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Isolation of Stenotrophomonas species from raw milk and some dairy products

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Summary

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Two hundred and forty random samples were collected from different localities in Assiut city including raw milk (90) and some dairy products; including Damietta cheese, Kareish cheese, small scale ice cream , cream and cooking butter (30 samples for each). These samples were examined for the incidence of *Stenotrophomonas spp.* using Steno medium agar as a selective medium.

The results revealed that 29 (96.67%), 26 (86.67%), 19 (63.33%) out of the examined dairy farms, dairy shops and street vendors milk samples, respectively, were contaminated with *Stenotrophomonas* spp**.** Although, both *S. rhizophila* and *S. nitritireducens* were the most frequent strains in dairy farms samples in a percentage of 34.48% but *S. acidaminiphila* was 34.62% in the examined dairy shops milk samples. Moreover, *S. nitritireducens* could be detected in 47.37% in the isolated strains in street vendor's milk samples.

As noticed from the findings that 83.33 and 90 % of the examined Damietta and kareish cheese samples were contaminated with *Stenotrophomonas spp.*, respectively. In addition, 52.0% of the recovered strains from Damietta cheese were identified biochemically as *S. nitritireducens*, while, in kareish cheese was isolated in a frequency of 59.26%. On contrary, lower frequency was recorded for S. *rhizophila* (20%) in Damietta cheese and *S. acidaminiphila* (7.41%) in kareish cheese.

In case of ice-cream, cream and cooking butter samples, *Stenotrophomonas spp.* could be detected in 83.33, 56.67 and 70.00 % of the examined samples, respectively. The highest frequency distribution was recorded for *S. nitritireducens* from the examined samples.

S. maltophilia was isolated and identified biochemically then by PCR assay. The highest incidence for *S. maltophilia* was detected for Damietta cheese in a percentage of 13.33% and the lowest incidence 3.33% for each of the examined dairy farms milk, dairy shops milk and cooking butter samples.

The public health significance of *Stenotrophomonas* in animal and human and preventive measures to improve the keeping quality as well as sanitary conditions of milk and milk products were discussed.