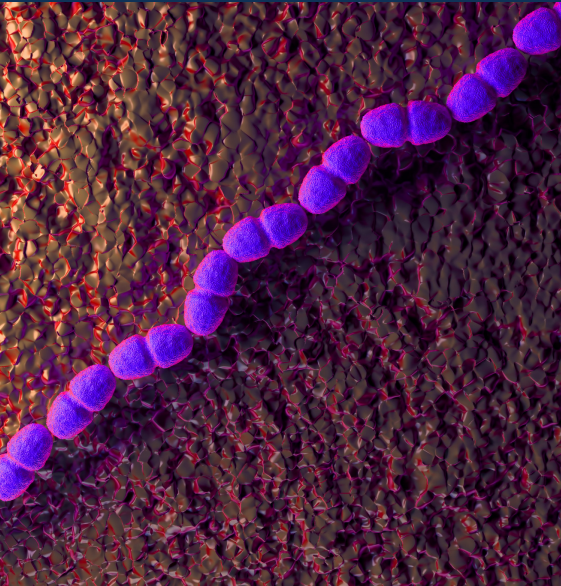


# ENTEROCOCCI ANTIMICROBIAL RESISTANCE (AMR) INFORMATION

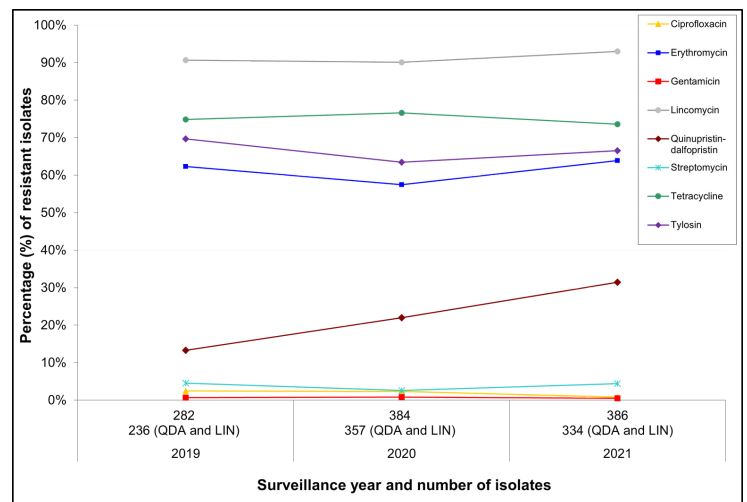


## What are Enterococci?

- *Enterococci* are resident bacteria found in the intestinal tract of healthy animals and people.
- There are over 17 species of this bacteria, and many do not cause disease.
- *Enterococci* bacteria do not cause clinical disease in cattle.
- *Enterococcus faecalis* and *Enterococcus faecium* are the species that most commonly cause disease in people.
- Pathogenic strains of *Enterococci* can cause urinary tract infections, skin and wound infections, prostate infections, abscesses in the abdomen, heart valve infections, blood infection (bacteremia), and meningitis in people.

**Figure: Enterococci species isolates in the manure of Canadian feedlot cattle from 2019 to 2021**

Percentage of resistant *Enterococci* isolates by surveillance year and number of isolates.



**ENTEROCOCCI BACTERIA DO NOT CAUSE DISEASE IN CATTLE, BUT CERTAIN STRAINS CAN CAUSE DISEASE IN HUMANS.**

- *Enterococci* bacteria can be isolated in over 90% of manure samples of healthy cattle.
- *Enterococci* species that may cause disease in people can be found in the manure of healthy cattle.
- *Enterococci* bacteria in manure can be transmitted to other cattle and humans through various pathways, including the environment (water, soil, air), contaminated beef, and by direct contact between cattle and humans. See figure from the "**Bovine enteric pathogen summary**".



# WHY IS MEASURING AMR IN *ENTEROCOCCI* BACTERIA IN THE MANURE FROM FEEDLOT CATTLE IMPORTANT?

- If the *Enterococci* bacteria are resistant to antimicrobials of importance in medicine, and the species of *Enterococci* can cause disease in humans, or the bacteria can transmit its resistance genetically to other bacteria which cause disease in cattle or humans, it will make it harder to treat these infections.
- ***Enterococci* strains that are resistant to a particular antimicrobial called vancomycin** (vancomycin resistant enterococci - VREC) are particularly problematic to treat in humans, as this is often a last resort drug to treat serious infections if the bacteria are resistant to other antimicrobials.
- Vancomycin is a glycopeptide antibiotic that is not licensed for use and is prohibited for use in food producing animals in Canada.



## WHAT CAN YOU DO AS A PRODUCER TO PROTECT YOUR HERD FROM *ENTEROCOCCI*?



### ***Talk to your Veterinarian!***

**Work with your veterinarian** to reduce the risk of infectious disease; thus, the need for antimicrobials and risk of AMR development, by using good animal husbandry and on farm practices, such as: effective vaccination protocols, well-balanced rations, environmental management, health and performance monitoring, and staff training.



**Practice good manure management practices** as per provincial and federal regulations to prevent manure contamination of surface water bodies and leaching to groundwater.



**Contain manure runoff** from feedlot pens, stockpiled manure, and compost piles.



**Do not apply catch basin liquid** to crops grown for human consumption that are eaten uncooked.

# WHAT CAN YOU DO AS A PRODUCER TO PROTECT YOUR HERD FROM ENTEROCOCCI?



**Follow provincial setback distances** when applying catch basin water to land and when applying manure on land and incorporate in soil within 48 hours to reduce runoff.



**Scrape, bed, and clean feedlot pens regularly** to reduce tag build-up on cattle hides.



**Monitor groundwater** bacterial contamination with regular water testing.



**Contain and divert runoff** from deadstock to prevent contamination of feeding pens, feed, and water bodies, and leaching to ground water.



**Implement a dust control strategy.**

- Scrape pens of loose dust and remove regularly.
- Water feed alleys and feeding pens as needed to reduce dust.
- Consider use of tree shelterbelts around feedlot to collect/contain feedlot dust.



**Educate feedlot workers** on good hygienic practices e.g., wash hands well with soap and water before eating, drinking, or smoking.

*The Canadian beef industry and multiple other stakeholders are working with the Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS) to implement and maintain a national feedlot antimicrobial use (AMU) and resistance (AMR) surveillance program in Canada. Collection of high-quality data over time will allow the feedlot industry to document appropriate information that ensures both animal and public health and welfare.*



**QUESTIONS?  
EMAIL US!**

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**CANADIAN FEEDLOT  
ANTIMICROBIAL USE AND  
ANTIMICROBIAL RESISTANCE  
SURVEILLANCE PROGRAM  
(CFAASP)**