



AHL LabNote

Number 49

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In-Clinic Mastitis Lab Procedures

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For an over view of the AHL Milk Bacteriology In-Clinic Laboratory Proficiency Program please see AHL LabNote 47.

1. Sample Collection

Step by step guide to proper milk sampling techniques as outlined by the Canadian Bovine Mastitis and Milk Quality Research Network



Réseau canadien de
recherche sur la mammite
bovine et la qualité du lait
Canadian Bovine Mastitis and
Milk Quality Research Network

[http://www.medvet.umontreal.ca/rcrmb/dynamiques/PDF AN/Toolbox/Factsheets/Sampling technique p
ro.pdf](http://www.medvet.umontreal.ca/rcrmb/dynamiques/PDF_AN/Toolbox/Factsheets/Sampling_technique_p
ro.pdf)

Additional resources from UWisconsin Milk Quality, You Tube video: [How to collect an aseptic milk sample](#)

2. Sample Storage and Transport

- Use a permanent marker to label the milk vial with the Cow ID, date, quarter sampled, and reason for sampling.
- Chill samples immediately either in a cooler with an ice pack, or directly into a refrigerator.
- If samples cannot be transported to the clinic right away, freeze the milk samples.
- For milk specimens that will also be tested at AHL, please split the milk sample and freeze AHL portion immediately.

Timeline for storage of milk samples:

- At room temperature-less than 1 hour
- At refrigerator temperature-more than 1 hour, less than 2 days
- At freezer temperature-more than 2 days, less than 60 days (not in frost free freezer)

“Milk is an excellent growth media and if not handled properly small numbers of non-mastitis bacteria may grow and result in erroneous results. Milk samples need to be cooled immediately and should not be placed on warm surfaces (such as the top of milk lines) for any significant amount of time. If samples are to be submitted to an actual diagnostic laboratory, they should be submitted within 24 hours of collection. If samples cannot be processed within 24 hours, they should be frozen until transported to the lab.”

Reference: [On Farm Culturing for Better Milk Quality](#)

Pamela Ruegg¹, Sandra Godden², Alfonso Lago², Russ Bey², Ken Leslie³University of Wisconsin, Madison,

3. Plating milk samples

Prior to plating, ensure that all required materials are accessible

- Culture plates
- Sterile swabs/loops
- Milk samples
- Sample racks
- Clean disposable gloves
- Bleach (10%, prepared fresh daily)/laboratory grade bactericidal disinfectant

From the University of Minnesota Udder Health/Mastitis website: [Culturing Procedures, for Bi and Tri plates](#)
Additional resources from UWisconsin Milk Quality, You Tube video: [How to set up culture plates](#)

For clinics using the 3M Petrifilm system, please see Maritime Milk Quality's informative sheet on plating: [Instructions for using the MQM Mastitis Treatment Decision System](#)

4. Sample Identification

It is essential that plates are properly identified.

- Label the media side of the plate.
- Prior to plating ensure that the milk sample matches the identification on the media to avoid mixing up results.
- Have your worksheet available for cross-reference, and cow ID information.

Additional Resources:

[University of Wisconsin-Milk Quality](#)

[University of Minnesota-On Farm Culture](#)

[Canadian Bovine Mastitis and Milk Quality Research Network](#)

For any questions, or to sign up for this project, please contact Josie @ 519-824-4120 ext 54320