

WASHING-UP VERSUS REAL BACTERIA CONTROL: A CHECKLIST

It's always a good feeling to clean up, especially at the end of the day. Things are finished. It's time to go on to the next thing, be that another job or supper.

Have we really done a good job of controlling bacterial growth? Or, did we just "wash up?" What's the difference?

Too often washing up or cleaning calf-feeding equipment (including both colostrum and milk feeding) is not effective. Here are some suggestions for keeping sanitation on track.

ALWAYS RINSE FIRST

- First, before we start to wash the equipment, did we rinse off leftover milk or colostrum and any manure, urine or dirt that was clinging to it? All of the five materials named above are organic. That means they will rapidly destroy the bacterial killing power of the chemicals in our wash water if not rinsed away.
- Second, did we do our rinsing with lukewarm (105-120) rather than hot (160-180) water? Both milk and colostrum contain protein. Hot water changes the physical composition of proteins. This change makes the whey proteins, especially, stick tenaciously to equipment. Even diligent scrubbing may not be able to dislodge the protein scum (biofilm) that is formed through using excessively hot water for rinsing milk equipment.

WASH CAREFULLY

- Are we using a good quality chlorinated cleaner in a hot detergent solution? We need the detergent as a surfactant. It lowers the surface tension in the water and dirt comes off easier and stays off longer.
- We need the chlorine both to kill bacteria and to help lift the proteins off the surfaces. If we have done a good job of rinsing equipment, the

organic load in the wash water will be low. That keeps the bacteria-killing capability of the chlorine strong.

- We need hot water to keep the milk fat and other substances in suspension. If we let the wash water temperature fall below 120°, the substances will start to come out of suspension and begin to redeposit on equipment even as we are washing it. At the end of a wash-up with water under 120°F we may just be reorganizing the dirt, not removing it!

USE AN ACID RINSE TO MINIMIZE REGROWTH

- Did we use a post-washing rinse in an acid solution to extend the benefits of washing? The acid solution (110-150°F) will rinse off some detergent solution.
- More importantly, the acid lowers the pH on the equipment surfaces below the level most bacteria find acceptable for growth. Good acid-sanitizers will provide low pH conditions for twelve to fourteen hours.

DRY

- Finally, did we arrange the equipment so that it will dry between uses? Bacteria need moisture to grow. By letting equipment dry we are removing one of the essential conditions for bacterial growth.

YOUR CHECKLIST

Well, did we do a good job of controlling bacteria?

- Did we wash most of them away and kill many of the remaining ones?
- Did we remove the food they need in order to grow?
- Did we lower the pH to an unacceptable level for growth?
- Did we allow equipment to dry depriving bacteria of their essential water?

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YES! A good wash-up job means low bacteria concentrations on our feeding equipment the next time it is used. That means clean, wholesome and nutritious feed and healthy calves.