Worried about antibiotic use and resistance in cattle?

WHY ARE ANTIBIOTICS USED IN CATTLE?

1. Prevention
   Preventing infection can reduce the need to use more powerful antibiotics if the disease becomes more serious. Preventive antibiotics are also used in human medicine, like with people who are exposed to bacterial meningitis.

2. Treatment and control of disease
   Cattle sometimes get sick, just like people, pets, and other livestock. Antibiotics can help protect animal health by limiting the spread of disease.

3. Ensuring animal welfare: providing care to sick cattle, including using antibiotics when appropriate, is the humane thing to do.

ANTIBIOTIC RESISTANCE HAPPENS NATURALLY

The Lechuguilla Cave in New Mexico has bacteria that have lived in complete isolation for more than four million years. When treated with a variety of antibiotics, many of these bacteria were naturally resistant.

ALL BEEF IS ANTIBIOTIC FREE

A specified withdrawal time must pass after the last treatment to ensure that there are no antibiotic residues left in the beef. The Canadian Food Inspection Agency regularly tests for residues. In 2013, over 99.9% of both domestic and imported beef products were free from residues. If residues are found, the beef is not allowed to enter the food chain.

WHERE DOES ANTIBIOTIC RESISTANCE COME FROM?

1. Some bacteria cause disease. A few are drug resistant.
2. Antibiotics kill disease-causing bacteria, as well as some good bacteria that protect the body from infection.
3. The antibiotic-resistant bacteria survive and reproduce.
4. Some bacteria share their drug-resistance with other bacteria.

“IT IS OUR PRIVILEGE, NOT OUR RIGHT TO BE ABLE TO USE ANTIBIOTICS IN THE ANIMALS THAT WE TAKE CARE OF.”

- Dr. Craig Dorin, Veterinarian

WHY ARE ANTIBIOTICS USED IN CATTLE?

1. Growth promotion
   A category of antibiotics called ionophores helps boost growth in cattle. Ionophores are not used in human medicine, and work differently than medically important antibiotics. There is no evidence that use of ionophores causes increased resistance to antibiotics used in human medicine.

2. Prevention
   Preventing infection can reduce the need to use more powerful antibiotics if the disease becomes more serious. Preventive antibiotics are also used in human medicine, like with people who are exposed to bacterial meningitis.

3. Treatment and control of disease
   Cattle sometimes get sick, just like people, pets, and other livestock. Antibiotics can help protect animal health by limiting the spread of disease.

ENSURING ANIMAL WELFARE

Providing care to sick cattle, including using antibiotics when appropriate, is the humane thing to do.
ARE ALL ANTIBIOTICS CREATED EQUAL?

Not all antibiotics are the same. Some antibiotics are more powerful than others, and some categories of antibiotics that are often used in cattle are not medically important to humans.

1. **Very important in human medicine**
   - Cipro, Omnicef
   - Amoxil, Zithromax

2. **High importance**
   - Cattle: Excede, Baytril
   - Human: Cipro, Omnicef

3. **Medium importance**
   - Cattle: Draxxin, Tylan
   - Human: Amoxicillin, Zithromax

4. **Low importance**
   - Not used in human medicine

**DRUG RESISTANCE LEVELS ARE LOW IN BEEF**

- Resistance of E. coli in retail beef to any of the drugs in the **Very High importance** category is less than 2.5%.

**HUMAN MEDICINE**

- Most of these products require a veterinary prescription, just like you need a prescription from your doctor before the pharmacist will give you most antibiotics.

**Resistant to all drugs**

- Bacteria (E. coli) found in retail beef are rarely resistant to more than one drug. Over 74% of E. coli samples were not resistant to any of the drugs tested.

**IMPORTANCE**

- **Very High**
- **High**
- **Medium**
- **Low**

**Drug resistance levels are low in beef.**

**HOW DIFFICULT IS IT TO GET A RESISTANT INFECTION?**

For a person to get an antibiotic resistant infection from eating beef, a number of unlikely things must happen:

1. Animal gets an antibiotic
2. Resistant bacteria develops in animal
3. Bacteria survives multiple food safety controls during processing
4. Bacteria survives cooking
5. Bacteria causes illness in person
6. Illness fails to respond to prescribed antibiotic
7. Doctor prescribes antibiotic

**WHAT SHOULD CONSUMERS KNOW?**

- **Producers**
  - Understand the concept of antibiotic stewardship.
  - Use antibiotics with good judgment.
  - Include using antibiotics when appropriate.

- **Producers**
  - Also have a responsibility to use antibiotics with good judgment. "Invisible use" involves using antibiotics in cattle to increase livestock performance and provides training on how to use antibiotics properly.

**RESISTANCE SURVEILLANCE**

- **Canada**
  - Has several surveillance programs in place to monitor trends in antibiotic resistance.

- **Resistance surveillance**
  - Categories include the Canadian Integrated Program for Antimicrobial Resistance Surveillance, FoodNet Canada, and the newly announced Canadian Antimicrobial Resistance Surveillance System.

**PRODUCERS TAKE THE ETHICAL RESPONSIBILITY TO PROTECT THE HEALTH AND WELFARE OF THEIR FAMILIES AND ANIMALS.**

**SUPERIOR ANIMAL HEALTH, OPTIMUM PRODUCTION, SUSTAINABILITY, AND ETHICAL RESPONSIBILITY GO HAND IN HAND.**

**Alberta Beef Producers**

For more information on Alberta Beef, please visit the consumer section of www.albertabeef.org.