
**BACTERIAL LOAD IN UNPASTEURISED MILK OBTAINED FROM SELECTED FARMS
AND MILK TRADING POINTS IN GWERI SUBCOUNTY SOROTI DISTRICT, UGANDA.**

BY

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DECLARATION

I, NABUKALU MASTULAH, declare that this dissertation is my original compilation and that none of its sections has ever been presented to any institution for any kind of academic award or publication.

Signed.....

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DEDICATION

I would love to dedicate this work to my Parents Mr. Tebukooza Yusufu and Mrs. Namubiru Aminah, for their invaluable contribution towards my education. This work is also dedicated to my brothers and sisters and my friend Kalule Ibrahim.

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LIST OF ABBREVIATIONS

UBOS	Uganda Bureau of statistics
WHO	World Health Organization
DDA	Diary Development Authority
SFP	Staphylococcal Food Poisoning
SE	Staphylococcal enterotoxins
SDDW	Sterile Double Distiled Water
BUAC	Busitema University Arapai Campus
e.g.	For example
E.coli	Escherichia coli
S.aureus	Staphylococcus aureus
DVO	District Veterinary Officer
CFU	Colony Forming Units

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ABSTRACT

Back ground: The dairy sector is growing rapidly over the recent years in response to expanding human population in Uganda and world at large. In Uganda, small-scale farmers contribute more than 90 % of the country's cattle population. Most of milk produced is never pasteurized and sold as a raw product, and this could be a source of disease to the final consumers. Despite this, many residents of Soroti city obtain milk from milk vendors, who in turn collect it directly from farms. The microbial load of this unpasteurized milk is not known yet it could expose the population to milk-borne diseases. The purpose of this study was to determine the level of bacterial load in unpasteurized milk at both parish farms' level and their followed up trading points of Gweri Sub County, one of the seven sub counties of Soroti district.

Methods: Purposive sampling was done, were 36 samples of unpasturised milk were collected from 6 farms of each parish and other 6 samples were collected from the followed up milk trading points of each parish of Gweri sub county i.e. Gweri , Dokolo, Awalwal, Omugenya, Awoja and Aukot parish. The samples were taken to the Busitema University Lab and cultured using suitable media. Total aerobic counts, *Staphylococcus aureus* counts and *E.coli* counts were determined. The bacteriological indices were compared with UNBS acceptable standards. A oneway ANOVA was used to determine the statistical significance in the differences of the mean microbial load of the milk between Parish farms, and between the parish farms and the milk selling points. All differences were considered significant at $p < 0.05$. A bonniferroni correction factor was applied to determine in which specific parish farms' was the difference noticed statistically significant.

Results: The study revealed that the total aerobic bacterial counts in milk samples from both the parish farms' level and trading points were above the Uganda National Bureau of Standards (UNBS), only milk from Awalwal parish farms' met both *staphylococcus aureus* and *E. coli* UNBS set standards for human consumption. Omugenya parish milk had the highest mean *E.coli* counts in the sub county while Awoja parish farm' registered the highest mean counts of *Staphylococcus aureus*. Generally milk from Gweri Sub County was not fit for human consumption. Improvement in the dairy extension should be done to assist dairy farmers and milk sellers in dairy operations needed i.e. in milking, farmer hygiene, utensil cleaning, and manure management that affect milk bacterial growth and also include topics on quality milk production at farm level and at the milk trading process.