BACTERIOLOGICAL ASSESSMENT OF RAW MILK OF DIFFERENT ANIMALS

By Rabee Alhossiny Ombarak
May, 2011
Supervisor: Prof. Dr. Abdel-Rahman M. Elbagory

A thesis submitted for the degree of MS

Abstract

This study was conducted to evaluate the bacteriological quality of raw milk of different animals. One hundred and seventy five raw milk samples were collected, 35 each of cow’s, buffalo’s, ewe’s, goat’s and camel’s milk (cow’s and buffalo’s milk samples were collected from dairy shops, ewe’s and goat’s milk samples were collected from dairy flocks in Al-Menofia Governorate, Egypt, while camel milk samples were collected from a camel farm in Matrouh Governorate, Egypt), for bacteriological analysis.

Bacteriological examination of examined raw cow’s, buffalo’s, ewe’s, goat’s and camel’s milk samples revealed that the mean count value of Standard Plate Count (SPC) were $2.10 \times 10^7 \pm 0.84 \times 10^7$, $4.03 \times 10^7 \pm 1.37 \times 10^7$, $9.11 \times 10^6 \pm 2.47 \times 10^6$, $2.04 \times 10^6 \pm 9.15 \times 10^5$ and $1.19 \times 10^7 \pm 2.54 \times 10^6$ respectively. The mean count values of Enterobacteriaceae were $2.22 \times 10^6 \pm 9.23 \times 10^5$, $1.03 \times 10^7 \pm 2.67 \times 10^6$, $2.53 \times 10^6 \pm 5.69 \times 10^5$, $1.67 \times 10^5 \pm 8.73 \times 10^4$ and $2.72 \times 10^5 \pm 3.91 \times 10^5$ respectively. Coliforms could be detected in 88.57%, 88.57%, 68.57%, 60% and 88.57%, from examined samples respectively, with mean count values of $5.57 \times 10^5 \pm 3.56 \times 10^5$, $8.86 \times 10^5 \pm 1.71 \times 10^5$, $6.47 \times 10^5 \pm 2.17 \times 10^5$, $1.66 \times 10^5 \pm 8.54 \times 10^4$ and $8.49 \times 10^4 \pm 7.84 \times 10^4$, respectively. *E. coli* could be isolated from 22.86%, 14.29%, 14.29%, 11.43% and 25.71% of examined samples respectively. Serological typing of isolated *E. coli* proved that some of them belonged to serotypes: O55, O119, O124, O127 and O158.

The mean count value of total Staphylococci were $2.27 \times 10^6 \pm 7.30 \times 10^5$, $3.06 \times 10^6 \pm 8.28 \times 10^5$, $1.45 \times 10^6 \pm 3.44 \times 10^5$, $4.1 \times 10^5 \pm 1.78 \times 10^5$ and $2.43 \times 10^5 \pm 5.71 \times 10^5$, respectively. *S. aureus* could be detected in 62.86%, 57.14%, 31.43%, 37.14% and 42.86% with mean count values of $5.69 \times 10^4 \pm 1.97 \times 10^4$, $1.58 \times 10^5 \pm 5.04 \times 10^4$, $6.67 \times 10^4 \pm 2.71 \times 10^4$, $1.41 \times 10^4 \pm 5.74 \times 10^3$ and $2.4 \times 10^5 \pm 1 \times 10^5$, respectively. Salmonella and *Listeria monocytogenes* couldn’t be detected from any of examined samples.