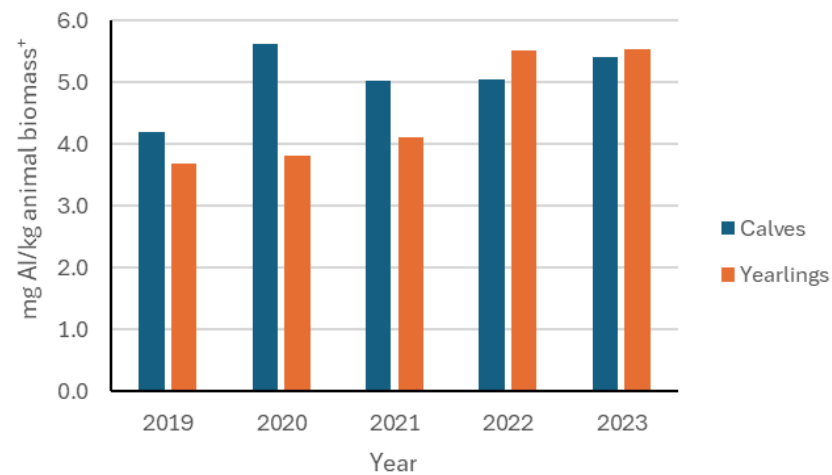


PARENTERAL ANTIMICROBIAL USE (AMU) IN CANADIAN FEEDLOT CATTLE - CFAASP 2023



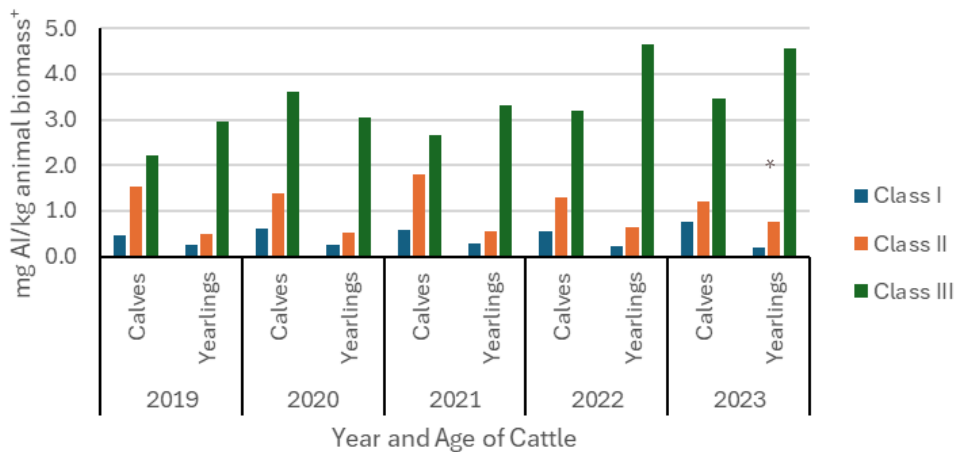
- In 2023, AMU (antimicrobial use) data were collected from 129,872 head of cattle in 393 randomly selected closed production lots from 26 finishing feedlots in AB, SK, and ON.
- Approximately 50% of the cattle were 1) calves vs. yearlings, 2) steers vs. heifers, and 3) at high risk for bovine respiratory disease (BRD) on feedlot entry.
- Parenteral (injectable (4.5%), oral boluses (0.5%)) antimicrobials represented 5% of all AMU.
- In 2023, parenteral AMU was similar in calves and yearlings although types of antimicrobials used varied. AMU increased in yearlings from 2019 to 2023.

Parenteral AMU in Canadian Feedlot Cattle

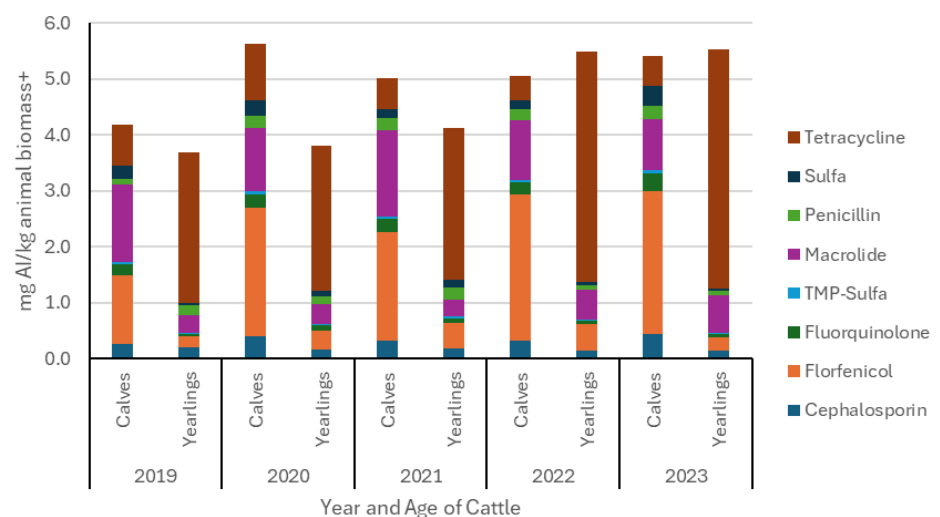


ANTIMICROBIALS OF VERY HIGH IMPORTANCE IN HUMAN MEDICINE (CLASS I)* REPRESENTED 5% OF ALL PARENTERAL ANTIMICROBIAL USE IN CANADIAN FEEDLOT CATTLE IN 2023.

