

Best Practice Sample Submission

Bedding for Laboratory for Udder Health

Sample collection considerations

A large degree of variability exists in bedding bacteria counts. A good sampling strategy will help reduce variability due to sample collection, so that your results will be more meaningful.

Choose what to sample

New, unused bedding, used bedding, or both. The choice depends on what question you are trying to answer. Is a new bedding source sufficiently clean? Is the bedding recycling process on farm producing sufficiently clean bedding? Are cows exposed to an excessive level of bacteria in used bedding?

Choose when to sample

Generally, when concerned about the risk for mastitis, we want to evaluate bedding in the stall at its worst – just before fresh bedding is applied. Also, the highest risk period for the cow is probably just after milking when the teat canal may still be open. Therefore, you may choose to sample stalls just before cows return from milking (presumably after stalls have been groomed). If you are sampling unused bedding from a pile, sample at the same time (length of time in pile) each time, if you want to compare results over time.

Choose how many samples

Do you want to submit one sample that is representative of the bedding for the entire dairy, or multiple samples from different pens? Sampling by pen can be helpful if there are significant differences between pens, such as different size stalls, presence of a brisket locator, different ventilation, etc.

Utilize a standard collection method.

Your goal is to collect a representative sample of whatever bedding you are trying to evaluate. Generally that means taking multiple samples in different locations, mixing, and taking a sample of that to send in to the lab.

Sample collection guidelines

Supplies:

- Clean disposable gloves
 - Clean bucket (bucket with lid that mastitis tubes come in works great)
 - Clean trowel or scoop (optional)
 - Clean gallon Ziplock bags
 - Sharpie
1. Label a clean Ziplock bag with the sample ID and date. You may write all the sample information on the bag (which will appear as the sample ID), or you can number or letter the bags, as long as you keep the key somewhere safe. Record what, when and where – for example New South Pile 3/20/19 or Used Pen 3/20/19.
 2. Collecting from stalls:
 - a. Using a clean, gloved hand or a clean trowel/scoop and a clean bucket, collect about 1 cup of bedding from the stall surface (no more than 2” depth) in the back third of a stall. Avoid obvious manure pats.
 - b. Repeat for 5-10 stalls.
 3. Collecting from a bedded pack:
 - a. Using a clean, gloved hand or a clean trowel/scoop and a clean bucket, collect about 1 cup of bedding from the surface (no more than 2” depth) in 5-10 locations. Avoid manure pats.
 4. Collecting from a pile:
 - a. Using a clean, gloved hand or a clean trowel/scoop and a clean bucket, collect about 1 cup of bedding from 5-10 locations in the pile.
 - b. Note, samples from the surface may be significantly different from the center. If possible, collect samples when the pile will be mixed and loaded for application.
 5. Mix the bedding in the bucket thoroughly. Remove approximately 2 cups into a clean Ziplock bag.
 6. Samples that will arrive at the lab the same day as collected should be chilled and packed with ice packs to prevent overgrowth of bacteria. Otherwise, samples should be frozen before packing with ice and shipping overnight or 2-day delivery (see [VDL website for shipping information](#)). Freezing keeps the bacteria level in samples the same as when they were collected and does not significantly impact results.