

Lactococcus Mastitis and how to manage it

In the last 5+ years we have started seeing lactococcus mastitis on dairy farms, and often it seems to be on some of the very best managed farms. Although it may seem like a new type of mastitis, it has likely been around for a while, but we can detect it now. With modern diagnostics, specifically MALDI-TOF the labs can identify many more pathogens than they could in the past. It is also possible that we see it on some of the best managed farms because these farms are going above and beyond to detect any type of mastitis to prevent new cases and hopefully eliminate specific pathogens from the herd.

So what is lactococcus? Lactococcus species are an environmental bacteria that can also behave like a contagious mastitis pathogen. Sand seems to be a natural environmental reservoir, and we often find it in sand bedded herds. In the past it was likely mis-identified as similar pathogens such as Strep. uberis or Enterococcus. It is very difficult to treat and has a lower cure rate than other strep species.

So could lactococcus be a problem on your herd? The best way to identify the problem in any udder health challenge is to do milk cultures! An excellent way to find a problem before it even becomes one is to make a general protocol for culturing any repeat mastitis or high SCC cases. For example, cow # 50 has spiked in SCC so a pre-treatment milk sample is taken and put in the freezer. If she is cured with treatment no further action is needed. If she continues to flare up with high SCC or clinical mastitis after the initial treatment the saved frozen sample can then be sent to the lab. Over time your herd veterinarian may see a trend of a specific type of mastitis on the farm, which allows you to create a plan of attack before any huge mastitis issues can arise. However, if you have not done this (the majority of farms don't) and you find yourself in a high SCC situation it is not too late to send in cultures. In this "outbreak" type scenario it is best to identify the chronic high SCC cows in the herd and culture all of them (if they aren't currently being treated) to find the main cause of the problem in your herd. Whether it is lactococcus or another pathogen, once you have identified it you can create a plan of action with your veterinarian.

Once you have identified lactococcus as the problem a plan of how to control it can be created. To create the plan it is important to understand that lactococcus is environmental, but can behave like a contagious pathogen. We need to both find the environmental source and eliminate it, as well as reduce cow to cow spread in the herd. To find the environmental source it can be helpful to determine what stage of lactation the cows are becoming infected. Is it in the fresh cow pen, dry cow pen, or main lactating herd? If you can narrow it down to a specific area then you can walk through and see opportunities for improvement. Perhaps the alley ways or stalls are not being cleaned as frequently as needed and causing manure contamination which allows bacteria to grow. Or you may need to look deeper, if

everything appears clean on the surface look below. In sand bedding there is often a “black line” of wet bedding below the clean sand on top. This is a common culprit in lactococcus herds. If the black line is close to the surface the cows udder can easily become contaminated with pathogens such as lactococcus. Therefore, an excellent starting area in sand bedded herds with lactococcus is to find and dig out the black line and replace the stalls with fresh sand, ideally once/year.

To control the contagious aspect, we need to limit cow to cow spread. In a parlour herd this would ideally look like creating a lactococcus group which is milked last every milking. In a tie stall these cows can be placed at the end of the line. In a robot it is a little more challenging but if you can identify the positive cows the robot can be programed to do an extra wash after they are milked.

Now what do you do with the cows that are already infected? As mentioned they are very hard to treat. It is worth it to try treating them aggressively with antibiotics once, and you may have some success with aggressive treatment at dry off. But unfortunately, most of the time these cows should go on a do not breed list. Although not ideal, in my experience, aggressive culling of infected animals has been an effective method of getting lactococcus under control in a herd.

In conclusion, although lactococcus is a new challenge for many of us it can be controlled. The key points include identifying the problem, cleaning the environment, and limiting cow to cow transmission.

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