



Research

Antimicrobial Resistance

“Development of a longitudinal antimicrobial resistance and antimicrobial use surveillance program for the feedlot sector in western Canada”

Project No. 0007-038

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

Lead Researcher: Dr. Sheryl Gow

Objectives: The purpose of this study is to determine whether antimicrobial drug use in feedlots is associated with antimicrobial resistance in human pathogens, livestock pathogens, or bacteria that do not cause disease in humans or animals.

Background: Some bacteria are naturally resistant to certain antibiotics. When sick people, pets or livestock are treated with these antibiotics, the resistant bacteria may survive and continue to reproduce. This can increase the number of antibiotic resistant bacteria, and can make the treatment of the disease more difficult. In some cases, the genes coding for antibiotic resistance may be passed from one bacterium to another. Resistance to one antibiotic may also encourage resistance to related drugs. This means that treatment of a disease using one compound

could contribute to antibiotic resistance to another drug in a different organism. Increased antibiotic resistance may be due to inappropriate or over-prescription of drugs in human, pet or livestock medicine.

These researchers are examining whether antibiotic resistance in several common bacteria is related to the use of antibiotics in feedlots. This project is scheduled to be completed 2012.

Implications of the Research: The development of vigilant and effective surveillance programs will help to identify whether antibiotic resistance is originating in the beef industry feedlots. It will also help continuing efforts to promote responsible pharmaceutical use and ensure food safety through the Verified Beef Production program.

