

Antibiotic use in farming: Is there cause for concern?

In this factsheet we will discuss:

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2. The importance of antibiotic use in farming
3. The link between antibiotic uses in farming to drug-resistant bacteria in humans: Should we be concerned?
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What are antibiotics?

By definition, antibiotics (also called antimicrobials) are agents that kill microorganisms or slow their growth. They are used primarily in human and veterinary medicine to treat, control and prevent bacterial diseases.

The importance of antibiotic use in farming

Antibiotics are used in farming to help sick animals fight off bacterial infections. This allows the sick animal to promptly return to good health, as well as prevents the spread of infection to healthy animals. Good health is an important factor in animal welfare.

Some farmers administer antibiotics to healthy farm animals as a means to prevent disease, enhance growth and improve feed efficiency. This “nontherapeutic” use of antibiotics in food animals has been a cause of concern in recent years.

The link between antibiotic uses in farming to drug-resistant bacteria in humans: Should we be concerned?

Some antibiotics used in veterinary medicine are also used in human medicine. The concern over administering antibiotics to farm animals is that it may eventually lead to an increase in populations of drug-resistant bacteria. Resistant bacteria may then be transferred from animals to humans through food, direct contact or via other means. When the same antibiotics are used to treat these bacteria in human medicine, they may be ineffective and alternative drugs may not be available.

Any use of antibiotics – in animals or in people – can result in a proportion of bacteria becoming drug-resistant. It depends on the number of animals treated, the dosage given and the length of time the drug is administered. For example, prolonged use of low-dose antibiotics on a large number of animals, such as for growth promotion, tends to result in a high prevalence of drug-resistant bacteria. In contrast, when antibiotics are used for the treatment of individual sick animals, fewer drug-

resistant bacteria result. This is due to the relatively short-term application of the drug and the relatively small number of animals treated.

In April 2014, Health Canada announced that use of medically-important antibiotics to improve growth or production of farm animals will be phased-out over the next 3 years (by 2017). In addition, veterinary oversight of antibiotic use in food animals will be strengthened. Successful implementation of this policy means that antibiotics important to human medicine will only be used in food animals under the direction of a veterinarian when there is a specific disease in need of treatment, and not as a means of enhancing animal production. (Source news releases: [Veterinary Drug Directorate](#); [Canadian Animal Health Institute](#))

While the relationship between drug-resistant bacteria found in humans and the use of antibiotics in food animals continues to be debated, it is widely accepted that the major cause of antibiotic resistance in humans is the overuse and improper use of antibiotics by individuals themselves (e.g. when taken incorrectly or for the wrong reason).

What does it mean when my food package says “antibiotic-free”, “fed no antibiotics” or “raised without the use of antibiotics”?

To say something is “antibiotic-free” creates a false uniqueness. Canadian law states that all animals must be free of antibiotic residues before they are slaughtered. Similarly, milk, eggs and other animal food products must be free of antibiotic residues before entering the food system.

Because antibiotics can be administered by injection or spray, not just through feed, a claim like “fed no antibiotics” can be misleading. For this reason, the Canadian Food Inspection Agency (CFIA) requires that food products displaying the “fed no antibiotics” claim meet the criteria for the “raised without the use of antibiotics” claim.

In order to display the claim “raised without the use of antibiotics” on Canadian food products, a farmer must comply with the CFIA [Guidelines on Natural, Naturally Raised, Feed, Antibiotic and Hormone Claims](#). These guidelines state animals must not receive antibiotics at any point in their life – from birth to death. Furthermore, no antibiotics can be given to a pregnant or nursing female, as this would allow the baby to receive antibiotics through its mother’s bloodstream or through her milk.

For a list of substances prohibited and approved for use under this label, refer to Section III of the CFIA [Guidelines on Natural, Naturally Raised, Feed, Antibiotic and Hormone Claims](#).

Antibiotic residues in food products

By law, all farm animals in Canada must be free of antibiotic residues before they enter the human food system. This means farmers who administer antibiotics to farm animals must apply identification to treated animals and keep up to date farm records to ensure no animal that received treatment is harvested until the antibiotic has cleared its body. Similarly, milk, eggs or other food products collected from treated animals within the treatment withdrawal timeframe must be properly discarded as they cannot be used for human consumption.

A farmer who violates this law may be subject to fines and/or legal action. As a precautionary measure, the Canadian dairy industry monitors trucks of milk for the presence of certain antibiotic residues, and the CFIA performs routine [testing for antibiotic residue](#) on animal carcasses.

Veterinary drugs licensed for use in Canada must indicate the withdrawal date on the product packaging to inform a farmer of the amount of time it takes for the drug to fully leave the animal's system. Information about dosage, application, warnings, etc. by species must also accompany the product. This information is often contained in the prescription instructions, a package insert or the product manual. Any "[off label](#)" use should only be carried out in consultation with a licensed farm veterinarian, in which case the vet would provide the farmer with specific instructions on dosage, application and withdrawal times for the drug.

BC SPCA stance on the issue of antibiotic use in farming

The BC SPCA operates the [SPCA Certified program](#), a third party farm animal welfare certification and food labelling system. Certified farmers are not permitted to administer antibiotics to healthy animals under any circumstances, nor are they permitted to use antibiotics for any means other than those specifically prescribed by the farm veterinarian to treat an existing illness or infection.



Resources

- 1.) American Society for Microbiology. [Food Animals and Antimicrobials: Impacts on Human Health](#). Marshall, B. M. and Levy, S. B. Clinical Microbiology Reviews, Volume 27, Issue 2 (April 2014).
- 2.) BC SPCA. [Interpreting Food Labelling Claims](#). Page last updated: Sep. 5, 2013.
- 3.) Canadian Animal Health Institute. [Canadian Animal Health Institute \(CAHI\) Member Companies Agree to Phase-Out Uses of Medically Important Antibiotics for Growth Promotion and Support Increased Veterinary Oversight of Medically Important Antibiotics Used in Animal Feed and Water](#). April 11, 2014.
- 4.) Canadian Food Inspection Agency. [Guidelines on Natural, Naturally Raised, Feed, Antibiotic and Hormone Claims](#). Date page was last modified: 2014-04-16.
- 5.) Canadian Food Inspection Agency. [Meat Hygiene Manual of Procedures](#). Chapter 5, Section 5.2.7. Date modified: 2014-03-21. Accessed June 5, 2014.
- 6.) Canadian Veterinary Medical Association. [News: Growth Promotion Use of Medically Important Antimicrobials Being Phased Out](#). April 22, 2014.
- 7.) European Centre for Disease Prevention and Control. [Factsheet for the General Public](#) (RE: Antibiotic Resistance). Accessed June 5, 2014.
- 8.) Health Canada. [Categorization of Antimicrobial Drugs Based on Importance in Human Medicine](#). April 2009 version. Date page was last modified: 2009-09-23.
- 9.) Health Canada. [Notice to Stakeholders: Collaborative Efforts to Promote the Judicious Use of Medically-Important Antimicrobial Drugs in Food Animal Production](#). Date page was last modified: 2014-04-10.