

# CALVING EASE

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## CLEANING PLASTICS

Strictly from a sanitation point of view, it's hard to beat good quality stainless steel. From a calf raiser's point of view, stainless steel equipment is both too expensive and too heavy. We carry almost every piece of feeding equipment; very little is bolted down and fixed in place. That's why so much of our equipment is made of plastic. But, how good a job are we doing in keeping all these plastic bottle, pails and tubs clean?

### Why Clean Our Plastics?

What is the reason for being concerned about sanitation? Getting rid of pathogens that make calves sick. We are told that bacteria are our number one concern. But, parasites like cryptosporidia and viruses like rotavirus are our enemies, also.

One place these pathogens reside is in the organic film that can build up on equipment surfaces. The organic film is formed from milk compounds including fats, proteins and sugars. This organic film feels like a scum on the surface of a pail. When the pail's surface isn't really smooth to the touch - your finger seems to drag as you pull it across the plastic - that's scum.

Bacteria need three things in order to multiply rapidly. They are: a source of nutrients (scum is made up of nutrients), moisture (scum holds moisture), and suitable temperature (milk house temperatures often are high enough to support doubling of bacteria population every twenty minutes). Oh, yes, many bacteria require a hospitable pH level, too. So just getting rid of most of the scum will reduce the chance of rapid bacteria growth a great deal.

### How to Clean Plastics Exposed to Milk/Milk Products

First, remember that badly scratched or cracked equipment probably just cannot be cleaned adequately. Second, safety first! Manufacturer's directions need to be read and followed. Many cleaners should never be mixed together.

#### FIVE BASIC STEPS

(1) Rinse (2) Wash (3) Rinse (4) Dry (5) Sanitize.

#### Step 1 - Rinse

Before placing the equipment in the wash water, rinse it with lukewarm water. Excessively hot water for rinsing will strengthen the bond between the scum and the plastic. This rinsing gets rid

of most milk solids as well as other organic soils (read, manure). Rinsing before placing in the wash water also reduces contamination of the wash.

### Step 2 - Wash

Ingredients needed include elbow grease and a brush. The idea is to physically push the scum loose from the plastic surfaces. Use a mild chlorinated alkaline detergent - one labeled "manual" if you purchase from a milking system detergent supplier. Stainless steel pipeline cleaners are not recommended for plastics. The chlorine helps remove the milk fat and the alkali works on the milk proteins.

Select a brush that is stiff enough to "push" the scum off plastic surfaces. Avoid very stiff brushes that will scratch plastic surfaces. Unless you have the budget to replace equipment frequently, completely avoid "scrubbers." Those are stainless steel sponge-like things or those green pads that will scratch stainless steel. They just create homes for pathogens while giving the illusion that our equipment is clean.

Hot water! If the water at the end of the washup drops below 110F, the milk solids redeposit on the equipment - all we have done is shuffle the soil. Many of us wear rubber gloves so we can stand hotter wash water (often 150F or higher). Also, hotter water will allow fewer cryptosporidia oocysts to survive - we probably can't kill all of them but why not get rid of as many as we can?

### Step 3 - Rinse

The purpose of the rinse is to get rid of the alkali cleaner and chlorine. This can be done either with an acid rinse or just plain water. Unless milkstone and mineral deposits are a major problem plain water rinsing often is quite adequate.

### Step 4 - Dry

One of the requirements for bacteria growth is moisture. Drying is not accomplished by stacking the pails together as they are rinsed - all bacteria need is a film of water in order to multiply. Leaving pails upside down on the wash room floor is bad news, too. Ideally we all would have adequate space on a drying rack for all of our equipment. The reasons why drying racks are desirable are (1) they permit air drying and (2) they keep equipment off the floor where it often gets splashed with manure and other soils. This is a place for lots of imaginative problem solving - if necessity is the mother of invention, every calf raiser is a mother many times over.

### Step 5 - Sanitize

This should be done just before using again. Follow the sanitizer manufacturer's recommendations for the proper concentration of sanitizing rinse. Chlorine is an acceptable sanitizer at the recommended rate of 75 to 100 part per million (see jug label for info needed to work out amount to use). Some persons may choose to use a combination rinse/sanitizer. This is used in step 3. It eliminates step 5 only IF the manufacturer's limitations are followed. For example, if the jug info says sanitation is good for four hours after rinsing and you have a twelve hour wait, don't expect good results.

Many thanks to Cecil Gray and Jerry Bertoldo from Attica Veterinary Assoc. for the background information upon which we depended in preparing this newsletter.

### **Calf Raiser's Tip**

Lots of us use five-gallon pails during our daily calfcare routines. But, the plastic hand grips frequently break making carrying harder than we like. How to fix? Pam cuts an old air tube from the milking parlor in half (about 3 to 4" long). After the old broken plastic hand grip is removed the rubber air tube section can take its place. One way to get the tube on the handle is to slit it lengthwise and snap it over the wire handle. Or, if you are more enterprising, you can snap the wire handle out of the plastic bracket on the side of the pail and thread the air tube over the end of the wire - harder but leaves the air tube section whole. Ahhhh - comfort.

If you know of someone that doesn't currently receive **Calving Ease** but would like to, tell them to **WRITE** to **Calving Ease**, 11047 River Road, Pavilion, NY 14525 or to **CALL** either 585-591-2660 (Attica Vet Assoc. office) or 585-343-8128 (Offhaus Farms Office) or **FAX** (585-591-2898) or **e-mail** [sleadley@frontiernet.net](mailto:sleadley@frontiernet.net) or [pams91@2ki.net](mailto:pams91@2ki.net) . A limited number of back issues may be accessed on the Internet at [www.calfnotes.com](http://www.calfnotes.com) and clicking on the link, Calving Ease.