

# Combating the curse of high somatic cell counts

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The curse of living with higher than desired Somatic Cell Count (SCC) levels is a widespread concern that affects a large proportion of milk producers across the globe. A big factor affecting profitability in dairy farming today is the actual milk price/litre achieved and high SCCs eat into this realised price.

Milk solids form a key part of the price structure, yet what is becoming important now and even more so in the future is hygiene quality.

Bulk Tank Somatic Cell Count (BTSCC) and BactoScan levels are now the stick with which the milk price can be beaten down. Herds with high clinical rates of mastitis rarely have very low SCCs.

Dirty or badly conditioned teats invariably produce higher SCC milk with higher BactoScan levels.

The key areas to address include:

- The cow's environment.
- The correct function of the milking plant.
- The routines and products used in the parlour.
- The desire of milking staff.

If the cow is living in a dirty environment then the threat from bacteria, for example *Streptococcus uberis*, will be significantly higher. Muck equals mastitis.

Loose housed cows require frequent changes to the bedding; shortening the time between clean outs reduces the population explosion of bacteria. In cubicles check the lying position of cows and the incidence of dung on the back of the cubicles.

Aim for a maximum of two dirty cubicles for every 10, ideally only one dirty cubicle in 10.

Automatic scrapers are good for clean passageways as long as they do not push a big wall of slurry over cow's feet. Dirty feet equals more mastitis. This is especially bad in heifers as the hoof position when laid down is closer to the underside of the udder.

Also, do not forget to clean the areas where the scraper does not

cover, for example crossover points and around water troughs.

If your milking plant is not well maintained and working correctly, do not expect hygienic milk production. Routines and products used in the parlour and the motivation of milking staff are very closely linked. It is hard to achieve improvements without the 'buy in' of employees.

It is what you do in the milking parlour that will have the biggest impact on udder hygiene and milk hygiene quality.

## Select the right germicide

Pre-dipping as part of a pre-milking routine is proving vitally important in both reducing environmental bacteria and controlling contagious pathogens.

Bacteria, like *Staphylococcus aureus*, that are hard to kill and can survive on the teat skin from the last milking, demand a fast acting germicide to kill them before unit attachment. With up to 40% of 'Staphs' being penicillin resistant, the need to stop these pathogens entering the udder is key.

Antibiotic control often stops short of achieving a cure. For example, many farms will treat with antibiotics for only 3-4 days, while it has been proven that for many infections, 7+ days antibiotic treatment achieves an 89% cure rate, while 3-4 day treatments only achieve a 25% cure rate.

## Successful trials

Trials at the Knoxville Experimental Station at the University of Tennessee, reported by Oliver et al, showed that new intra-mammary infections caused by *Staphylococcus aureus* were reduced by 69.2% when pre-dipped with a chlorous acid based pre-dip.

Success can therefore be achieved if the correct germicide is selected.

Many pre-dip solutions have low viscosity ('watery' in appearance) and as a result do not adhere to the teat. Ian Ohnstad of the Dairy Group stated that good foam is 50%



An udder dipped with Uddergold.

more effective than a watery liquid as it will correctly adhere to the teat. A genuine foaming product will adhere and penetrate into organic matter, giving a longer germicidal contact time, improving cleaning and the kill rate.

Skin condition is vital to maintain or achieve low cell counts. Dr Andy Johnson, the udder doctor, once stated, "There are definite differences in teat dips and their ability to either heal teats that are chapped and cracked or to create issues of teats cracking and chapping. One class of teat dips that have been very effective in softening keratin are the chlorous dioxide dips. In my experience, these dips do a better job than other teat dips in softening the keratin on teat ends. This allows the keratin to be removed with aggressive action during udder preparation procedures."

So, do not just think that pre-dipping is just aimed at environmental bacteria control. It works across the whole mastitis-causing pathogen range and should be a part of all pre-milking skin preparation.

With post-milking disinfection, aim to wash away the milk film and kill the contagious pathogens left on the teat skin. When deciding whether to spray or dip, spraying certainly offers

the speed option but can limit the quality and type of germicide; it can also limit the ability to provide 'genuine germicidal barrier' protection, which is essential if the environmental challenge is high. Accuracy of spraying is often questioned too; if one side of the teat skin is missed then control of *Staphylococcus aureus* will certainly fail.

With dipping, better teat coverage can be achieved and potentially use 60-75% less liquid. Considering that all types of germicides and true barriers can be applied, SCC control will usually be better with dip cups and the correct germicide combination.

## Full farm appraisal

In conclusion, take a step back and look at the whole farm scenario. Do not make snap decisions. Look at all aspects of hygiene, from the cow shed to the parlour and beyond. Be honest in your appraisal of yourself and your routine.

Take milk samples and know your enemy. Be prepared to add new routines to milking and look for the strongest germicides. The consultative approach to reducing BTSCCs often succeeds where others have failed. The curse of living with high SCCs can be broken. ■