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# Marshfield Veterinary Service

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## Procedures for Collecting Milk Samples

Proper collection of milk samples is of paramount importance for identification of mastitis pathogens. Aseptic technique is an absolute necessity when collecting milk samples to prevent contamination by organisms found on the cows' skin, udder, and teats; hands of the sampler; and in the barn environment. Contaminated samples result in misdiagnosis, increased work and expense, confusion, and frustration. Contamination can be avoided by following the procedures described below.

**Materials for Sampling**

* Sterile vials or tubes
* 70% alcohol (ethyl or isopropyl)
* Cotton balls or gauze pads soaked in 70% alcohol, or commercially prepared, individually packaged alcohol swabs
* Cooler with ice or freezer packs for storing samples
* Racks for holding sample tubes or vials while sampling cows, and for cooler storage
* Disinfectant for cleaning teats (effective germicidal products used for pre-milking teat disinfection are recommended)
* Paper towels or individual cloth towels
* Means of identifying samples: permanent ink pen (with ink that is stable in both water and alcohol) or typed labels

**Sampling Technique**

* Label tubes prior to sampling (date, farm, cow, quarter).
* Brush loose dirt, bedding, and hair from the udder and teats. Thoroughly wash and dry grossly dirty teats and udders before proceeding with sample collection. Udders should be washed as a last resort.
* Discard several streams of milk from the teat (strict foremilk) and observe milk and mammary quarters for signs of clinical mastitis. Record all observations of clinical signs.
* Dip all quarters in an effective premilking teat disinfectant and allow at least 30 seconds contact time.
* Dry teats thoroughly with an individual towel.
* Beginning with teats on the far side of the udder, scrub teat ends vigorously (10 to 15 seconds) with cotton balls or gauze pledgets moist (not dripping wet) with 70% alcohol. Teat ends should be scrubbed until no more dirt appears on the swab or is visible on the teat end. A single cotton ball or alcohol swab should not be used on more than one teat. Take care not to touch clean teat ends. Avoid clean teats coming into contact with dirty tail switches, feet, and legs. In herds where cows are not cooperative, begin by scrubbing the nearest teat until clean, obtain the sample, and move to the next teat.
* Begin sample collection from the closest teat and move to teats on the far side of the udder. Remove the cap from the tube or vial but do not set the cap down or touch the inner surface of the cap. Always keep the open end of the cap facing downward. Maintain the tube or vial at approximately a 45 degree angle while taking the sample.

Calf and Heifer Assessment

Through the generosity of Zoetis, the first 200 producers to complete the assessment are eligible to receive a free Calf Wellness Kit which includes a thermometer, calf bottle nipples, a bottle brush, a syringe gun, a calf weight tape a naval dipper and a convenient calf care caddy. If you are interested in completing a calf and heifer assessment, please contact Marshfield Veterinary Service early, because post cards must be returned by June 30 to be eligible for the calf wellness kit. You can also visit www.draxxin.com/assessment for more information



Calf rearing isn’t always the first priority on a dairy but it is your best opportunity to prepare that animal for a life of milk production. New calf rearing goals include doubling the calf’s birth weight by weaning. To achieve this goal, colostrum management, housing, nutrition and vaccination all play a critical role. Average daily gain prior to weaning directly correlates to milk production when the calf eventually enters the milking herd. Through the Calf and Heifer Assessment program developed and sponsored by Zoetis, your program can be compared to industry standards in four key areas: maternity pen management, pre-weaned calves, post-weaned heifers and heifer reproduction. If we find any areas that could be improved, we can work together to create an action plan to help make adjustments that can help boost your bottom line.

* Do not allow the lip of the sample tube to touch the teat end. Collect one to three streams of milk and immediately replace and tightly secure the cap. Do not overfill tubes, especially if samples are to be frozen.
* To collect a composite sample (milk from all four quarters in the same tube), begin sample collection with the nearest teats and progress to the teats on the far side of the udder. One to 2 ml of milk should be collected from each quarter of the udder.
* When samples are taken at the end of milking or between milkings, teats should be dipped in an effective germicidal teat disinfectant following sample collection.
* Store samples immediately on ice or in some form of refrigeration. Samples to be cultured at a later date (more than 48 hours) should be frozen immediately.

*Source: Microbiological Procedures for the Diagnosis of Bovine Udder Infection and Determination of Milk Quality. [NMC publication, 2004]*

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**marshfieldvetservice.com**

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