

## An unusual cause of mastitis

Peter Edmondson  
Shepton Veterinary Group

Herds which have high levels of toxic mastitis cases can often be resolved quite easily. However, when I got a call from David, a vet in Scotland, about one of his herds I was sure this was not going to be simple.

The herd of 200 cows had already been predipping and used an internal teat sealant, and despite these changes the levels of toxic cases remained unchanged. In the last year three cows had died from toxic mastitis, that's 1.5% of the herd. He was having four fresh cases of mastitis every day.

This is a herd which yields 10,000 litres and has a cell count that runs under 150,000 all year round and TBC counts are always under 10. Cows are housed from October through to the end of April and are then out to pasture but this had little effect on mastitis.

The farm was owned by Stuart and his key milker was Roy, who has worked on the farm for over twenty years. Stuart or his brother would always milk with Roy. Cows were milked through a 36 x 36 low direct to line plant which was installed three years earlier. There had been issues with the parlour but these had been sorted out fairly well.

When I carry out any mastitis visit the place I start is in the kitchen. We spend about an hour and a half going through the mastitis management before we walk the farm and end up in the parlour where I spend a lot of time.

Stuart was concerned about cows being fidgety in the parlour. At times they were not too keen to come in to be milked, and there was a lot of mucking when they were in the parlour. Some animals kicked off the units. To me, I would suspect stray voltage problems. These are seen rarely in this part of the world but cannot be overlooked. The behavioural changes he described were quite typical.

A variety of changes had been made to address this issue including rewiring and earthing the parlour. The most recent of these was about one month prior to my visit when a small amount of stray voltage was measured for the first time. Earth wires were tightened in the control boxes and levels of stray voltage reduced to zero. There was a significant improvement in cow behaviour and ease of milking. This cause and effect is highly suggestive that stray voltage was indeed a contributory problem.

Cows were dry for 70 to 80 days and as they were a high yielding herd, he used an internal teat sealant. This stopped milk leaking in the dry period, but he did not see any reduction in clinical mastitis.

Cows were definitely overstocked in the housed period and there were 90 cubicles for every 100 cows. This got worse towards the end of the winter when more of the herd calved. Roy said that cows were dirtier at this time of the year and there were increases in clinical mastitis. That all ties in and so the choice was to either reduce cow numbers or build extra cubicles.

Walking in to the parlour I could see the predip sprayer. Stuart used a hand held garden sprayer, it was much cheaper than putting in a auto teat spray system. The problem was that the hand held sprayer would only cover one side of the cows teats and so we would not see the full benefits from predipping correctly. He had to put in a auto spray line so the entire surface of the teat could be covered.

He had a dump line with separate clusters. I examined the inside of the liners of the units and they had really black deposits and the liners were shot. Too much hypochlorite denaturing the liners, this will not have helped with cure rates. Liners had to be changed at least every six months, and to ensure that the correct concentration of hypochlorite solution was used.

During milking I was amazed to see that all the units were disinfected between cows. Some herds try and use this as a way of reducing cross contamination to help with cell count, but I could not understand why this practice was introduced here. Stuart and Roy insisted that once they started this procedure, the amount of mastitis had fallen significantly. I had to think about this one.

Roy loved the power hose. After every row of cows went through the parlour, he would hose everything down with copious quantities of water.

The machine seemed to be working quite well but I noticed that the ACR take off was poor and units were coming off with vacuum still applied to the teats. This would cause impacts. I was told that the units came off when the flow rate reduced to 800 ccs/minute but this seemed far too high for a herd milking twice daily and would lead to undermilking. There was no real evidence of this occurring but it needed to be checked out along with the ACR function.

Stuart then appeared with the bacti results. I looked at these and then I could make more sense of what was going on. Samples from clinical cases showed high numbers of coliforms, some *Strep uberis* and a lot of *Pseudomonas*. No farm should have *Pseudomonas* problems as these are mainly linked to contaminated water supplies.

We took water samples to see which supplies were contaminated. Then the jigsaw fell in to place. Roy was spraying all the units with power hose water which was riddled with Pseudomonas bugs. Cluster dipping would have a positive effect in killing these bugs.

Going back before they started to cluster dip tells the story. Roy covered the units in Pseudomonas. Cows were predipped (not too well) and then the units were attached to the cow. Contaminated water was inside and around the liner and so this will have removed any benefit from predipping. Once the cow was milked out, poor ACR function would have caused impacts and these could have been the way that the bugs entered the udder.

The immediate step was to disinfect all the water storage tanks and ensure that these remain free from Pseudomonas. ACR function was to be corrected and predipping improved. I recommended that there was no need to carry on disinfecting units between cows any more.

This herd study shows just how complex mastitis problems can be and that without bacteriology you often will be unable to solve mastitis problems.