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VII- SUMMARY

Two hundred random samples of raw milk were collected from different dairy shops in Cairo Governorate. The samples were transferred as soon as possible to the laboratory to be examined. All samples were proved to be raw milk before being subjected to some sanitary and microbiological examination.

The results can be summarized as follows:

I- Sanitary tests

Concerning the sanitary examination the pH values ranged from 6.37 to 6.98 and the percent of titratable acidity ranged from 0.12 to 0.19.

II- Detection of abnormal milk

Concerning the screening test (MWT) revealed that 80.5% of samples were normal, while 16.5% were (+ve) and only 3% gave score (++).

III- Stormy fermentation test

Concerning the stormy fermentation test revealed that anaerobic clostridia organisms were detected in 60.5% of the examined samples.

IV- Bacteriological examination

1. The bacteriological examination of milk for food poisoning organisms of faecal origin revealed that *C.jejuni* failed to be detected from any raw milk samples examined.

2. Non sorbitol fermenters *E.coli* strains could be isolated from 4% of examined samples, while *E.coli* O157:H7 was isolated only from one sample.

3. *Y.enterocolitica* could be detected from 9% of examined samples and by serotyping, *Y.enterocolitica* serotypes were 0:5 (33.3%), 0:8 (27.8%) and each of 0:3 and 0:4 was (5.6%) while 27.7% were untypable.

4. *Ps.aeruginosa* could be isolated from 43.5% of samples examined.

5. *Cl.perfringens* could be detected from 21.5% of examined samples. Toxygenic strains could be isolated from 27 (37.2%) and out of 27 toxigenic strains 14 (51.9%) were type D, followed by type A and B were recovered from 3 (11.1%) strains, while 37.2% were non toxigenic strains.

V- Experimental study

1. Concerning the effect of nisin on viability of *E.coli* O157, revealed that adding of nisin 100 ppm showed marked reduction in count by the end of the experiment than sample that treated with 10 ppm nisin from 1×10^7 to 7.4×10^5 and 6.3×10^6 for samples kept at room temperature and to 3.3×10^4 and 6.3×10^5 for samples kept at $4 \pm 1^\circ\text{C}$ respectively.

2. Nisin had no effect on *Y.enterocolitica*, as the organism increased when adding of 10 ppm and 100 ppm nisin and for samples kept at room temperature or in refrigeration temperature.

3. Samples treated with 10 ppm nisin showed no effect on *Ps.aeruginosa* while that treated with 100 ppm nisin showed decrease in count of *Ps.aeruginosa* for samples kept at room temperature and refrigeration temperature to 3×10^6 and 1.4×10^5 respectively.

The public health significance of isolated organisms and suggestive control measures for improving the quality of raw milk has been mentioned.