



Quality Watch

By Gary Trimmer

Director of Member Services/Quality Control

Coliform Bacteria: Another way to Determine Quality

Michigan Milk Producers Association's fluid raw milk customers demand top quality milk. As you know, all fluid milk handlers test every load every day for drug residue, bacteria count, temperature and odor prior to receiving the load. Most bottlers also test loads for pre-incubated bacteria count, and decide whether to exclude loads of milk from their supply based on a history of high pre-incubated counts on a given load.

One of our fluid milk customers recently began testing and evaluating loads for coliform bacteria count. This plant uses coliform bacteria count as a measure of raw milk quality because they are an aseptic processing plant and believe that coliform bacteria count is a good measure of keeping quality. The plant's coliform bacteria count limit is 100. In March, they excluded one load from their supply based on a history of high coliform counts, even though raw and pre-incubated counts had been excellent on this load.

To uncover the sources of the high coliform bacteria in the load, we conducted follow up testing on all farms represented in the load at our Novi laboratory. When we identified the farms with high coliform bacteria levels, MMPA Member Representatives visited each farm to determine the source of the high coliform bacteria. They discovered

the following similarities on most of the high coliform count farms:

- Extended milking times of 8-12 hours without washing or sanitizing
- Using the same filter sock
- Teat ends not clean
- Poor milking procedures – not getting teat ends clean and sanitized
- Infected cows with sub clinical coliform mastitis

Coliform bacteria love to grow at temperatures of 90-100 degrees F. That temperature range occurs in a pipeline or filter sock during milking. When milking takes place over extended periods, 8-12 hours without washing or sanitizing, coliform bacteria will multiply significantly causing elevated counts. When dealing with extended milking times, equipment must be clean to start and cooling must also be working properly to prevent further milk quality issues.

The dairy plant wants to see 2-3 weeks of good coliform bacteria levels of less than 100 before it will receive this load of milk again. We are working with the farms involved to help them lower coliform bacteria levels that are acceptable to the plant.

It is critical that MMPA have the ability to use every load of milk when and where needed to supply any of our customers. Failure

to do so will result in higher cost of moving milk and less money in members' milk checks. To ensure MMPA's milk supply is of the highest possible quality, assurances should be taken on all farms with long milking times to wash and sanitize equipment and change filters at least every 8 hours. If we find this is not frequent enough we will request more often. For farms that milk three times a day, the system should be washed and sanitized after each milking. On the cow side, teat ends must be cleaned thoroughly and sanitized, and infected cows must be identified and removed from the milking string until infection is gone.

We look forward to working with our members on solutions to this issue and to improve MMPA's overall milk quality even more.

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