ALBERTA FEEDLOT ANIMAL HEALTH & WELFARE SURVEILLANCE SYSTEM - OVERVIEW

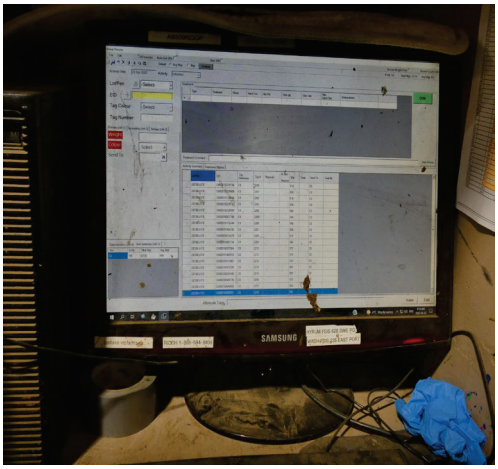
Commitment to Animal Health and Welfare:

- The Alberta feedlot industry, veterinary practices, and other stakeholders are working together to implement and maintain a feedlot animal health and welfare surveillance system in finishing feedlots (AFHWS)
- Collection of high-quality feedlot data allows the beef industry to detect, benchmark, and monitor disease rates over time to identify risks to animal health and welfare to enhance industry knowledge and improve public agriculture awareness

Animal health and welfare surveillance in Alberta feedlot cattle aims to:

- Provide representative estimates of morbidity and mortality rates in finishing feedlots
- Monitor disease rates in feedlot cattle over time
- Investigate associations between disease rates and antimicrobial use (AMU) and antimicrobial resistance (AMR) on a targeted basis, in collaboration with the Canadian Feedlot AMU/AMR Surveillance Program (https://cfaasp.ca) to improve our understanding and support antimicrobial stewardship
- Provide participating feedlot producers and veterinarians with industry benchmark data
- Provide industry stakeholders, such as beef industry associations, pharmaceutical companies, and governments with reliable animal health data for risk assessments and determinations of priority research

How the project works:



- Participating study feedlots:
  - Located in Alberta
  - Have >1000 animals destined for slaughter
  - Have a valid veterinary-client-patient relationship
- Morbidity data comes from:
  - Feedlot treatment records of individual animals pulled and diagnosed clinically for the first time by the animal health crew (pen riders) for respiratory, metabolic, or lameness diseases
  - Does not include on-arrival metaphylactic treatment or post-arrival pen mass medication during outbreaks of disease
- Mortality data comes from:
  - Necropsy records where feedlot veterinarians determined the cause of death from animal clinical histories and postmortem examinations, which may include digital videos and photos

ENHANCING ANIMAL HEALTH AND WELFARE IN THE CANADIAN BEEF INDUSTRY THROUGH COLLABORATION AND LEADERSHIP

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Morbidity Data:

- Feedlots veterinarians collect and collate lot closeout summary treatment and mortality data from randomly selected closed production lots within the past year from the feedlots' computerized animal health management software system, entering it into a standardized Excel spreadsheet for this surveillance program
- Respiratory morbidity lot data includes a combination of first pulls for bovine respiratory disease (BRD) and atypical interstitial pneumonia (AIP)
- Metabolic morbidity lot data includes a combination of first pulls for gas bloat, frothy bloat, grain overload, and caudal vena cava thrombosis
- Lameness morbidity lot data includes a combination of first pulls for foot rot, digital dermatitis (hairy heel warts), arthritis, toe abscesses, and laminitis (founder)
- It should be noted that animals may be counted twice within any syndromic category above if they had been pulled for ≥ 2 specific diseases within that category e.g., same animal first pulled for BRD and later first pulled for AIP, or an animal first pulled for grain overload and later first pulled for gas bloat
- It should be noted that first pulls for each specific disease syndrome above do not mean that these animals were treated with a drug, such as an antimicrobial. Treatment may have been rest, stomach tubing, surgery, railing, or euthanasia

Mortality Data:

- Causes of death are determined by feedlot veterinarians based on gross morphology pathologic lesions
- Determination of the cause of death is based on the most severe lesions and disease that were likely to have caused death
- Death may have occurred naturally or by humane euthanasia
- Respiratory mortality data includes death from either fibrinous pneumonia, fibrinous bronchopneumonia, bronchopneumonia, broncho-interstitial pneumonia, pneumonia and arthritis, viral interstitial pneumonia
- Histophilosis mortality data includes death from either myocarditis, pericarditis, pleuritis with normal lung collapsed underneath thick fibrin, endocarditis if other lesions of histophilosis were present such as myocarditis, septicemia within the first 30-90 days on feed (DOF) if multiple joints were infected with increased synovial fluid and fibrin, laryngitis with other signs of histophilosis such as bronchopneumonia, myocarditis, or pericarditis
- Metabolic mortality data includes death from either feedlot AIP, gas bloat, frothy bloat, grain overload, caudal vena cava thrombosis, ruptured liver abscess causing peritonitis, endotoxemia caused by clostridial infection
- Lameness mortality data includes death from either foot rot, digital dermatitis (hairy heel warts), toe tip (P3) necrosis, arthritis, founder (laminitis)
- Animals are only counted once for mortality data i.e., they can not die of 2 different disease syndromes above

Data Analysis:

- Feedlot veterinarians complete the surveillance system data collection, blinding feedlot names and lot numbers by coding, to ensure the confidentiality of participating feedlot producers' health data
- Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) staff leading the Canadian Feedlot AMU/AMR Surveillance Program provide codes to blind feedlot practice names to protect veterinarians' confidentiality
- Completed lot closeout health data spreadsheets are submitted to CIPARS annually and added to a database for statistical analysis
- Industry summary results are communicated to participating feedlot veterinarians, feedlot producers, the beef industry, and other interested stakeholders at https://cfaasp.ca/alberta-feedlot-health-and-welfare-surveillance-system

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