

# ANTIBIOTICS

#1 IN A SERIES OF 3



## WHAT are antibiotics used for?

**Antibiotics** are drugs used for treating or preventing infections in both humans and animals caused by bacteria. Antibiotics can also help limit the spread of disease.

### DISEASE TREATMENT

Caring for animals when they are sick is an important aspect of animal welfare that farmers, ranchers and veterinarians take very seriously. Sometimes, using antibiotics is necessary to treat animal disease and illness and prevent animal suffering.

### DISEASE PREVENTION

In some situations, antibiotics are given to prevent infections from getting established in the first place. Using preventative antibiotics can reduce the need for more powerful antibiotics if the disease becomes more serious.

Prevention is always preferred over treatment in both human and veterinary medicine.

## WHY do farmers & ranchers use antibiotics?

### NUTRITIONAL EFFICIENCY

**Ionophores** are a type of antibiotic that boost growth in meat-producing animals, such as beef cattle. Ionophores increase their ability to use nutrients more effectively with less waste, meaning they mature more quickly and efficiently.

Between 1977 and 2007, Canada produced 10% more cattle that provided 39% more beef, largely because of ionophore use.<sup>1</sup>

For some animals, such as chickens and young beef cattle, ionophores help control parasites that can cause illness and even death.

### DISEASE CONTROL

Antibiotics can reduce the spread of specific diseases within a herd/to other animals after an animal has been infected.

Farmers work with veterinarians to determine appropriate and safe plans for giving antibiotics to animals based on a particular situation. As of December 2018, all antibiotics require a veterinary prescription (except for ionophores).



## BIOSECURITY

Most poultry, pork and dairy farms are required to follow biosecurity measures to protect humans and animals against disease. These measures include limiting visitor access to barns and developing strict hygiene procedures that farm workers must follow. Even though they may not look sick, people and animals can carry diseases and pass them on to healthy herds and flocks. Biosecurity can help prevent introduction of disease, thus reducing the need for antibiotics.

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## Are antibiotics safe?

**Yes**, as long as they are used according to manufacturers' guidelines. All antibiotics must meet Health Canada's strict standards for human and animal safety.<sup>2</sup> Before being approved for use, antibiotics are thoroughly tested to make sure they are both safe and effective.



Antibiotics help maintain animal health, which ensures the existence of a safe food supply for consumers and the prevention of potential food safety problems.



## Do humans and animals use the same types of antibiotics?

Certain types of antibiotics may be used by both humans and animals. Antibiotics of very high importance in human medicine, such as drugs prescribed for tuberculosis (TB), are seldom used to treat animals.

Ionophores are not used in human medicine. They work only on bacteria and certain parasites found in the stomachs of animals, and have no effect on disease-causing bacteria affecting humans.

## Antibiotics and the environment

Using ionophores creates environmental benefits. A farmer's ability to produce more meat in less time requires less feed, water and land. Cattle also produce less methane gas if treated with ionophores.

■ In Canada, producing 1 kg of beef in 2011 created **15%** lower greenhouse gas emissions than in 1981.<sup>3</sup>

## LOOK DOWN AT THE GROUND....

About 80% of antibiotics we use today originated from soil bacteria.<sup>4</sup> Some antibiotics are synthetic. That is, they are "made up" rather than naturally occurring.

