

Calving Ease

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Tips for Keeping Your Milk Replacer Clean

(Apologies for all of you that do not feed milk replacer but 60% of all calves in USA are fed milk replacer.)

- **Keeping bacteria out of powder – cups, scoops, open bags.**
- **People and containers can add more bacteria as we measure and mix.**
- **Avoiding “hidden” sources of bacteria as we feed – routines and equipment.**

Keeping bacteria out of powder – cups, scoops, open bags.

How many times have you seen a plastic milk replacer cup coated with a layer of powder? Alternatively, a scoop or a small pail? Remember, anything we use to measure milk replacer powder will retain a thin layer of powder at every use. This retained powder attracts moisture. At the next use another thin layer of powder attaches to the scoop.

This layer of moist powder supports bacterial growth. Now we have a reservoir of bacteria that can flake off as we measure powder – the flakes carry bacteria into our mixed milk replacer.

Ideally, we wash cups and scoops between uses – that will work. Just toss the cup or scoop into the wash sink to be cleaned at the end of each feeding. Is this going to happen? Well, maybe yes and maybe no. How about throwing the cup that comes in each bag (if you have that option) away at the end of each bag?

I recommend having two scoops if that is what you use to measure out powder. One to wash and hang up to dry, keep the other with the powder. If you are using a 5-gallon bucket to weigh powder, have two of them. One to wash and set up to dry and the other on the scale.

Open bags of milk replacer powder are an invitation for bacteria. If you use less than a full bag of powder at a time, I recommend storing powder in a plastic waste container (garbage barrel). [This helps prevent rodent contamination as well.] Ideally, we wash the storage containers between each bag of powder. Is this going to happen? Well, maybe yes and maybe no.

I recommend adding a new heavy-duty plastic liner to the container between each bag of powder. Just toss the liner and put in a new one every time you add the next bag of milk replacer powder.

People and containers can add more bacteria as we measure and mix.

That is right! Contaminated people. All too often, the workers that mix milk replacer have other farm duties that load bacteria on both their hands and clothing. This is especially true for persons that work

with cows as well as calves. Repeatedly I have watched workers come from the cow barn and, without hand washing, begin mixing milk replacer for calves. Clothing, too, carries debris that can fall into our buckets or mixing containers.

I recommend washing hands or pulling on nitrile gloves. Be aware of sweatshirts or any outer clothing that can carry stuff from cows (hair, manure, saliva) to baby calves.

It is obvious that if our individual feeding pail, 5-gallon mixing pail or larger container does not get clean between feedings then the residual bacteria will contaminate the next mix.

If you have access to a Luminometer, (veterinarians and pharmaceutical representatives often have one) you can swab the dry inside surfaces of your mixing containers to get estimates of “cleanliness.” [A primer on Luminometer technology is [HERE](#).] Lacking this technology, you can make a “guess-timate” on cleanliness - dry inside surfaces should not be slippery or excessively shiny, and rough spots indicate severe cleaning failures. By the way, if you have a stainless steel whip to mix powder that needs to be clean, too.

I recommend washing all feeding equipment thoroughly after **every** use. No exceptions. Rinsing cannot replace washing. Residual fat and protein on equipment surfaces are the building blocks for biofilms that nurture bacteria.

A simple 4-step washing protocol is found [HERE](#). If the link does not work, the URL is <http://atticacows.com/library/newsletters/WashMilkContProtocolR1815.pdf>

Avoiding “hidden” sources of bacteria as we feed – routines and equipment.

In order to save time we often use practices that contaminate our milk replacer. For example, rather than refilling a nursing bottle by pouring milk replacer into it we just dip it into a 5-gallon bucket of milk replacer. Ouch! Bacteria city! Or, when using a pail to transfer milk replacer from a large barrel (e.g., 30-gallon waste container) to feeding buckets do we set the pail down on a soiled surface? Ouch!

Is any piece of equipment escaping being cleaned thoroughly after every feeding? If you use a tank to transport milk replacer, is the ball washer adequately cleaning the underside of the tank top? If you use a pump to feed milk replacer, are the hoses, pump and nozzle set up to be washed with the transport tank at every feeding?

By the way, remember that we always have bacterial regrowth on all of our equipment. Bacteria multiply on these surfaces between uses. That is why we often sanitize bottles, nipples, tube feeders and buckets just before we use them. Solutions of bleach or chlorine dioxide are often used for this.

I recommend selecting one day every couple of months to focus on “clean.” All through the feeding routine that day be acutely mindful of how we might be negligent in maintaining a clean environment. Soiled equipment, soiled hands, soiled containers are all possibilities of “hidden” contamination.

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