



**TECHNICAL RELEASE**

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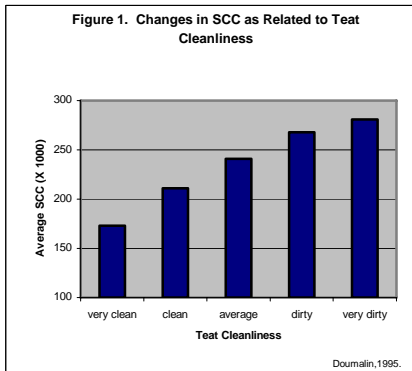
# TECH TALK . . .with Dr. Tom

## Is Proper Udder Preparation Worth the Hassle?

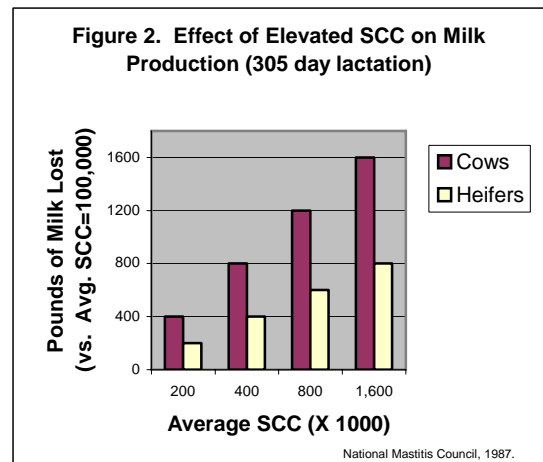
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Many dairy producers look forward to the end of milking, knowing that once the last group of cows leaves the parlor they can soon move on to more enjoyable tasks. Those that don't enjoy milking often skimp on udder preparation in order to get the cows milked faster. Is this a good idea, and does faster udder preparation really decrease milking time? The answer is no, and this misconception frequently hurts the producer in more ways than one. In addition to the likelihood of **prolonging** milking time, improper udder preparation also raises the risk of decreased udder health, encourages the production of poorer quality milk, and increases the chances of reduced dairy profitability.

How can faster udder prep prolong milking time and why should milkers bother taking the time to forestrip? Without a doubt, these are time-consuming and labor intensive activities. However, they are worth every second of the time it takes to do it right! Forestripping accomplishes two things. One, it allows the milker to visually evaluate the milk for signs of mastitis and prevents much of the high SCC milk occupying the teat cistern from entering the bulk tank (foremilk has a high SCC relative to the average SCC for any given cow). Two, forestripping encourages the cow let her milk down faster and more completely which facilitates faster milkout. Dr. Andy Johnson, a Wisconsin veterinarian specializing in milk quality and milking system evaluation, reports that research has shown a decrease in milking unit on-time of one minute per cow when cows are forestripped versus when they are not. Forestripping has also been associated with higher milk production in a study involving large dairies in the southwestern US.



Another vital step in proper udder preparation is achieving a lag time of 60-90 seconds. Lag time is the time between initial teat stimulation and milking unit attachment. How much of a difference can it make? Dr. Jeff Reneau at the University of Minnesota predicted an annual profit increase of over \$87 per cow when lag time was increased from 30 to 60 seconds. If a 10¢ premium for lowering average SCC by 100,000 was also received, annual income per cow was predicted to increase by nearly \$150.



Getting teats clean and dry prior to milking unit attachment is another critical objective of proper udder preparation. To achieve this, milkers should always wear latex or nitrile gloves, pre-dip should remain on the teats for at least 30 seconds, and teats should be thoroughly cleaned and dried with absorbent paper towels or wash cloths (one cloth or towel per cow). When you maximize removal of dirt and bacteria from the teat surface, bacteria counts, SCC (see

figure 1), and milk production (see figure 2) will all improve. Bacteria that aren't on the teats can't end up in the milk or the udder!

Consistency is an important consideration in nearly all aspects of dairy management. The less variation cows experience in their day-to-day routines, the better they will perform. Udder preparation is no exception to this rule. Producers should develop a written protocol for udder prep that is strictly followed by all milkers. A Danish study reported a 5.5% increase in milk yield (for a complete lactation) when a standardized milking routine was used compared to a variable milking routine. That's the same as increasing your rolling herd average from 20,000 to 21,100 pounds!

With the considerations discussed above in mind, here is a proposed protocol for udder preparation. For some producers, the protocol will be quite different from their current routine. Therefore, it will take a full commitment by all milkers as well as ongoing review and reinforcement by managers to keep the new protocol in use long enough for it to become second nature. However, increased production, milk quality, udder health, and profitability should be the reward reaped when the change is a success.

### **Suggested Pre-Milking Udder Preparation** (adapted from Reneau and Johnson)

1. Milkers should wear clean latex or nitrile gloves and utilize a territorial milking routine (each milker does all prepping steps on his/her group(s) of cows).
2. Cows should enter the parlor with clean udders. This reduces the amount of time needed for proper udder preparation. If washing is necessary, use a small amount of water to wash just the teats, not the udder.
3. Cows should usually be prepped in groups of 3 or 4 in order to achieve the desired lag time of 60-90 seconds.
4. For each cow in the group, dip the lower  $\frac{3}{4}$  of the teats in pre-dip then strip each teat 2-3 times, making sure to rub the pre-dip into the ends of the teats as you go.
  - Dipping before stripping increases the likelihood that the dip will have at least 30 seconds of contact time.
5. After all cows in the group have been dipped and stripped, return to the first cow and begin drying teats and attaching milking units. Milking units should only be attached to teats that are clean and dry.
  - Teats should be stimulated for a minimum of 10-20 seconds from massaging, stripping, and drying combined.
  - Do not use the same paper towel or cloth on more than 1 cow. Only use highly absorbent paper towels or cloths. The objective is to remove all pre-dip, bacteria, and dirt from the teats, not smear it around!
6. Minimize prepping variation between milkers and milkings. Make sure the protocol is written down and that all milkers are actually following it.
  - With proper udder stimulation, milking unit on-time will be minimized. As previously mentioned, this time savings should more than make up for the extra time spent in udder preparation. After the desired udder prep and milking routines are being done correctly, work on fine-tuning vacuum levels and automation settings of the milking system.
  - Post-dip (**not** post-spray) all teats before cows are turned out to a feed bunk full of fresh feed and an abundant supply of clean water.

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