milk and monitoring done until it failed the tests. The experiment was repeated with the containers of milk stored outside the laboratory. Results indicate that milk in the plastic cans failed all the tests in less than 24 hours unlike the mazzi, stainless steel and aluminum cans that took 30, 32 and 28 hours respectively. With the containers stored in the open, the milk in the plastic can still took the least time to fail the tests. It was concluded that the use of plastic containers contributed to quick milk quality deterioration. It is recommended that the concerns by the transporters about containers used are addressed by the respective regulatory bodies in the dairy sector. There should also be proper enforcement of laws regarding use of the recommended milk containers.

Keywords: Mazzi can, plastic can, raw milk, shelf-life