

Antibiotic Use in Dairy Cows

Veterinarians play an important role in assuring the responsible and judicious use of antibiotics on dairy farms. As a part of the National Dairy FARM (Farmer’s Assuring Responsible Management) Program® dairy farmers commit to having a strong **Veterinary Client Patient Relationship (VCPR)** where veterinarians provide oversight for how and when antibiotics are used on the farm. A **Heard Health Plan** is developed jointly by the veterinarian and farmer to prevent, monitor and treat common diseases.

Tools for Improving Animal Health

Nutrition ♦ Hygiene ♦ Housing ♦ Antibiotics ♦ Vaccines ♦ Enzymes ♦ Anti-parasitics



Use	Reason	Examples	Additional Information
Therapeutic <i>For the treatment of disease or injury</i>			
Treatment	After a disease has been identified and diagnosed a specific antibiotic treatment is used under veterinary oversight to treat the disease.	Infection	All FDA approved antibiotics have a scientifically based withdrawal time to ensure food safety of milk and meat. A withdrawal time is the amount of time it takes for the cow’s body to rid itself of any drug residue. Withdrawal times may differ between milk and meat, and dairy farmers closely adhere to withdrawal times.
Prevention	When a disease has a high likelihood of occurring, a specific antibiotic treatment is used under veterinary oversight to prevent the disease.	Treatment to prevent infection in the udder during the cow’s dry period (when the cow is not lactating).	
Control	When a disease is observed in some animals, all may be treated with a specific antibiotic used with veterinary oversight to control further spread of the disease.	Pre-weaned calves are fed a medicated milk replacer to control diarrhea caused by environmental bacteria. Ionophores are used to control parasites.	
Sub-therapeutic <i>For improved milk production efficiency</i>			
Efficiency	Increase milk production efficiency in lactating dairy cows.	Ionophores	It is vital to understand that Ionophores are NOT used in human medicine and make up about 1/3 of antibiotic use in livestock.

How do lactating dairy cattle differ from other livestock?

Unlike livestock raised for meat production where the product is harvested at the end of life of the animal, dairy farmers harvest milk from lactating dairy cattle **daily**. Dairy farmers do not feed sub-therapeutic “Shared Class” antibiotics. In fact, there are no shared class antibiotics approved for lactating dairy cattle, making such use illegal.

In many cases, “Shared Class” antibiotics are only available for therapeutic use (treatment, control, and prevention) to ensure animal welfare and food safety. Dairy farmers may use a shared class antibiotic to treat diseases or illness. This is always done with veterinarian oversight and strict adherence to withdrawal times.



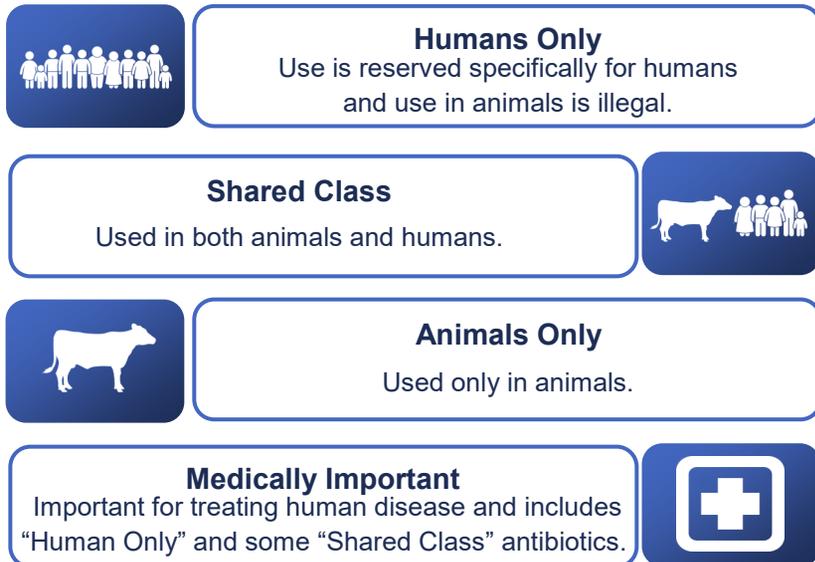
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Key Definitions

Antimicrobials refer to any product that has activity against a variety of microorganisms, which can include bacteria, viruses, fungi and parasites.

Antibiotics are a type of antimicrobial. Specifically, antibiotics kill or inhibit the growth of bacteria that cause disease in humans or animals.

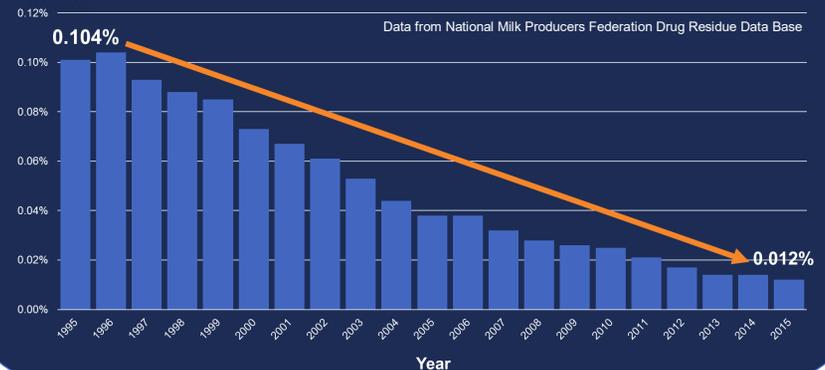
Antibiotic Classifications



What about Antibiotic Residue?

Every milk truck tanker is required to be tested for Beta Lactam residues as well as any other drug that the FDA Commissioner deems a public health threat. Additionally, the U.S. dairy industry voluntarily tests for other classes of drugs such as sulfonamides, tetracyclines, and macrolides. If any residue is found the milk tanker must be disposed of and will **not** enter the food chain. Farmers are held financially responsible for any tankers that test positive for antibiotic residue and a state may revoke their license to sell milk.

Percent of Bulk Milk Tankers Positive for Antibiotic Residues



How does the dairy industry use shared class antibiotics?

Sometimes, the only FDA approved antibiotic options to treat many common diseases in dairy cattle are "Shared Class" drugs. In these instances the farmer must choose between using a "Shared Class" antibiotic or not caring for their cattle. Dairy farmers must use these particular drugs to ensure the health and well-being of their cows. One example of limited options for treatment where only a "Shared Class" antibiotic can be used for the treatment of mastitis or udder infection. While there are some "Animal Only" antibiotic treatments for mastitis, these few options do not cover all the strains of the infection which means a "Shared Class" drug may need to be utilized.

It is also important to note that ionophores are an "Animals Only" antibiotic not used at all in human medicine. Ionophores are used as a therapeutic drug in calves and heifers to control parasitic infections and as a sub-therapeutic drug in lactating dairy cows for greater milk production efficiency.

