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~Dairy Details~

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Cleanliness is Next to Godliness

It's been said that cleanliness is next to godliness. Nowhere on a dairy is this more true than where our baby calves live and eat. Keeping the environment where your calves live and their feeding equipment squeaky clean can prevent many diseases, which saves big dollars on treatments, lost gains and decreases in future milk production.

So, what cleaning protocols do you have in place on your farm when it comes to calves? Or, do you have any at all? Here are four things to consider when executing cleaning protocols:

1. **Is it worth cleaning?**

Is that old, chewed up tube feeder that you've been using for years really even worth cleaning? Or is it time to just throw it away and invest in a couple new ones? Items made of plastic, such as many of the available tube feeders, are the hardest to clean. Any nicks, scratches or cracks will create a rough surface, which helps bacteria grow.

Tube feeders used to feed a calf's first meal of colostrum are a great way to introduce a large amount of bacteria into a newborn calf. They also pose the risk of injuring the calf's esophagus. These tube feeders should be properly sanitized and allowed to dry between every calf and replaced about every 20 calves. This means dairies should have multiple tube feeders available for use at all times.

Many farms have had success executing certain tasks with single use tools to prevent contamination, such as disposable colostrum bags (see picture) or paper cups for naval dipping.

2. **Read labels**

Have you ever read what the active ingredients are in your cleaning agents? Are you mixing ingredients in the correct ratio or just eye balling it? Are you using the right agent for the right step in your cleaning process? In order for our cleaning processes to be effective, one needs to use the right cleaning agents in the right pH range for each particular step.

3. **Provide training**

Dirty feeding equipment is 100% a people problem. Cleaning protocols should be clearly posted and those who are responsible for cleaning should be trained. Below is an example of a good cleaning protocol.

Step 1: Rinse with lukewarm water
Water temperature is important in this first step. If the water is too hot (above 120° F) milk proteins will adhere to the surface of whatever you are cleaning, forming a film where bacteria love to grow. If the temperature is too low (less than 90 degrees F), fats will not wash off the surface.

Step 2: Hot soapy scrub
This step uses very hot water (140-160° F) and an alkaline detergent. Surfaces should be aggressively scrubbed with a brush to remove any organic matter and milk solids.

Step 3: Acid rinse
Using lukewarm water mixed with an acid sanitizer, milk minerals are removed the surface pH is decreased, creating an environment that is too acidic for bacterial growth.

Step 4: Dry
Thoroughly drying your equipment further prevents bacterial grown since bacteria like to growth where there is moisture. Arrange equipment on racks so that there is good airflow.

4. **Verify that protocols are working**

Cleaning protocols aren't any good if we can't prove that they are actually working. There are a couple of different methods that can be used in this step including:

- ATP Meter: This test is a quick and sophisticated test that can detect living organisms on equipment. Adenosine triphosphate (ATP) is an energy molecule residing in cells of all living things, including bacteria. The test involves swabbing the surface of a bucket, nipple, etc., placing it in the meter, and in 15 seconds a reading appears with the estimated bacteria levels. Our clinic has recently purchased an ATP meter for use on farms. It has been a very valuable tool in finding problem areas on farms when investigating calf health issues.

- Milk/colostrum cultures: Culturing milk before and after it comes into contact with different stages of the feeding process can also help us pin point where contamination may be occurring. For example, if milk right after pasteurization is very clean, but a sample taken from milk that has come into contact with a feeding bucket is dirty, we know that the bucket is the source of contamination.

ATP Meter for Cleanliness Testing Available!

As stated in the above article, our clinic does have an ATP meter available for use. It can be used on feeding equipment for calves, milking equipment to make sure your cleaning system is working… anything that you want to make sure is clean! All our veterinarians and our veterinary assistant have been trained to use this device on farms. Contact us if you would like more information about this service.