

# *Introducing* Maritime Quality Milk



Maritime Quality Milk (MQM) is a new research and service centre at the Atlantic Veterinary College. The integrated research and service capacity of MQM is unparalleled in the Canadian dairy industry. MQM has a broad goal of increasing the economic value created by Atlantic Canada's dairy-based food industries through research-validated technological services. MQM is developing and evaluating new technologies and will offer these productivity and disease surveillance services to the industry. Access to these services will improve raw milk quality at the farm gate and decrease the costs associated with monitoring and disease. MQM will help the regional dairy industry meet the quality challenges inherent in the competitive dairy industry. MQM receives funding from the Atlantic Canada Opportunities Agency's Atlantic Innovation Fund.



## Current Research

### **Johne's Disease control programs**

Atlantic Veterinary College researchers have secured funding to launch a pilot program for Johne's Disease control in the region. A major obstacle to the successful implementation of this program is disease surveillance diagnostics. This research project evaluates technologies, including milk ELISA, environmental culture and milk PCR to determine their utility in herd disease control programs. This project is partially funded by Holstein PEI, DFNS, DFNB, DFNL and ADAPT.

### **Milk ELISA for monitoring parasite burdens dairy herds**

Previous research, by our group, has shown that treatment of subclinical parasitism, in a pastured adult dairy cows, results in economically substantial milk production increases and that a milk ELISA can predict response to therapy. The project will examine response to therapy in a wide variety of herds and develop guidelines for the use of the ELISA to predict treatment effectiveness. This project is partially funded by Dairy Farmers of Canada, Merial and NSERC.

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## **Incidence and monitoring of new intra-mammary infections**

As farmers have adopted control programs, contagious mastitis has decreased and environmental mastitis has increased in importance. Over the last 40 years, most mastitis research has focused on contagious mastitis. This study will use an intense milk culturing program and data collection method to determine risks for new mastitis infections on 100 farms across Canada. Examining new infections (as opposed to chronic infections) is the best way to understand risks associated with environmental mastitis. This project is funded by the Canadian Bovine Mastitis Research Network\*.

## **Association between antimicrobial usage in mastitis treatment and control, and antimicrobial resistance**

Antimicrobial usage in agriculture is of concern related to the emergence of bacteria with resistance to antibiotics. This study will examine resistance patterns of the 5 most frequently isolated mastitis pathogens and relate these resistance patterns to farm antibiotic usage, particularly for clinical mastitis and dry cow therapy. This project is funded by the Canadian Bovine Mastitis Research Network\*.



Maritime Quality Milk is committed to extending research results back to the industry through the provision of services. In conjunction with the Atlantic Veterinary College Veterinary Teaching Hospital, MQM works with regional producers and their veterinarians on complex herd milk quality problems.

MQM is adding enhanced milk-based diagnostics capacity for the region. New technology for microbiology and milk component analysis is currently being validated. When testing is complete, MQM will offer a wide range of services to the region.

For more information on MQM research and service programs contact:

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## **On-farm bacteria identification systems to target therapy of clinical mastitis**

To use antibiotics more effectively and judiciously, on-farm tools which help farmers decide which cases of clinical mastitis will respond to treatment are needed. Bacteria identification systems from other food industries, which may be adaptable to dairy farms, will be evaluated. If successful, targeting antibiotic use will substantially reduce drug usage with minimal impact on disease outcome or incidence. This project is funded by the Canadian Bovine Mastitis Research Network\*.

## **Prediction of infection status at dry-off to facilitate selective antibiotic therapy**

Dry cow therapy, for treatment of existing infections and prevention of new infections, is the most common reason for use of antimicrobials in dairy cattle. Alternatives to antibiotic use (internal teat sealants) exist, but are usually used in combination with antibiotics because timely, cost-effective methods to determine the presence of existing infection are not available. This project examines methods to identify cows for non-antibiotic dry cow therapy.

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