SUMMARY

56 bulk milk samples were collected regularly every week for 7 months (January- July) from two organized dairy farms. In addition to 8 water samples, 8 equipment samples and 16 milkers samples were collected from each farm. In addition 25 bulk milk samples were randomly collected from 25 farmer farms.

Bacteriological examination of farm (1) milk samples revealed that the mean values of total bacterial, thermoduric, psychrotrophic, total coliform, faecal coliform, E.coli, S.aureus, Aeromonas and B.cereus counts were $3.63 \times 10^{5} \pm 1.28 \times 10^{5}$, $1.6 \times 10^{4} \pm 8.5 \times 10^{3}$, $2.2 \times 10^{5} \pm 6.6 \times 10^{4}$, $4.5 \times 10^{4} \pm 1.9 \times 10^{4}$, $3.2 \times 10^{3} \pm 1.1 \times 10^{3}$, $1.9 \times 10^{3} \pm 8.6 \times 10^{2}$, $2.5 \times 10^{3} \pm 9.2 \times 10^{2}$, $6.6 \times 10^{4} \pm 4.4 \times 10^{4}$ and zero /ml for cold season, while for warm season were $5.35 \times 10^{5} \pm 1.17 \times 10^{5}$, $9.01 \times 10^{3} \pm 2.8 \times 10^{3}$, $8.7 \times 10^{5} \pm 2.5 \times 10^{5}$, $7.2 \times 10^{4} \pm 3.2 \times 10^{4}$, $2.3 \times 10^{3} \pm 1.7 \times 10^{3}$, $1.98 \times 10^{2} \pm 8.5 \times 10^{1}$, $3.3 \times 10^{3} \pm 1.9 \times 10^{3}$, $9.4 \times 10^{2} \pm 7 \times 10^{2}$ and 7.14 ± 7.14/ ml respectively.

Concerning farm (2) milk samples, corresponding values were $5.01 \times 10^{5} \pm 2.13 \times 10^{5}$, $2.93 \times 10^{3} \pm 2.6 \times 10^{3}$, $4.3 \times 10^{5} \pm 1.4 \times 10^{5}$, $1.4 \times 10^{5} \pm 7.6 \times 10^{4}$, $5.1 \times 10^{3} \pm 2.3 \times 10^{3}$, $8.7 \times 10^{2} \pm 5.4 \times 10^{2}$, $1.02 \times 10^{4} \pm 2.9 \times 10^{2}$, $7.3 \times 10^{4} \pm 2.24 \times 10^{4}$ and zero/ml for cold season, while for warm season were $1.94 \times 10^{6} \pm 1.02 \times 10^{6}$, $1.5 \times 10^{3} \pm 1.1 \times 10^{3}$, $6.3 \times 10^{5} \pm 1.1 \times 10^{5}$, $7.7 \times 10^{4} \pm 4.3 \times 10^{4}$, $1.2 \times 10^{3} \pm 6.5 \times 10^{2}$, $1.6 \times 10^{2} \pm 1.1 \times 10^{2}$, $4.4 \times 10^{3} \pm 1.8 \times 10^{3}$, $1.5 \times 10^{4} \pm 9 \times 10^{3}$ and 7.14 ± 7.14 / ml respectively.

The mean SCC of farm (1) during cold and warm season were $1.5 \times 10^{5} \pm 2.2 \times 10^{4}$ and $2.7 \times 10^{5} \pm 3.4 \times 10^{4}$, while for farm (2) were $2.03 \times 10^{5} \pm 3.5 \times 10^{4}$ and $4.23 \times 10^{5} \pm 7.1 \times 10^{4}$ cells/ml respectively.

Concerning the water samples of farm (1) the mean values of total bacterial, thermoduric and psychrotrophic counts were $1.95 \times 10^{2} \pm 7.7 \times 10^{1}$, 6.5 ± 6.5 and $5.6 \times 10^{1} \pm 2.3 \times 10^{1}$/ ml for cold season, while for

warm season were 7.5 x 10^1 ± 2.7 x10^1, 2.5 x 10^1 ±1.2 x 10^1 and 14 ± 5.4 /ml respectively.

Corresponding values for farm (2) water samples were 3.5 x 10^1 ± 1 x10^1, 1.4 x 10^1 ± 9 and 5 ± 1.8 for cold season, while for warm, season were 7.6 x 10^1 ± 4.1 x10^4, 4 ± 2.4 and 3.4 x 10^1 ± 2.2 x 10^1 / ml respectively. Water from both farms was free from total coliform, faecal coliform, E.coli, S.aureus, Aeromonas and B.cereus in both seasons.

Examination of farm (1) equipment revealed that the mean values of total bacterial, thermoduric, psychrotrophic, total coliform, faecal coliform, E.coli, S.aureus, Aeromonas and B.cereus were 5.9 x 10^4 ± 2.9x 10^4, 34.5 ± 22, 1.1 x 10^5 ± 5.5 x 10^4, 1.4 x 10^4 ± 4.6 x 10^3, 1.4 x 10^3 ± 3.6 x 10^2, 1.1 x 10^2 ± 5.2 x 10^1, 5 ± 4.7, 8.3 x 10^1 ± 4 x 10^1 and zero /ml for cold season, while for warm season were 2.4 x 10^5 ± 9.9 x 10^4, 1.9 x 10^2 ± 7.2 x 10^1, 2.8 x 10^5 ± 1.1 x 10^5, 5.2 x 10^3 ± 2.4 x 10^3, 5.2 x 10^2 ± 2.8 x 10^2 , 55 ± 39, 8.8 ± 5 , 5.8 x 10^2 ± 4.8 x 10^2 and zero/ ml respectively.

