

What are Antibiotics?

Antibiotics, also known as antimicrobials, are medications that fight bacterial infections. Antibiotics made specifically for cattle are used to help an animal regain or maintain superior health and produce safe beef.

Food and Drug Administration (FDA) Approval Process

Antibiotics used in beef cattle production must go through a rigorous testing process before being approved by the Food and Drug Administration (FDA).

The Center for Veterinary Medicine (CVM), a branch of the FDA, is responsible for ensuring that animal drugs are safe, effective, and manufactured to the highest quality standards. While there are many aspects that go into the animal antibiotic approval process, human safety is a key component. Withdrawal times are established as part of the approval process to specify the number of days that must pass between the last antibiotic treatment and before the animal can enter the food supply. This ensures that an antibiotic has sufficiently cleared an animal's system. By law, any person administering antibiotics to livestock must follow withdrawal periods. Additionally, the FDA and U.S. Department of Agriculture (USDA) have a coordinated surveillance program to monitor for antibiotic residues.

Safe Use of Antibiotics in Cattle

Producers and veterinarians take great care to administer only the amount of antibiotics needed to bring an animal back to health. The Beef Quality Assurance (BQA) program has been training beef producers about the safe and appropriate use of antibiotics since the 1980s.

- The National Cattlemen's Beef Association Producer Guidelines for "Judicious Use of Antimicrobials" have been in place since 1987 and specifically outline the appropriate use of these products:
- Avoid using antibiotics that are important in human medicine.
- Use a narrow spectrum of antimicrobials whenever possible.
- Treat the fewest number of animals possible.
- Antibiotic use should be limited to prevent or control disease and should not be used if the primary intent is to improve performance.

Antibiotic Resistance

In the mid-1980s, the National Cattlemen's Association adopted policy discouraging feeding low levels of antibiotics to promote growth in response to initial concern about antibiotic resistance. In addition to early industry action, the U.S. government strictly tracks antibiotic resistance as well as monitors and reviews products and interventions.

- Multiple studies have reviewed whether antibiotic use in cattle production causes an increased risk to consumers by developing antibiotic-resistant foodborne or other pathogens, and none have found a connection (*Journal of Food Protection*, July 2004; *Journal of Antimicrobial Chemotherapy*, 2003).

Antibiotic Resistance (continued)

- The National Antimicrobial Resistance Monitoring System (NARMS) was established in 1996 as a collaborative effort among FDA's Center for Veterinary Medicine, U.S. Department of Agriculture and the Centers for Disease Control and Prevention. This program provides an early-warning system for detecting any change in pathogen resistance patterns.
http://www.fda.gov/cvm/narms_pg.html
- Guidance 152 is an FDA recommended process implemented in 2003 that adds an additional safety measure to prevent antimicrobial resistance that may result from the use of antimicrobial drugs in animals.
<http://www.fda.gov/cvm/Guidance/fguide152.pdf>
- The beef industry takes seriously the potential of antimicrobial resistance. As a result, the industry has funded more than 13 comprehensive research projects to enhance the understanding of the basic science of resistance development, as well as collect information on the effects of beef production practices on resistance development in foodborne pathogens.
www.beefresearch.org

Residue Testing

Beef producers and veterinarians take great care to use antibiotics judiciously to maintain healthy animals, and the government supports this effort through regular testing.

- The United States government mandates that no beef with antibiotic residues that exceed FDA standards be allowed in the food supply; therefore, all beef sold in the United States is safe from antibiotics.
- The Food Safety Inspection Service's National Residue Program (FSIS NRP) is a multi-component, analytical testing program for residues in domestic and imported meat, poultry and egg products.
<http://www.fsis.usda.gov>
- The FSIS NRP has been in effect since 1967 and provides a variety of sampling plans to prevent concerning levels of residues from entering the food supply. The program also provides national data on the occurrence of chemical residues to support risk assessment, enforcement and educational activities.