

QMI Newsletter

Special points of interest:

- QMI® products are used in 24 countries worldwide
- More than 1,500 dairy processing plants utilize the QMI® Aseptic Sampling System
- 500+ dairy farms use QMI® products
- QMI® products are used in the Biotech, Beverage and Pharmaceutical industries

QMI® Products Used Worldwide



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Since 1983, QMI® products have been used worldwide in the Dairy Processing, Pharmaceutical, Dairy Farm and Biotech industries. QMI® systems include the QMI® Aseptic Sampling System, the QMI® Aseptic Transfer System, the QMI® Safe-Septum and the QMI® Dairy Farm Sampling System.

Good News for Fluid Milk Quality Control Managers

In past newsletters, QMI® has introduced the QMI® Heat-Resistant Psychrotroph test. This test is an effective method of identifying sources of spoilage bacteria.

However, the test requires 20 days to obtain results. Because of that length of time, our customers have inquired about a faster procedure.

To research this possibility, Dr. Mansel Griffiths and his colleagues at the University of Guelph are conducting several studies. They found that the QMI® Heat-Resistant Psychrotroph test could be shortened.

Dr. Griffith and colleagues summarize their work as follows:

Detection of psychrotrophic spore-formers in milk and QMI test:

Psychrotrophic spore-formers are a major problem for the dairy industry as they are capable of growing in milk at temperatures from 2 to 7°C. It has been estimated that 25% of all shelf-life problems associated with pasteurized milk and cream products in the United States may be linked to psychrotrophic *Bacillus* group. This value may be substantially greater in milks with an anticipated shelf-life of 18 days or more. Indeed, problems associated with their growth in pasteurized milk may increase with the adoption of higher pasteurization temperatures intended to inactivate botulinum toxin.

Psychrotrophic *Bacillus* are also capable of producing enterotoxins which may lead to food poisoning. A rapid and easy-to-use test to detect heat resistant, psychrotrophic spore-formers at the processing site is needed to control these problems. QMI has introduced an easy to use test to detect psychrotrophic spore-formers. We evaluated the effectiveness of the test and investigated different methods to reduce the time taken to achieve the results.

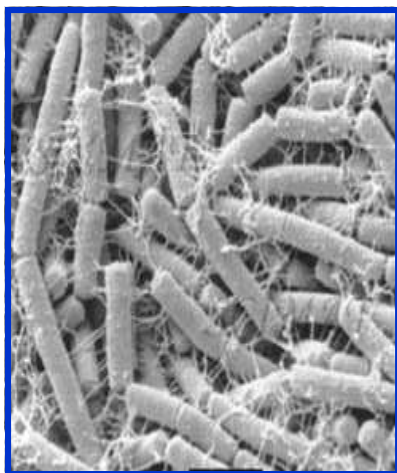
We evaluated the effect of different heat treatments (65°C for 30 min, 70°C for 30 min, 75°C for 20 min, and 80°C for 10 min), incubation temperatures (7, 11, and 21°C) and sample size (50, 100, 250, 500ml, and 2L). By heating at least 250 ml of pasteurized milk at 75°C for 20 min, with subsequent storage of the heat-treated milk at 11°C, results could be achieved in 7-11 days, compared to the 18-24 days required when the milk is incubated at 7°C as outlined in the original method.

Using this sampling technology, the industry may take appropriate actions to improve milk quality by enhanced monitoring of the processing lines.





QMI® Heat-Resistant Psychrotroph Test



Bacillus cereus

Photo compliments of:

Dr. Miloslav Kalab Agriculture and AgriFood Canada

1. Aseptically collect a 250ml raw milk sample with the 250ml QMI® bag (pre-sterilized),
2. Lab pasteurize the sample in a QMI® bag at 75C for 20 minutes,
3. Incubate the sample at 11C for 10 days,
4. Conduct Standard Plate Count (SPC). Counts greater than 1,000,000/ml indicate sources of heat-resistant psychrotrophs.



Attention Biotechnology Industry: The QMI® Safe-Septum



The QMI® Safe-Septum has been used successfully for several years to control microbial contamination when inoculating or sampling bioreactors.

The QMI® Safe-Septum is aseptic, pressure and temperature stable, and pre-sterilized. Our multi-port design is easy to retrofit to your bioreactor. In fact, most applications require no engineering, cutting or welding modifications to use the QMI® Safe-Septum.

University studies have validated the aseptic feature of the QMI® Safe-Septum. It is FDA approved and displays the 3-A symbol.

QMI® fittings can also be custom manufactured for unique installation. Contact QMI® for fittings made to given specifications.



Custom QMI® Safe-Septum Fitting

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QMI® Tamper-Evident Device



Recently several of our customers have expressed interest in using QMI® products in isolated areas such as on over-the-road tankers, isolated piping systems and other less frequently monitored areas. Under these conditions, unwanted injections or product removal could be a concern.

To reduce the risk of tampering or unwanted removal of product, QMI® has developed the QMI® Tamper-Evident Device. This device is a white cap that fits over the nut. The blue QMI® Security Seal is numbered for easy record keeping within a laboratory facility. The cap cannot be removed unless the QMI® Security Seal is cut.

If you would like a complimentary sample of this product, please contact us by phone, fax or e-mail.

Please visit our website for additional information and copies of our Standard Operating Procedures (SOP's) and other valuable information.

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