



Cattle Producer's Handbook

Animal Health Section

611

Mycoplasma Infections

Kerry Rood, Utah State University
James J. England, University of Idaho

Mycoplasmas cause respiratory, joint, and ear infections in beef cattle. *Mycoplasma mastitis* is a common condition in dairy cattle. Mycoplasmas are tiny bacteria that are unique in their makeup; they do not contain a cell wall, they require cholesterol for growth, and because they lack a cell wall and the lipid (cholesterol), they are poor antigens making immunization extremely difficult.

Many different mycoplasma species have been associated with the diseases of cattle, but *M. bovis* is generally accepted as a primary pathogen in cattle. *Mycoplasma mycoides* is the causative agent for the foreign animal disease "contagious bovine pleuropneumonia" which was eradicated from the U.S. in 1895. Problematic is the multitude of mycoplasma species that are present in cattle and which are readily isolated from respiratory infections, ocular/nasal discharges, and infected joints. Diagnosis requires that the isolates be differentiated from *M. bovis*.

Mycoplasma bovis is difficult to identify and confirm in bovine respiratory disease but is felt to be a significant contributor to bovine respiratory disease (BRD). It is difficult to identify the disease in the early stages of infection. Left untreated, cattle may develop chronic respiratory problems leading to poor performance, ear infections (evidenced as head tilt), and lameness of one or more joints. Respiratory disease due to *Mycoplasma bovis* is indistinguishable from other infectious forms showing low-grade fever, low-grade cough, mild to marked depression, and ocular and/or nasal discharge. The common secondary problems after mycoplasma respiratory infections are lameness and middle ear infections.

Lameness generally becomes evident 2 to 3 weeks after the respiratory disease but can occur concomitantly. Animals with joint involvement

exhibit joint swelling as well as severe lameness. The affected joint is swollen and painful, and fluid-filled pockets may be felt between the bones in acute cases. In chronic cases the involved joint becomes stiff and firm due to the formation of scar tissue in the joint.

While some animals may have multiple joints swollen, the shoulder joint is most commonly affected clinically. Producers may notice the classic dropped elbow and increasing lameness. Fig. 1 shows a red Angus calf being back grounded in confinement. Note the swollen left shoulder and dropped elbow. The calf has a depressed attitude and shows lack of fill.



Fig. 1. Red Angus calf with *Mycoplasma bovis*.