The Role of Antibiotics in Maintaining Healthy Dairy Cows

Safe, high-quality milk and dairy foods begin with healthy cows. On the farm, dairy farmers work with veterinarians to keep their cows healthy and minimize the need for antibiotics. Standard practices include plentiful feed and water, sanitary and comfortable living conditions, and vaccinations to prevent disease.

Federal and State Regulations Govern Antibiotic Use

A variety of Food and Drug Administration approved-medications are available to farmers, either over-the-counter (OTC) or through a prescription by a veterinarian, to help control, prevent and treat illnesses in farm animals. Like human medicines, animal medicines undergo extensive trials and testing, and must be approved by the federal government before they can be used.

Dairy farmers and their employees observe the cows every day, and they are skilled at recognizing sick animals. If the illness at hand is suspected to be caused by a bacterial infection, the cow may be treated with antibiotics.

Federal law requires dairy farmers to follow a milk withdrawal time that is determined by how many days it takes the cow to process and metabolize the specific antibiotic that was used. This means that a dairy cow's milk is only collected for human use after she is healthy and the antibiotics have cleared her system. Until then, her milk is discarded in accordance with state regulations.

These are specific points in a cow's life when antibiotics can play a critical role in protecting her health. During weaning, dairy farmers may use antibiotics with calves to prevent infections. Dairy cows also may be given preventive treatments for their udders in the periods when they are "dry" and not in the milking herd.

Checks and Balances in the System

To prevent any trace of antibiotics from entering the milk supply, the FDA requires that all milk – organic and conventional – be tested for commonly used antibiotics when it arrives at the dairy processing plant. Every single truckload is tested for commonly-used beta-lactam drugs (including penicillin, ampicillin, amoxicillin, cloxacillin, cephapirin and ceftiofur). Additional types of drugs are also screened for on an ongoing basis. Any milk that tests positive is rejected by the plant. In addition, the FDA tests approximately 40,000 retail-ready milk samples annually for the presence of antibiotic residues.

Dairy farmers have strong incentives to keep their milk free of antibiotics. In the rare instance of a positive test at the plant, the milk is rejected and the farmer is financially liable for the entire truckload (approx. $15,000). If a farm were to have more than one violation, state regulators would apply additional penalties, such as a fine and/or revoking the farmer's license to sell milk.

Veterinarians Are On-Call

Veterinarians play an important role in assuring the responsible use of antibiotics on dairy farms. Sometimes veterinarians directly diagnose and treat sick animals, while other times they visit and consult with the dairy farmer to customize a disease management and treatment

protocol for the herd. Sometimes, veterinarians use the FDA's Extra-Label Drug Use policy to prescribe medications that are FDA-approved for certain veterinary applications, but may not have a specific label provision to be used to treat a particular disease in lactating dairy cattle.

Veterinarians and dairy industry organizations continue to actively educate dairy farmers about the responsible use of antibiotics. For example, National Milk Producers Federation (NMPF) created the Farmers Assuring Responsible Management (FARM) program which includes free manuals in English and Spanish that outline best practices for keeping antibiotics out of milk and meat.

A Word on Antibiotic Resistance

There is important, ongoing scientific dialogue about antibiotic-resistant bacteria and public health. The U.S. Centers for Disease Control and Prevention (CDC) defines antibiotic resistance as "the result of microbes changing in ways that reduce or eliminate the effectiveness of drugs, chemicals, or other agents to cure or prevent infections."

Antibiotic resistance in bacteria occurs over time and can be magnified by the misuse and overuse of antibiotics. All those involved – the human, animal and environmental health communities – must work together to develop long-term, responsible solutions.

The dairy community supports FDA's guidance aimed at fostering the prudent use of antibiotics on farm animals. We are working with government and veterinary experts to find new ways to protect animal health and well-being with less reliance on antibiotics.

Resources:

- National Milk Drug Residue Database 2014 Annual Report: http://www.fda.gov/downloads/food/guidanceregulation/guidancedocumentsregulatoryinformation/milk/ucm434757.pdf
- DairyGood.org, "From Farm to Fridge: How Best Practices Keep Milk Safe": http://dairygood.org/facts-and-myths/government-regulations/2014/01/13/10/48/from-farm-to-fridge-how-best-practices-keep-milk-safe
- DairyGood.org, "Dairy Farmers Committed to Producing Safe, Wholesome Milk": http://dairygood.org/dairy-farmers-committed-to-producing-safe-wholesome-milk/#sthash.p04HsRD6.dpuf
- National Dairy FARM Program, 2015 *Milk and Dairy Beef Drug Residue Prevention Manual:* http://nationaldairyfarm.com/sites/default/files/2015-Residue-Manual-WEB.pdf
  2014 Spanish language edition: http://www.nationaldairyfarm.com/sites/default/files/2014%20ResMan_Spanish_WEB.pdf

Contact:

- National Milk Producers Federation: www.nmpf.org
- Dairy Management Inc.: www.dairy.org
- International Dairy Foods Association: www.idfa.org