



Mastitis

St Boniface 
Veterinary Clinic 



Veterinary surgeon **Ruth Wotton**

XLVets practice **St Boniface Veterinary Clinic**

Targeting environmental mastitis pathogens

Two years ago, Devon dairy farmer Paul Warren of Gays Farm near Crediton was getting a high incidence of mastitis cases in early lactation cows, an indication of infections picked up in the dry period. Cows were calved down between September and mid-February.

Paul adds: 'Cell counts were also consistently higher than usual - over the 200,000 cells/ml mark. So I was losing out on bonus payments as well.'

Ruth used DairyCo's mastitis plan to carry out an audit of the farm: 'It's 33 pages of questions - but it makes you look at every aspect of anything that could impact on mastitis - cubicles, feed space, milking routine, milking cow and dry cow treatments...'

As part of the investigation, Ruth looked at the trends in cell counts and clinical cases, using TotalVet, a software programme linked to Paul's milk records. She says: 'There were fewer cases in September to November when the dry cows were out at grass. It was only when they came into the sheds that mastitis cases increased. So having identified the risk period, we could then look to see where and how to make changes.'

Although Paul had been drying the cows off with an antibiotic which gave 28 days

protection and had prolonged action against E.coli, this was not enough. During the winter, the dry cows were densely stocked in straw yards - and the bacterial challenge was proving too much.



Ruth Wotton
St Boniface



Cubicles ready for winter

Some changes to housing management were required. Paul explains: 'In the dry cow shed, we started to apply hydrated lime onto the straw to help kill bacteria. And we now clear all the straw out half-way through the winter. Also, the mats in the milking cows' cubicles are spread with sawdust into which hydrated lime has been added. These mats are cleaned off twice each day, and fresh sawdust applied.'

A major change has been the application of a teat sealant at drying off. Paul had not been a believer in the benefits of the concept but was persuaded by Ruth to give it a try. For the first season he just used it on those cows which would be calving down later - indoors. It resulted in significantly lower levels of mastitis, and he now uses it on all cows.

Ruth and Paul also took up a proactive approach to getting cows back into calf so that they could calve down in the period between September and mid-December. This involves treating non-cycling cows, plus the introduction of a heat detection system (transponders on collars), for which Ruth helped Paul get funding.



Ruth Wotton and Paul Warren

Thanks to improvements in fertility, more cows are now calving whilst still outdoors, thereby avoiding the challenge from environmental bacteria in bedding materials.

Key changes at Gays Farm

- Reduced disease pressures from straw yard
- Calving pattern tighter so dry cows calve outdoors
- Use of a teat sealant
- New-born calves prevented from cross-suckling

Ruth explains: 'Having good milk records always makes it easier to identify the problem and target it.'

'The dry period is often a key focus area. Fortunately, relatively simple changes can make a big difference - it's not necessary to put up a new dry cow shed! Instead, look for the quick wins - look at the facilities - perhaps find another shed for the cows to reduce stocking pressure, use a teat sealant, and improve bedding hygiene.'

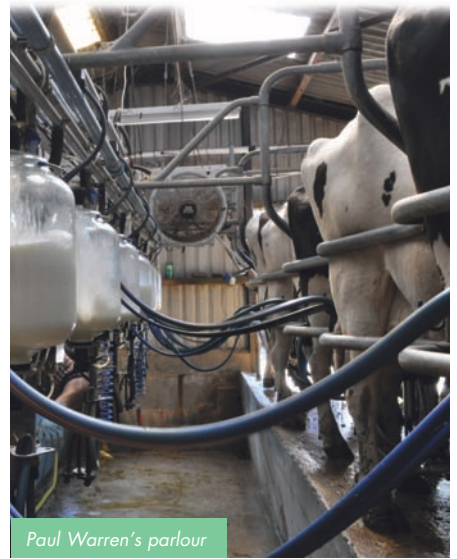
Paul has been able to cull out some older high cell count cows and now rolling cell counts are around 100,000 cells/ml. The mastitis incidence in freshly calved cows is now down to around 1.5 cases per 12 cows.



Smooth teat end



Applying teat sealant



Paul Warren's parlour

Ruth's top tip!

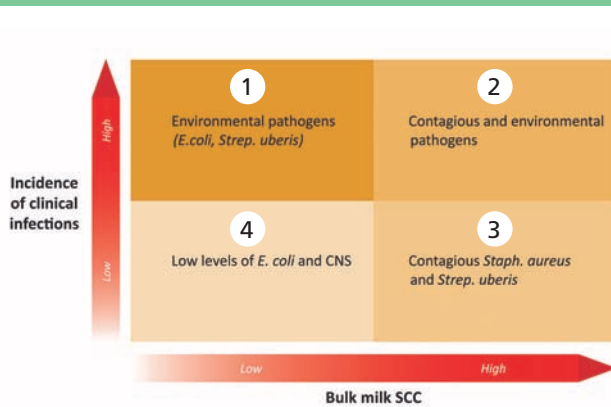
When there's a rise in mastitis cases or cell counts, don't get fixated on the make or type of antibiotic that's at fault. It's just one of many factors that impact on mastitis infection rates, and is often not the cause of the problem.

Establishing the causes of mastitis to bring levels under control



Judith Roberts
Zoetis UK Ltd

At the Robot Workshop held last April (see Livestock Matters' summer issue), Zoetis' Judith Roberts presented the diagram below and told delegates that for the best success in controlling mastitis, it is important to identify which types of bacteria are causing the infections so that remedial actions can be targeted and effective. Knowledge of the incidence of clinical mastitis infections in the herd, together with bulk milk somatic cell counts, also help guide investigations.



For herds with a high incidence of clinical infections but relatively low cell counts, environmental pathogens are the likely cause of mastitis cases [Box 1]. For herds in Box 3, contagious pathogens are probably causing the high cell counts, so control measures should be targeted at the milking parlour and infected animals. For herds which fall into Box 2, decide where the priorities lie, before starting to make changes. This characterisation provides a guide to diagnosis. However, to determine exactly the type of mastitis pathogens prevalent in a herd, it is recommended that milk samples from clinical mastitis and high cell count cows are taken and sent for bacteriological analysis.