

Sample Collection and Handling

Introduction

Aseptic technique in sample collection is an absolute necessity. The quality of samples is extremely important in any diagnostic procedure; however, the quality of samples for mastitis diagnosis is in many respects more critical. Contaminated samples lead to misdiagnosis, increased work, confusion and frustration.

Storage and handling of samples are as important as the collection. Most mastitis causing organisms survive refrigeration for several days or freezing for several weeks. Improper cooling, chemicals and contaminating organisms overgrowing the pathogen can alter results.

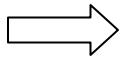
Any samples submitted to the lab must be collected using aseptic sampling techniques and proper handling procedures in order to obtain reliable results.

Aseptic Sampling Technique

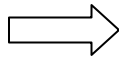
1. **Label Tubes:** label tubes prior to sampling
2. **Clean Teats:** Brush loose dirt, bedding and hair from the gland and teats. Grossly dirty teats and udders should be washed and dried before proceeding with sample collection.
3. **Forestrip:** Discard a few streams of milk from the teat.
4. **Predip:** Predip all quarters in an effective predip product and allow 30 seconds contact time.
5. **Dry Teats:** Dry teats thoroughly with a paper towel or individual cloth towel.
6. **Alcohol Scrub:** Scrub teat ends vigorously (10 to 15 seconds) with moist cotton balls saturated with 70% alcohol. When cotton balls are saturated with alcohol, simply squeeze out excess alcohol prior to use. Teat ends should be scrubbed until no more dirt appears on the swab or is visible on the teat end. A single cotton ball should not be used on more than one teat. Care should be taken not to touch clean teat ends. Care should also be taken to avoid clean teats coming into contact with dirty tail switches, feet and legs.
7. **Sample:** Individual Quarter Sample - 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 angle while taking the sample. 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. Make sure milk entering the tube does not touch the fingers or hands. Sample vials should never be filled more than $\frac{3}{4}$ full. Large volume samples are not required and increase the risk of contamination.
Composite Sample – Begin sample collection with the nearest teats and progress to the teats on the far side of the udder. A representative sample (1 to 2 ml) should be collected from each quarter. There is greater risk of contamination of composite samples because tubes are open for a longer period of time.
8. **Teat Dip:** When samples are taken at the end of milking or between milkings, teats should be dipped in an effective germicidal teat dip following sample collection.
9. **Store Samples:** Store samples immediately on ice or in some form of refrigeration. Samples to be cultured at a later date (after 24 to 48 hours) should be immediately frozen.



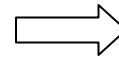
Label Tubes



Clean Teats



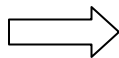
Forestrip



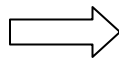
Predip



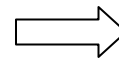
Dry Teats



Alcohol Scrub



Sample



Store Sample

Any questions can be directed to our Technical Services Veterinarian: Dr. Bruce Hill: 403-635-5321