North Star Veterinary Services Newsletter

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MYCOPLASMA

The organism *Mycoplasma bovis* is a troublesome bacteria that is increasingly becoming more of a problem for both dairy and beef herds across the country. Unlike most bacteria, it lacks a particular structure called a cell wall, which makes its very hard to treat with most antibiotics. *Mycoplasma* can cause several different disease conditions that can have devastating economic effects; mastitis in cows and pneumonia, arthritis, and ear infections in calves and heifers.

Mycoplasma Mastitis

When *M. bovis* causes mastitis, it is difficult to culture, because special methods are needed. It requires a moist 10% CO2 incubator and you must wait 10 days before you can call a culture negative. It is considered an incurable mastitis, and there are no effective antibiotics. It is a highly contagious mastitis, and can be spread from cow to cow by milking equipment. For these reasons, the general recommendation for *Mycoplasma* positive herds is to identify positive animals and cull those that are shedding the bacteria. Another tricky thing about *Mycoplasma* mastitis is that cows that are carrying it may not always test positive, and cows that are shedding it may not have any clinical signs. For these reasons, routine testing for *Mycoplasma* positive herds is required, and your veterinarian can help you determine the best testing strategy for your farm. The best place to start to help determine if there are *Mycoplasma* positive cows on your farm is to test your bulk tank for the presence of the pathogen.

When should I be suspicious of Mycoplasma mastitis?

More than one quarter at the same time has clinical mastitis
Milk samples are negative on routine culture
High Somatic Cell Count without many cows with clinical mastitis
Antibiotic treatment does not work
The cow's production decreases dramatically
The mastitis is associated with fever but affected cows may not appear ill

Mycoplasma in Calves

Mycoplasma can cause several debilitating diseases in calves. Calves with *Mycoplasma* pneumonia can begin to show signs as early as two weeks old. Signs include coughing, fever, depression, and runny eyes. Typically, calves with *Mycoplasma* pneumonia will start with mild clinical signs, but will be a "poor do-er" type of calf. They won't gain weight despite having good appetites and will consistently show mild signs of illness and unthriftiness. These calves are much more prone to other diseases, especially if there are other stressors in their environment (heat or cold stress, poor nutrition, dirty environment, poor colostrum, etc). Even if they recover from their disease as calves, research shows that these animals have continued health issues and poor production when they join the lactating herd.

Mycoplasma can also cause severe ear infections in calves. You may see drooping ears, yellow pus draining from the ear, and ultimately head tilts when the disease invades the inner ear. Occasionally in older youngstock (and even adult animals), *Mycoplasma* can also cause swollen joints (arthritis) leading to lameness.

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If you think you are seeing any of these diseases in your calves, you may want to test for *Mycoplasma*. This typically needs to be done after a calf dies when a sample can be taken from their lungs. Occasionally, you can isolate *Mycoplasma* from the pus from infected ears. *Mycoplasma* spreads quickly from calf to calf through aerosolized respiratory secretions and shared feeding equipment. Research shows that calves fed *Mycoplasma* positive colostrum or waste milk will almost always become infected with the bacteria. Though they may not all show clinical signs of the disease, the general consensus is that milk from or contaminated with *Mycoplasma* mastitis should not be fed to calves unless it is pasteurized. The best way to prevent calves from getting infected with *Mycoplasma* is to ensure that the milk/colostrum you are feeding is either *Mycoplasma* negative or pasteurized. If you find *Mycoplasma* in your calves, you should go looking for it in your lactating herd.

Treatment

As mentioned before, cows with *Mycoplasma* mastitis will not respond to antibiotics and generally should be culled or isolated and milked separately/last to control the spread of the bacteria. Calves with *Mycoplasma* pneumonia can sometimes respond to certain antibiotics if caught in the early stages of disease. The antibiotics that can work against *Mycoplasma* are Nuflor/Resflor, Draxxin, and Oxytetracycline. Other types of antibiotics are not effective against *Mycoplasma*. Treatment with these antibiotics is not always helpful. This is because often the disease has already progressed to irreversible lung damage or other concurrent disease by the time treatment is started. Additionally, we are starting to see resistance of these *Mycoplasma* species to the effective antibiotics.

Control/Prevention

The foundation of *Mycoplasma* control is testing and culling/isolating infected animals. Typically, *Mycoplasma* is introduced into a herd after purchasing an infected animal. For this reason, buying animals from *Mycoplasma* negative herds or testing the milk of any new animal introduced into your herd is essential in protecting your herd from the introduction of *Mycoplasma.*

Swollen joints, mastitis, lameness, reproductive problems, calf pneumonia and ear infections, and adult cow respiratory disease suggest the presence of *Mycoplasma* in a herd. If you suspect it may be an issue on your farm, talk to your veterinarian about testing for and surveillance of the disease.