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## KNOW-HOW FOR YOUR CALF REARING

### Management tips – The little things are the big things!

#### Caution when feeding whole milk during the summer!

When feeding whole milk either through your autofeeder, bucket or bottle, make sure everything is clean! Whole milk is great for calves, but also is great for growing bacteria during warm weather. A rule of thumb is that bacteria counts will double every 20 minutes. It doesn't take long for bacteria growth in calf milk to seriously impair calf health!

Where are the focus points for maintaining quality and low bacteria counts?

- The biggest challenge is that milk must be cooled to <40F or 4C as soon as possible. The difficulty with milk is that bacteria counts are always higher than milk replacer. The goal is to feed it or cool it within 30 minutes from harvest.
- Clean collecting, transporting and feeding equipment.
  - Rinse with warm water (not hot) to remove dirt and milk residues. Hot water bakes on the residues and creates biofilms that bacteria love.
  - Wash with a brush and scrub for at least 2 – 3 minutes with a 1% chlorinated alkaline detergent. Always keep wash water at >130 F or 55C.
  - Rinse again using cold water. Rinse a second time with an acid (pH 2 -3) and 50 ppm chlorine dioxide.
  - Drain and dry.
- Bucket calves. Feeding management is a big challenge with these systems for several reasons.
  - Feeding calves is slow leading to more bacterial growth in the milk delivery vessel prior to feeding.
  - Buckets should be cleaned after each feeding which is laborious and frequently not done. In these cases, water fed after feeding has milk residues which leads to water with higher bacterial counts. DON'T believe claims that these are "good" bacteria.



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- **Bottle calves.**
  - Systems exist to automate bottle cleaning very effectively. However, without such systems, bottles should be hand scrubbed or alternately use a pressure washer.
  - Drain bottles after cleaning.
  - Nipple sanitation is a challenge. First, inspect nipples for cracks or openings that are too large. Discard them. Ideally hand scrub nipples but this is rarely done and is a challenge in keeping them clean.



- A final note about bottle feeding. Although it is convenient, don't allow bottles to stand in warm water more than a few minutes. This really encourages bacterial growth.
- **Autofeeder fed calves.**
  - This may be one of the greatest advantages of autofeeder systems!
  - Most systems can be programmed to clean the internal workings of the systems, the mixing bowl, and all lines leading to the nipple several times a day. Research from Virginia Tech indicates autocleaning at least 4 times daily is recommended.
  - Older systems may require operator instituted circuit cleaning.
  - Nipples should be inspected, hand cleaned and sanitized at least once a day. Discard nipples that are torn or cracked.

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- During warmer weather twice daily cleaning and replacement of nipple is recommended.
- Newer machines utilize a detergent followed by a sanitizer. Care should be taken to calibrate the machines to deliver these at concentrations recommended by the manufacturer. More is not necessarily better! Most detergents are different from those used in milking system cleaning. They function best at lower temperatures.
- It is also a good practice to manually clean the area around the nipple and the feeding station!

Although milk may be best for calves, extra care must be taken to minimize excessive microbial growth in the liquid consumed by the calf!