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## Mycoplasma bovis

*Mycoplasma bovis* is similar to bacteria, only it does not have a cell wall. It is in the class of mollicutes.

It is a highly contagious organism which can spread rapidly in an infected herd. The herd presentation of *Mycoplasma bovis* varies from subclinical disease to severe clinical mastitis outbreaks.

Can survive in the environment for extended periods of time (up to 54 days in milk, 20 days on straw and 17 days on water or in water).

*Mycoplasma bovis* is well adapted to the colonisation of mucosal surfaces, eye, vagina, prepuce, ears and nose (especially the upper respiratory tract and mammary gland), where it can persist and where it can be shed without causing clinical disease. Once it gains entry to the body it is spread to the mammary gland via the blood stream.

*Mycoplasma bovis* is shed intermittently, but the factors responsible for this have not been fully established. However, stressful events such as calving and transportation are associated with increased rates of shedding.

Introducing asymptotically infected animals to naïve herds is thought to be the principal method of *Mycoplasma bovis*-free herds becoming infected.

In herds it is spread via the milking machine, milking equipment and milkers' hands. Cow-to-cow spread occurs via aerosol, nose-to-nose contact, contaminated treatment devices and other fomites. Cattle of any age or stage of lactation are affected, including prepuberal heifers, dry cows and bulls.

Classically in affected herds *Mycoplasma bovis* presents as mastitis in multiple quarters with drastic reduction in milk yield, but other signs of systemic disease are relatively mild (fever, lethargy and stiff-legged gait). The udder might be swollen but is usually not painful, secretions vary from fairly normal, to mildly abnormal, to whey-like with grey (sand-like) or flocculent sediment. Large numbers are shed in milk before clinical signs.

In adult cows of some herds, it can present as swollen joints and/or in combination with respiratory disease. In the New Zealand outbreak, it also caused mastitis and swollen joints in dry cows with late term stillbirths and weak calves that failed to thrive.

In other herds the first signs of the disease are noted in calves. Clinical signs usually consist of an outbreak respiratory disease, otitis media (infection of the inner ear) and polyarthritis (multiple swollen joints). It is usually spread to the calves by feeding milk from cows shedding the pathogen.

Although diagnosis of *Mycoplasma bovis* mastitis is usually made clinically, at postmortem demonstration of the characteristic lesions of mild to severe fibrino-suppurative to caseo-necrotic mastitis is evident. Other diagnostic options include:

- Antibody test on milk and blood (indirect test for exposure)
- Culture from a milk sample, joint fluid or respiratory samples (direct test)
- PCR test on milk and body fluids (direct test)

\*It can be difficult to detect due to the nature of intermittent shedding of the organism.

Treatment is considered unrewarding and not economically justifiable. All cattle that are infected are considered to be permanently infected. Infection in calves, Draxxin (Tulathromycin), is recommended for treatment.

Prevention of *Mycoplasma bovis* infection is through strict biosecurity measures (including maintaining a closed herd and screening and quarantining of purchased animals) and attention to hygiene during milking process. To reduce the risk of spreading *Mycoplasma bovis* from infected cows to the calves, feeding calves powdered calf milk replacer or pasteurization of colostrum is recommended.