

## **Microbial species of safety concern in milk from informal processors in Harare, Zimbabwe**

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### **Abstract**

In this study, the bacteriological quality and the presence of *Staphylococcus aureus*, *Escherichia coli* O157:H7, *Bacillus cereus*, *Salmonella* species, and *Pseudomonas* species were studied in raw milk, cultured milk, milk handlers and packaging containers. A total of 36 samples were collected over 3 months from three different farmers. Samples were analyzed for means of counts per milliliter of milk for total bacterial count (TBC), total coliform count (TCC), total *E. coli* count (TEC), *S. aureus*, *B. cereus*, *Salmonella* spp. and *Pseudomonas* spp. Microbial load ranged between 0.81 and 7.6 log<sub>10</sub> cfu/ml for various critical sampling locations. Isolates of *E. coli*, *S. aureus* and *B. cereus* were taken for simple polymerase chain reaction (PCR) to investigate the presence of virulent genes, *rfB*, *sei*, and *cytK* with amplicon sizes of 1.0 kb, 500 bp and 320 bp, respectively. The *sei* gene was detected in 19% of the samples and 2.8% were found to have the *cytK* gene. The *rfB* gene could not be picked in *E. coli*. The results show poor hygienic practices at the processors and potential risk to the consumers.