

Mastitis- Parlour routine and techniques

Mastitis is a problem every dairy farmer will experience. Sometimes it can be very frustrating identifying where a problem is coming from whether it be an increased cell count or a jump in clinical cases.

Mastitis investigation should involve a whole farm approach looking at the cow, environment, pasture, housing and the milking parlour. This newsletter will focus on the parlour and milking.



The milking machine:

The milking machine is the most used piece of machinery on the farm, is used every day and is often overlooked unless there is a noticeable problem. Every parlour should have a static test at least every 6 months and a dynamic test every 12 months. This is to check the machine is functioning correctly and is in good condition. Liners should be changed regularly at least every 2500 milkings. Worn liners and badly functioning vacuums can lead to ineffective milkings leading to longer unit on time and teat end damage. Teat end damage is highly linked to increased cell counts and clinical mastitis rates. Teat ends will be discussed later.

Other areas of parlour machinery to look at are the ACRs. Are they functioning as they should? What is the flow rate setting? What is the vacuum off to removal time? Again, any dysfunction with the ACRs can lead to longer unit on time and increased chance of teat end damage. ADF also needs maintenance; is it

achieving adequate teat coverage? Is it disinfecting all clusters as it should? If the ADF is not functioning properly it can lead to huge increases in contagious and environmental pathogens.

Milking regime:

The importance of regime in the parlour cannot be underestimated. You could have the “best” parlour out there and if milking technique is poor, mastitis will still be a major problem.

There are many factors to consider but whatever system you milk in, the key is to aim for a first touch to cluster attachment of between 60 and 90 seconds. This allows good milk let down as within 60 seconds oxytocin is released, stimulating consistent milk let down throughout milking. During these 60 seconds the milk that is readily available in the teat end will be removed. If the first touch to cluster-on time is too long or too short biphasic milk let down occurs. This is where the milk is removed in 2 distinct phases, and is easily (and very commonly) observed in many parlours. Biphasic milk let down leads to increased teat end damage and significantly longer milking times!



To achieve the optimal first touch to clusters-on time, a slight alteration or change in milking technique may be needed. This may at first may seem to prolong milking, but if done correctly with 60-90 seconds from

first touch to cluster attachment it will actually speed up milking!

Fore-milking is very important as it allows easy mastitis identification and can also reduce cell counts on its own, as the first strips of milk are usually very high cell count.

Whatever pre-dip/spray/wipe is being used, it is important that it has sufficient “kill time” on the teat to kill any bacteria present. It is also important that teats are visibly clean before clusters are attached.



If there is no ADF it is very important to make sure post dips or sprays cover the teats completely. This ensures mastitis protection for the 30 minutes following milking when the teat canals are still open.

Protocol for dump cows should be clear. Ideally dump cows should be milked with dump clusters that are disinfected between cows and not used for freshly calved animals.

Mastitis treatments:

Whatever mastitis tubes are used on farm - this is individual for each farm and should be discussed with your vet - how they are used has a key role to play in determining cure rates. Tube choice and length of treatment will depend on farm preference, on farm bacteriology and success history. Ensure teats are massaged post infusion and where possible it is strongly recommended that the short insertion option on tubes is used. This will reduce damage to teat ends and the teat canal.

Extended courses can be very effective with some mastitis but it is important to remember that standard withdrawals of 7 days for milk and 28 for meat should be applied.

It should always be borne in mind that the dry period gives the best chance of cure, especially for persistent cases of *Staph aureus.* and *Strep uberis.*, so if you are not having success with treatments, drying off the quarter or the cow will be a good course of action.

Drying off protocols:

As mentioned above, the dry period is the time when cows are most likely to cure. Again, drying off protocols are farm dependent and should be discussed with your vet.

The aim of the dry period is to protect uninfected cows and to cure already infected cows. Best practice is to use Orbeseal on all cows with or without dry cow antibiotic tubes. Orbeseal provides protection from new infections for the entirety of the dry period. Dry cow antibiotic tubes will cure existing infections and protect against infections introduced through the drying off procedure.



When it comes to drying cows off cleanliness is paramount. Cows should be dried off at the end of milking in a clean parlour, gloves should be worn and teats should be thoroughly prepared. Antibiotic tubes should be applied first followed by Orbeseal. It is very important that when applying Orbeseal the top of the teat is pinched so that all the sealant stays in the teat canal - this is often forgotten!

Teat score:

There is a very strong relationship between teat end condition, rates of clinical mastitis and cell count. As previously mentioned, teats are damaged by inappropriate vacuum levels of the milking machine or any factors that lead to longer unit on time.

Damaged teat ends lead to increased contamination and teat sphincters that fail to protect against invading bacteria.

We can assess teat condition very easily during milking. A third of the cows need to be scored and the sample should be representative of the whole herd. (ie. A proportion of lows, highs, heifers, etc.) Each teat is looked at and scored from 1 to 4. A teat that scores 1 is a perfect teat end with no raised or roughened areas. A teat that scores 4 has a very raised and rough teat sphincter.

An acceptable score is when below 20% of teats score 3 or 4. Any result above 20% will require further investigation of the milking machine and the milking procedure.

All the previously mentioned factors can be observed and areas of potential improvement identified. This can then lead to preventative measures being introduced with the view to a reduction in mastitis rates.

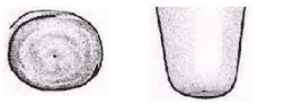

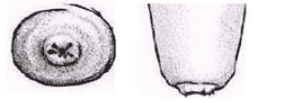

The fixed cost for this visit is £200, which means if it saves one case of mastitis it has paid for itself! We recommend a parlour assessment visit is undertaken as part of any mastitis investigation.

Please contact the practice if you would like to arrange a visit.

Happy milking!

Chris.



Score	Description	Illustration
Score 1 (N)	No Ring. The teat-end is smooth with a small, even orifice. This is a typical status for many teats soon after the start of lactation.	
Score 2 (S)	Smooth or Slightly Rough Ring. A raised ring encircles the teat orifice. The surface of the ring is smooth or it may feel slightly rough but no fragments of old keratin are evident.	
Score 3 (R)	Rough Ring. A raised, roughened ring with isolated fragments of old keratin extending a short distance from the teat orifice.	
Score 4 (VR)	Very Rough Ring. A raised ring with rough fragments of old keratin extending out from the teat orifice. The rim of the ring is rough and may be cracked, often giving the teat-end a "flowered" appearance.	
Score 5	Open Lesions or Scabs.	<i>Not pictured.</i>

Parlour assessment visit:

We now offer a "Parlour assessment visit" within the practice. This involves a vet coming out before milking for a discussion about mastitis followed by observing milking and performing a teat score as the cows come through the parlour.