USE OF IMMUNOMAGNETIC SEPARATION IN RESEARCHING GROWTH OF E.COLI O157 IN MILK AND DAIRY PRODUCTS

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Background: Conventional techniques of cultivation and isolation involve pre-enrichment and enrichment broths for recovery of stressed bacteria, colony isolation on selective hard food bases, application of biochemical tests and serotyping using antibodies against specific bacterial antigens. These procedures are time consuming and cumbersome because it takes several days to establish the identity of a particular bacteria. Therefore, new approaches are needed for fast and efficient detection of low numbers of bacteria.

Objectives: The objective of our work was to compare the new method of immunomagnetic separation with traditional isolation method using cultivation on chosen pathogenic bacteria; Escherichia coli O157:H7.

Methods: Traditional method (cultivation) and Immunomagnetic separation

Results: In three years 365 samples of dairy products were investigated by traditional method and IMS method. Escherichia coli O157 was present in one sample (one semihard cheese) These results obtained state of dairy products in Croatia is good

Conclusions: Immunomagnetic separation (IMS) has proven to be particularly sensitive to and specific for the isolation of Escherichia coli O157:H7. However, immunomagnetic separation was very specific in the isolation of determined species, and this, coupled with its processing speed, means it could indeed be used as a very useful method to support the conventional methods.

Keywords: Cultivation methods, Escherichia coli O157:H7, immunomagnetic separation.

References:
