

There is no silver bullet for prevention of mastitis

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Despite the introduction of the five point plan in 1968 mastitis remains the costliest disease on UK dairy farms, with individual clinical cases costing over £200 on average and a total estimated cost of over £160M per year.

Lost milk production due to sub-clinical mastitis will add significantly to this and for every clinical case there will be 15 to 40 sub-clinical.

Every 100,000 increase in SCCs above 200,000 results in a 2.5% reduction in milk yield and there may also be severe milk contract penalties.

The National Milk Recorded herds average SCCs have levelled off in the past few years, currently standing at 230-240,000 with the top 25% at around 100,000 and the bottom 25% at around 350,000.

From a low of 33 in 1990 the incidence of clinical mastitis has increased steadily and although it is widely believed to be around 40-45 currently, some recent studies have given figures as high as 70.

Realistically the aim should be for a herd average of less than 150,000 SCCs and no more than 35 clinical cases per 100 cows per year.

The increase is in part because the five-point plan has reduced contagious mastitis but had little effect on environmental pathogens which are now more common and increasing.

Other factors are increased stresses on the modern dairy cow and reduced availability of labour.

The Five Point Plan

- Treat and record all clinical cases.
- Dip teats in disinfectants after every milking.
- Use dry cow therapy at the end of lactation.
- Cull chronic mastitis cases.
- Maintain milking equipment regularly.



When dipping it is important to ensure complete coverage of each teat.

The prominence of environmental mastitis means that winter housing brings with it an inevitable increase in mastitis as the most commonly isolated environmental pathogens, *Strep. uberis* and *E. coli*, are associated with bedding and dung.

The five-point plan should still be adhered to but extra attention now needs to be paid to environmental sources too.

Tackling mastitis

● Milking routine:

Wear gloves to minimise cross-contamination; strip foremilk as this often has a higher bacterial loading and also allows you to check for signs of mastitis; clean dirty teats; pre-dip to remove environmental pathogens; dry teats using single use towels; post-dip to remove contagious pathogens – barrier dips provide additional protection against environmental bacteria between milkings; cluster dip between cows to minimise cross contamination; milk high SCC cows last or using a separate cluster.

● Milking equipment and parlour:

Service equipment regularly; ensure a consistent vacuum to prevent damage to teat ends; change liners every 2,500 milkings; clean parlour & equipment regularly and thoroughly.

● Housing and bedding:

Change bedding frequently – dirty, wet bedding is an ideal bacterial breeding ground; ensure adequate ventilation – a warm, humid atmosphere encourages bacteria; scrape passages frequently to reduce contamination of bedding and udders; use a bedding conditioner with disinfectant to reduce bacterial loading.

● Dry period:

It is often assumed that infections during lactation have been acquired just prior to detection when in fact 60% of cases in the first 100 days of lactation are caused by infections picked up in the dry period, especially the first two weeks and last

two weeks. There are two things you can do, both of which are effective:

- Use antibiotic tubes to clear up infections in existence at drying off.
- Use a non-antibiotic teat sealant as a physical barrier to bacterial entry into the teat canal – over 50% of teats never form a keratin plug and sealants have been shown to be effective in reducing *S. uberis* infections.

Dipping

Pre and post dipping are two of the most effective anti-mastitis measures. Pre dipping cleans and disinfects teats – it only takes a few seconds and has been shown to reduce environmental mastitis by 50%.

Pre dips must kill very fast as they are not on for long. Foam dips are more effective and use less chemical. Post dips deal with contagious infections picked up during milking (Fig. 1) and have to act until the next milking so tend to be more concentrated and/or contain a barrier.

Due to the longer contact time and higher concentration they should contain emollients to maintain good teat condition. In general sprays are less reliable as there is more risk of incomplete coverage.

One thing for certain is that there is no magic silver bullet for tackling mastitis, just good management and attention to detail which will certainly pay dividends. ■

Fig. 1. Uddergold Platinum barrier post dip has been shown to reduce new intra-mammary infections by 17%.

