

Abstract:

This study was conducted to assess raw milk bacterial loads and micro-organisms associated with milk handling practices and raw milk chain in the North-western region of Rwanda. A multistage sampling method was used to collect sixty-seven raw milk samples that were analyzed for milk quality at four stages of the raw milk chain: dairy farmers, milk hawkers, milk collection centres (MCC) and milk kiosks. Total bacterial counts (TBC) at different stages of the chain were determined and microorganisms were isolated. A questionnaire was distributed to gather information on factors and milk handling practices that influenced milk quality at farm level. The study revealed a TBC mean values of 1.2×10^6 CFU/ml (dairy farmers), 2.6×10^7 CFU/ml (milk hawkers), 1.5×10^6 CFU/ml (MCC) and 6.9×10^6 CFU/ml (kiosks/restaurants). The prevalent micro-organisms were: *Escherichia coli* (*E. coli*), 26.9%; *Salmonella* spp., 16.4%; *Streptococcus* spp., 16.4%; coagulase- negative staphylococci (CNS), 14.9%. Bacterial load was highly associated with containers used for milk transport, cleaning time of milk containers and source of water used to clean containers. It is, therefore, highly recommended that all concerned parties in the raw milk value chain improve their milk handling and storage practices.