On the other hand corresponding values for farm (2) equipment were 3.1 x 10^4 ± 2.6 x 10^4, 2.4 x 10^2 ±1.1 x 10^2, 3.3 x 10^4 ± 2.9 x 10^4, 7.4 x 10^3 ± 4 x 10^3, 1.03 x 10^3 ± 5.7 x 10^2, 74 ± 51, 6.7 x 10^2 ± 6 x 10^2, 4 x 10^3 ± 3.5 x 10^3 and zero /ml in cold season, while in warm season were 3.8 x 10^3± 1.7 x 10^3, 4 x 10^2 ± 2 x 10^2, 7.4 x 10^3 ± 6 x 10^3, 6.4 x 10^2 ± 3.6 x 10^2, 8.2 x 10^1 ± 3.6 x 10^1, 1.1 x 10^1 ± 4, 5.3 x 10^2 ± 4.9 x 10^2, 3.3 x 10^2 ± 2.3 x 10^2 and zero respectively.

Examination of farm (1) workers samples revealed that the mean values of total coliform, faecal coliform, E.coli, S.aureus, Aeromonas and B.cereus were 1.2 x 10^3 ± 6.8 x 10^2, 1.7 x 10^2 ± 1.1 x 10^2, 2.7 x 10^1 ± 1.8 x 10^1, 8.5 x 10^1 ± 1.6 x 10^1, 1.3 x 10^1 ± 4 and zero in cold season, while in warm season were 1.4 x 10^4 ± 1.4 x 10^4, 3.3 x 10^2 ± 2 x 10^2, 1.2 x 10^2 ± 9.2 x 10^1, 6.2 x 10^2 ± 4.2 x 10^2, 8.1 x 10^1 ± 6.1 x 10^1 and zero / hand respectively.

While for farm (2) workers corresponding values during cold season were $1.8 \times 10^3 \pm 1.1 \times 10^3$, $1.1 \times 10^2 \pm 5 \times 10^1$, $1 \times 10^1 \pm 3.2$, $1.2 \times 10^3 \pm 3.7 \times 10^2$, $6.8 \times 10^1 \pm 1.7 \times 10^1$ and zero, while in warm season were $1.2 \times 10^3 \pm 5.2 \times 10^2$, $1.2 \times 10^2 \pm 6.9 \times 10^1$, 7.1 ± 3.2, $1.8 \times 10^3 \pm 5.5 \times 10^2$, $1.8 \times 10^1 \pm 1.3 \times 10^1$and zero respectively.

On the other hand examination of farmer milk samples revealed that the mean values of total bacterial, thermoduric, psychrotrophic, total coliform, faecal coliform, E.coli, S.aureus, Aeromonas and B.cereus were $7.4 \times 10^4 \pm 9.8 \times 10^3$, $2.1 \times 10^3 \pm 1.3 \times 10^3$, $7.5 \times 10^4 \pm 2.8 \times 10^4$, $9.4 \times 10^2 \pm 4.3 \times 10^2$, 78 ± 68, 15 ± 13.6, $2.5 \times 10^3 \pm 8 \times 10^2$, 30 ± 13.6 and 19 ± 18 /ml of group (1) respectively.

While for group (2) the corresponding values were $5.3 \times 10^6 \pm 1.6 \times 10^6$, $1.32 \times 10^4 \pm 7.5 \times 10^3$, $2.6 \times 10^6 \pm 9.5 \times 10^5$, $1.5 \times 10^5 \pm 8 \times 10^4$, $2.3 \times 10^4 \pm 1.3 \times 10^4$, $2.4 \times 10^3 \pm 1.5 \times 10^3$, $2.8 \times 10^3 \pm 1.5 \times 10^3$, $1.3 \times 10^3 \pm 1.1 \times 10^3$ and $4.9 \times 10^2 \pm 2.3 \times 10^2$ /ml respectively.

The mean SCC of group (1) and (2) farmer milk samples were $1.7 \times 10^5 \pm 2.7 \times 10^4$ and $2.7 \times 10^5 \pm 8.6 \times 10^4$ respectively.

E.coli, S.aureus, Aeromonas and B.cereus were detected in 71.4 and 64.3, 100 and 92.9, 92.9 and 57.1 and zero and 7.14 % of examined farm (1) milk samples during cold and warm season respectively.

Corresponding values for farm (2) were 78.6 and 64.3 , 100 and 100, 100 and 92.9 and zero and 7.14 % respectively.

While for group (1) farmer milk samples were 36.4, 91 , 54.6 and 18.2 % and in group (2) were 78.6 , 78.6, 71.4 and 42.9 % respectively.