Parenteral AMU by Health Canada's Class of Importance in Human Medicine*

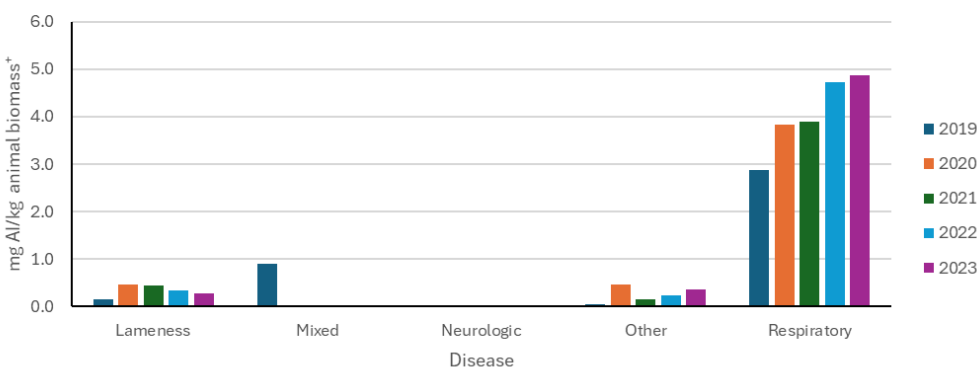


Parenteral AMU in Canadian Feedlot Cattle by Antimicrobial*



FROM 2019-2023, TETRACYCLINE WAS THE MOST USED PARENTERAL ANTIMICROBIAL (39%), FOLLOWED BY FLORFENICOL (25%), MACROLIDES (17%), CEPHALOSPORINS (5%), FLUOROQUINOLONES (3%), PENICILLIN (3%), AND TRIMETHOPRIM-SULFA (3%).

Disease Reason for Parenteral AMU in Canadian Feedlot Cattle



- In yearlings, tetracycline was the most used parenteral antimicrobial, whereas in calves, florfenicol was the most used parenteral antimicrobial. Both drugs are Class III* antimicrobials of medium importance in human medicine.
- From 2019-2023, the largest use of parenteral antimicrobials (84%) was for the treatment and control of bovine respiratory disease (BRD), which is a common infectious disease in feedlot cattle during the first month on feed. This disease causes feedlot producers significant financial losses from increased labor, drug costs, mortality and performance losses.

- Over time, AMU for BRD treatment/control increased, particularly in high risk calves. BRD disease rates are highly variable and unpredictable over time and within and among different feedlots. The risk of BRD is influenced by environmental, animal, and pathogen (viral, bacterial) factors, such as weather, incoming nutritional status, on-arrival immunity, age, source of cattle (auction vs ranch direct), stressful events such as transportation, handling, and mixing/housing of different sourced cattle together, and availability of competent trained feedlot staff.
- In 2023, 50% of the incoming feedlot cattle were considered high risk for BRD. Those at high risk for BRD may receive a metaphylactic antimicrobial on feedlot entry, such as a macrolide or tetracycline, to reduce morbidity and mortality rates and economic losses.
- **The largest reduction in parenteral AMU would occur if research could identify new, practical and cost-effective strategies to prevent and more accurately diagnose BRD. Until such time, we encourage beef cattle producers, both cow-calf and feedlot, to work closely with their veterinarians to identify ways to reduce the occurrence of infectious bacterial diseases (thus, AMU) through improvements in nutrition, animal husbandry, vaccination strategies, and early and accurate disease detection.**

RESEARCH CONTINUES TO IMPROVE DIAGNOSTICS AND IDENTIFY NON-ANTIMICROBIAL METHODS TO PREVENT BRD.

LEARN MORE ABOUT AMU/AMR IN CANADIAN FEEDLOT CATTLE ON OUR WEBSITE.

QUESTIONS?
EMAIL US!
INFO@CFAASP.CA

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[CANADIAN FEEDLOT ANTIMICROBIAL USE
AND ANTIMICROBIAL RESISTANCE
SURVEILLANCE PROGRAM \(CFAASP\)](https://www.cfaasp.ca)



+ mg active ingredient (AI)/kg animal biomass = (mgs of all active ingredients administered by injection during the feeding period), divided by (the number of animals at risk multiplied by the annual average animal body weight at slaughter). Average slaughter weight in 2023 was 644 kg.

* For more information on Health Canada Veterinary Drug Directorate's classes of antimicrobials of importance in human medicine, click [here](#) to view the **Antimicrobial and Antibiotic Backgrounder for Feedlot Cattle**.