MILK HOUSE SANITATION & CLEANING TIPS
Taken from the Summer 2008 issue of the Small Ruminant Dairy Newsletter
www.uvm.edu/sustainableagriculture/smallrumi.html

Cleaning

1. Circulation water temperature should not drop or else fat will stick.

2. Chlorine breaks down milk proteins, surfactants; alkali breaks down milk fat. Stay with approved dairy cleaners.

3. Hot wash end temperature should not be less than 120°F, so start temperature is much higher.

4. Use Proper concentration: Active alkalinity 600-900ppm range10-13 pH; Chlorine 100-130ppm.
   - Milk tanks require active alkalinity in higher range
   - Systems with milk meters require active alkalinity in higher range.
   - Slug velocity 25-30 feet per second is recom’d.
   - Auto wash bulk tanks are more difficult to clean than a pipe. Need to cover all surfaces.

Acid Rinse
Prevents mineral build-up and leaves milk contact surfaces acidic which prohibits bacterial growth.
Acid rinses increase rubber life.

Sanitizers
Chlorine, an effective bactericide, is minimally affected by hard water. Use a maximum of 200ppm before milking; In hot water, is corrosive to stainless steel; is not in active form in alkaline pH.
1.3 ounce to 1 ounce per gallon is fine; more is not better.

Organic Build-up on Surfaces
   - If there is fat build-up, think of looking at your temperature and concentration.
   - Proteins are chlorine soluble.
   - Inorganic films feel rough and porous.
   - SS always looks clean when wet so, scrub area. with acid and scrub area with caustic and compare.
   - Biofilm is a matrix of films like plaque on teeth. Can flake off and spike bacteria in milk. Looks like a dull gray haze. Pseudomonas and bacillus are seen when you suspect biofilm.
   - Peroxyacetic acid has proven effective in biofilm removal.

Troubleshoot Cleaning System

Observe one complete cleaning cycle.
   - Note times and temps of each cycle.
   - Verify amounts of cleaners being used and if chemical concentration is adequate.
   - Hand held thermometer is essential.
   - Use strong flashlight to observe residue.

Some common problems:
Low end temp/improper temperature
Wash draw line at sink sucking air
System traps out; Plugged jetter
Hot wash circulates 1X and drains.
Auto chemical dispenser fails
Sink drain leaking-lose cleaner down drain
Poor action in 1 or more claws or hoses
Pulsation not on during wash
Incomplete drainage between cycles

**Hot water tank and bulk tank washing**

-Tank is important-need high temperature and industrial thermostats.
-On demand HW heater needs to be able to keep up with high demand of water.
-Covering open sinks will keep hot water hotter.
-Bulk tank washers need maintenance. Jet tube washer-slots at end can be damaged; tip of jet tube needs to be 3” off floor of tank. Diaphragm valve can fail.
-To prevent cement floor corrosion from bulk tank waste water, put a plastic tub under valve and collect and divert chemicals directly into floor drain
-Manual wash tank. Set bucket of hot solution in bulk tank and use with brush to be thorough. It should take 30 minutes to wash and rinse tank.

Agitator paddle. Why is there residue on it? There is an issue to be solved-don’t just clean the paddle.

**Bucket milker cleaning Fact Sheet at:**
-More problems with automatic cleaners than with manual cleaning
-Water softeners and powder detergents are good.
-Never mix chlorine with acid b/c of chlorine gas.
-Black rubber inflations are not good in sheep; preference is silicon.
-Acid rinse actually extends life of silicon and rubber by returning surface to acid-not caustic.

-Written by Carol Delaney from notes taken from talk given by Mike Foran, Ontario Ministry of Ag., Food and Rural Affairs at 2007 Great Lakes Dairy Sheep Symposium