

AEROBIC SPOREFORMING BACTERIA IN MILK AND SOME DAIRY PRODUCTS IN DAMIETTA GOVERNORATE

By

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ABSTRACT

Fifty raw milk samples and 25 each of dried milk, hard cheese and ice cream were collected from different localities in Damietta Governorate, Egypt. A survey was conducted to determine the incidence of Aerobic sporeformers and using dextrose tryptone agar and Bacillus cereus medium.

Of 50 raw milk samples and 25 each of dried milk, hard cheese and ice cream samples (22) 44%, (14) 56%, (8) 32% and (11) 44% were found to contain Aerobic sporeformer respectively, while (20) 40%, (12) 48%, (8) 32% and (10) 40% were found to contain aerobic Bacillus cereus respectively.

The obtained results showed that mean Aerobic sporeformer counts were 2.6×10^4 , 2.3×10^4 , 3.7×10^3 and 2.4×10^4 , while the mean Bacillus cereus counts were 2.3×10^4 , 1.4×10^3 , 4.0×10^2 and 7.1×10^3 in case of raw milk, dried milk, hard cheese and ice cream respectively.

The highest frequency distributions were lies within the range 10^2-10^5 (81.82%), 10^3-10^5 (64.29%), 10^2-10^4 (75%) and 10^3-10^5 (81.8%) for Aerobic sporeformer counts and 10^2-10^5 (85%), 10^2-10^4 (91.6%), $10-10^4$ (87.5%) and 10^3-10^5 (70%) for Bacillus cereus counts in case of raw milk, dried milk, hard cheese and ice cream respectively.

Bacillus cereus was showed high incidence (20) 40%, (12) 48%, (8) 32% and (10) 40% in case of raw milk, dried milk, hard cheese and ice cream respectively, while other Bacillus spp., were isolated with lower values.

Out of 36 isolated Aerobic sporeformers from raw milk samples 20(55.55%) was Bacillus cereus, 6(16.66%) was Bacillus coagulans, 4(11.12%) was Bacillus pantotheniticus, 4(11.12%) was Bacillus Leicheniformis and 2(5.55%) was Bacillus pulvifaciers.

Out of 21 isolated Aerobic sporeformers from dried milk samples 12(57.14%) was Bacillus cereus, 4(19.05%) was Bacillus Leicheniformis, 3(14.29%) was Bacillus coagulans and 2 (9.52%) was Bacillus pantotheniticus.

8 Aerobic sporeformer isolates were isolated from hard cheese samples were identified as Bacillus cereus. While 13 isolates obtained from ice cream samples were designed as Bacillus cereus 10(76.92%), Bacillus Leicheniformis 2(15.38%) and Bacillus anthracoid 1(7.70%).

The economic importance and public health significance of such existences as well as the suggested measures were discussed.