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Mycoplasma spp.: A Practical Summary for Controlling Mastitis

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Mycoplasma spp. are contagious, mastitis-causing pathogens that do not grow well on blood agar under aerobic conditions and therefore must be grown on a selective agar under anaerobic conditions, or identified by their DNA. Infected cows typically have mastitis in multiple quarters and exhibit a dramatic decrease in milk production. A *Mycoplasma* spp. mastitis outbreak can be preceded by a respiratory disease event in bovines of different ages on the farm.

Information in this publication was summarized from the National Mastitis Council's Laboratory Handbook on Bovine Mastitis (Hogan et al. 1999) and "*Mycoplasma bovis* Mastitis" (Gelgie et. al., 2022).

Where are these organisms found?

Reservoirs of *Mycoplasma* spp. include the respiratory and urogenital tracts as well as infected udders. These organisms can also be found in contaminated intramammary treatments and treatment devices, contaminated hands, and in airborne emissions in poorly ventilated barns.

How does *Mycoplasma* spp. spread to the mammary gland?

Mycoplasma spp. spreads easily from cow to cow at milking, making it extremely important that herds maintain a *Mycoplasma*-free status. This pathogen can also spread from contaminated hands, treatment devices, and from the respiratory and urogenital tracts to the udder as well.

How can you prevent and control mastitis caused by *Mycoplasma* spp.?

Prevention is key when dealing with *Mycoplasma* spp. Maintaining a closed herd or only purchasing cattle from reputable *Mycoplasma*-free herds is of the utmost importance. Culturing all replacements at calving before commingling them with the rest of the herd will aid in preventing *Mycoplasma* spp. from entering the lactating herd. If *Mycoplasma* spp. are already on the farm, extreme hygiene is necessary to prevent the spread of this pathogen. Using an effective germicidal pre- and post-milking teat disinfectant will aid in controlling the spread of *Mycoplasma* spp. Segregating infected cows to be milked last or using separate milking units is highly recommended. If segregation is not possible, infected cows should be removed from the herd. Lastly, periodic bulk tank cultures should be performed to monitor the presence of *Mycoplasma* spp. in a herd.

When are *Mycoplasma* spp. mastitis infections most likely to occur?

Because *Mycoplasma* spp. are highly contagious, an outbreak can happen whenever *Mycoplasma* spp. are present in a herd. It can be preceded by a respiratory disease event in bovines of different ages on the farm. *Mycoplasma* spp. infections can also manifest as respiratory, ear, or joint infections.

How likely is *Mycoplasma* spp. mastitis to be cured?

Very few treatments are effective against *Mycoplasma* spp. mastitis. Due to its highly contagious behavior, it is strongly recommended to either segregate or remove infected cows from the herd.

Quick Notes

- *Mycoplasma* spp. are highly contagious mastitis pathogens that originate from infected udders and respiratory and urogenital tracts.
- Maintaining a closed herd or only purchasing animals from *Mycoplasma*-free herds is key to controlling this pathogen.
- Periodic bulk tank cultures should be performed to determine the presence of *Mycoplasma* spp. on a farm.
- No highly effective treatment currently exists for *Mycoplasma* spp. mastitis; therefore, infected cows should be eliminated from the herd.
- Cows infected with *Mycoplasma* spp. mastitis should be segregated and milked last or with a separate milking unit until the cows can be removed from the herd.

References

Gelgie, A.E., Korsa, M.G, Kerro Dego, O. 2022. *Mycoplasma bovis* Mastitis. Current Research in Microbial Sciences. Feb 24;3:100123.

Hogan, J. S., R. N. Gonzalez, R. J. Harmon, S. C. Nickerson, S. P. Oliver, J. W. Pankey, and K. L. Smith. (1999). *Laboratory Handbook on Bovine Mastitis*. Madison, WI: National Mastitis Council.

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