

## **MYCOPLASMA**

**Michael Jarosz, Ph. D.**

Colorado State University Extension-Weld County  
Livestock Agent  
(970) 590-0796 cell  
mjarosz@co.weld.co.us

**(Adapted from Wohler, 2000, Rosenbusch, 1998, Thomas, & Hale, 1962)**

### **What is it?**

Mycoplasmosis is a disease in cattle primarily caused by the *Mycoplasma bovis* organism that infects the respiratory tract, initially causing pneumonia and eventually migrating to the blood infecting the joints and tendons causing lameness.

### **What causes a Mycoplasma infection?**

- 1) Mycoplasma organisms are almost always present in cattle, certain conditions bring out the disease.
- 2) Highly stressed situations, such as confined cattle, transport, salebarns, improper vaccination programs, bad water, and improper nutrition bring out the disease
- 3) The disease is typically secondary to a primary infection such as BVD, Pasteurella (*Mannheimia*) haemolytica, or others

### **What are symptoms of cattle with the Mycoplasma, different than other respiratory infections?**

- 1) Harsh, hacking cough
- 2) Elevated body temperatures, but will not get over 105 °F
- 3) Up to 10% of the cattle infected with Mycoplasma may become lame, but not all
- 4) Ear infections, characterized by drooped ears and cheesy wax in the ear may occur
- 5) Pinkeye-like infection can occur
- 6) Muzzle does not become dry and cracked
- 7) Cattle stay bright and alert longer
- 8) Dippy nose with clear or nearly-clear thin mucous similar to normal drainage
- 9) Lack of response to antibiotic treatment

### **What do I use to treat Mycoplasma?**

- 1) Early treatment is essential
- 2) Minimal success with antibiotic treatment, but some success has been found with lincomycin, spectinomycin, tetracycline (Ex. LA-200®), tylosin (Ex. Tylan®), tilmicosin (Ex. Micotil®) and

florfenicol (Ex. Nuflor®). Draxxin® is now approved for treatment of Mycoplasma bovis.

### **Does mass antibiotic treatment help?**

Mass treatment has shown little success and may give the Mycoplasma organism a competitive advantage by killing other microorganisms that cause pneumonia (Baynard and Dopta, 2002).

### **Is a vaccine available?**

Yes, but mixed results and typically has shown little success.

### **How is the disease spread?**

- 1) Confined animals with nose to nose contact
- 2) Via milk
- 3) Contact with contaminated feedbunks, waterers, etc.
- 4) Air

### **How long does the organism survive in the environment?**

- It likes moist and warm conditions
  - 37 days in manure
  - 2 days on wood or steel
  - 7 days on rubber or glass

### **Why is Mycoplasma difficult to treat?**

The Mycoplasma organism is “bacteria like”, but lacks a true cell wall. Many antibiotics work by attacking the cell wall, if the organisms do not have a cell wall the antibiotic will not work. Antibiotics listed previously do not act on the cell wall, so they have a better chance of destroying the organism.

The immune system of the animal has a difficult time destroying the mycoplasma organism, because the animal host immune system attaches to the structures on the cell surface to destroy it. If the organism does not have a true cell wall, the structures on the cell are constantly changing, thus the immune system is unable to attach to the cell surface and destroy the cell.