

Producing Quality Milk Using a Complete Mastitis Control Program

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Producing quality milk, especially during the summertime, is challenging, but not impossible in Louisiana. Keeping your Bulk tank Somatic Cell Count (BTSCC) at acceptable levels CAN be done, even in the summertime, with a little extra effort in some key areas of your dairy operation.

1. Nutrition. One of the biggest problems for herds that rely on ryegrass grazing as their primary forage source in their feeding program is that ryegrass grazing usually plays out in early May. As ryegrass pasture ends, Dry Matter Intake (DMI) and subsequently milk yield will begin to drop severely unless some type of high quality forage such as corn silage, ryegrass baleage or alfalfa hay is substituted for ryegrass grazing. As their milk production drops, the number of somatic cells in the milk remains constant, so, the somatic cell count begins to rise dramatically. This is called a ***concentration effect*** because the cells become more concentrated in less milk.

One absolutely critical component of summertime nutrition is ready access to an abundant amount of clean, fresh drinking water. Using stagnant ponds or streams or having one water trough that cows have to walk several hundred yards through the sun to get too won't work. Cows need clean, fresh sources of water with immediate access in order to maximize their water intake and help regulate their body temperature. Without it, they will have trouble maintaining their normal body core temperature resulting in more feed nutrients going toward maintenance instead of production, reduced DMI, lower milk production and higher cell counts.

Other nutritional areas to consider during the summertime are: making the ration more nutrient dense in regard to energy, protein, vitamins and minerals while still maintaining enough fiber in the ration for proper rumen function and health. Cows lose a lot of sodium and potassium through sweating and primarily panting. The level of sodium (Na) in the total ration on a DM basis should be 0.40% to 0.45% with the potassium (K) level a minimum of 1.5%. The use of products such as potassium carbonate, potassium bicarbonate and sodium bicarbonate to increase the levels of Na and K are recommended instead of increasing the level of salt in the ration and the addition of potassium chloride to meet these mineral levels. Both of these products will tend to raise the chloride level in the ration which has been shown to cause a drop in DMI. The addition of sodium bicarbonate, potassium bicarbonate and potassium carbonate to the ration has an added advantage of increasing the buffering capacity of the diet as well as increasing the dietary cation-anion difference (DCAD). The Magnesium (Mg) level should be raised to 0.40% of the total ration DM because of the possibly of the higher K level in the diet causing problems with Mg absorption. Also, the timing of feeding and feeding frequency along with good bunk management will help maintain DMI levels during the summer.

2. Cow Comfort. For herds that rely on nature as their cow housing facilities, hot weather makes cows seek shade. If the only shade available is from trees, cow will congregate under the trees and quickly make a wallow of mud, urine and feces. As cows continue to lie around in these areas, their udders will be constantly exposed to high levels of bacteria which will lead to more subclinical and clinical mastitis infections and higher BTSCC.

Two ways to reduce this potential environmental mastitis disaster are to provide portable shade structures that can frequently be moved to avoid creating wallows and/or to build properly designed and functioning cooling ponds. Cooling ponds should have a constant flow of water in and out of the pond to reduce bacterial levels in the water and the out-flowing water must go directly into a waste management lagoon. Also, the cooling pond should have a concrete bottom and concrete entrance and exit ramps.

Two additional suggestions for cow comfort are to place high velocity fans and sprinklers in a covered holding lot. Cows crowded together for several hours a day waiting to be milked will not disperse body heat and this will raise their body temperature and drastically reduce their Dry Matter Intake. Placing fans and sprinklers in a covered feeding area will also help cool the cows.

For herds with free stall housing, the bedding area needs to be kept clean and dry to avoid exposing udders to large concentrations of bacteria. The best bedding material to use is still good, clean sand. Avoid organic materials such as wood chips, especially green hardwood chips, since organic materials will harbor bacteria.

3. Milking Procedures. Avoid milking wet udders. Use a minimum of water to get teats clean and be sure to dry teats thoroughly. The best procedure is to clean and dry the teats; fore-strip one or two streams of milk; then apply a disinfectant pre-dip to the teat ends for 20-30 seconds. Finish by pre-milking routine by wiping off the pre-dip and attaching the milking unit. Avoid over-milking or machine stripping which can cause damage to the inside of the teat canal. Use a commercial disinfectant teat dip recommended by the National Mastitis Council for both pre- and post-dipping. Avoid using commercial disinfectants such as Clorox as a teat dip. Clorox can dehydrate and irritate teat ends causing them to chap and crack and harbor mastitis causing bacteria.

Monitor your milk hands on a regular basis. Don't assume they are doing a good job; make sure they are doing a good job and make sure they understand how important their job is to you and the financial security of your investments.

4. Monitor Individual Cows. There is absolutely no way to control your BTSCC if you don't know which cows have high cell counts. You can measure cell counts in individual cows using the tried and true cow-side California Mastitis Test "paddle test". This test will give you an indication of which cows have a high SCC but will not give you an exact SCC for each cow nor the amount of somatic cells that are being contributed to the bulk tank by the individual cow. A better alternative would be to get on the DHIA monthly individual cow electronic cell count program. The benefits of monthly individual cow cell counts in managing your BTSCC far outweigh the costs. The cost of DHIA is around \$1 to \$1.50 per cow per month. Maintaining your BTSCC below 300,000-400,000 will return you several times this amount through higher milk production, less dumped milk, less treatment cost and lower culling rates for mastitis and low production. There are also several additional financial benefits in managing your herd using DHIA. The DHIA program is a very useful management tool *designed by dairymen* to assist you in doing a better job managing *YOUR* assets and increasing *YOUR* net income.

Usually no more than 6-10 cows are causing a large majority of BTSCC problems in a herd. Once high cell count cows have been identified, individual cows can be dealt with by either treating, culling or drying them off to get their milk out of the bulk tank until their cell counts have been reduced. Without getting the milk from these high cell count cows out of the bulk tank, it is very difficult to keep BTSCC under control.

5. Practice a Comprehensive Plan of Mastitis Control. In addition to the techniques mentioned above, there are a few other management practices that will keep mastitis and cell counts low in your herd.

- Dry treat all your cows at the end of lactation.
- Dry treating your springing heifers 30-60 days prior to calving will also lower their cell counts, reduce their chances of getting mastitis before calving and improve their first lactation milk production.
- Get your milking equipment checked routinely (1-2 times per year) to make sure it is functioning correctly.
- If you are running cell counts above 300,000, get a bulk tank milk sample cultured to check for contagious forms of mastitis.
- Don't be afraid to cull chronic high cell count cows.

Producing quality milk, especially during the summertime, is challenging, but not impossible in Louisiana. Controlling your BTSCC, especially during the hot summer and early fall months, has two very substantial benefits for you and for the consumer: (1) Lowering your BTSCC will usually raise your milk production more than enough to offset any additional costs associated with achieving lower BTSCC; (2) Consumers will get a better quality product that has a longer shelf-life.

Take advantage of the opportunities offered by the LSU AgCenter to improve your milk quality and your profitability by contacting your county agent or the LSU Department of Dairy Science at 225-578-4411.