

Research

Mycoplasma Strains

“Survey of Mycoplasma bovis strains derived from calves in commercial feedlots in Western Canada”

Project No. 0007-055

Research Institution: Western College of Veterinary Medicine (University of Saskatchewan)

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Objectives:

- Determine the prevalence of *Mycoplasma bovis* in fall-placed feedlot calves;
- Describe the ecology of *M. bovis* within pens of feedlot calves;
- Determine if specific strains of *M. bovis* are related to disease in the feedlot.

Background: *Mycoplasma bovis* has become a significant bacterial pathogen in commercial feedlots over the past decade or so. Since *Mycoplasma* bacteria lack a cell wall, antibiotics (which disturb bacterial cell walls) are not very effective for treating cattle infected with these bacteria. *M. bovis* is involved in bovine respiratory disease complex (BRD), and also plays a role in chronic pneumonia and polyarthritis syndrome (CPPS) in high-risk fall-placed feedlot calves. This syndrome has emerged as a leading cause of mortality in feedlot calves in Western Canada. Calves with CPPS may also be euthanized due

to severe lameness problems. There are many different strains of *M. bovis*, and although many calves become infected, not all become sick, and not all develop CPPS.

These researchers are using DNA fingerprinting to examine the prevalence of various *M. bovis* strains in fall-placed feedlot calves, study their spread within the feedlot, and determine if some strains are more likely to cause disease. This project is scheduled to be completed in 2008.

Implications of the Research: Veterinarians specializing in feedlot medicine estimate that treatment costs for affected calves range from \$30.00-50.00 per head, not counting labor costs, added feed costs associated with poor feed conversion, and reduced carcass value. The results of this research will help to develop better *M. bovis* control and prevention strategies for feedlot operators.

