

## Frequently Asked Questions

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# Beyond Antibiotics: Critical Need for Optimal Nutritional Health

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**The use of antibiotics in livestock and poultry production is a controversial public health issue with far-reaching consequences for the food industry in the U.S. and beyond.** In consumer markets for meat, milk, and eggs, it is increasingly a customer choice issue, too. Today, more food labels and advertising highlight terms like “antibiotic-free” and “raised without antibiotics.” Major food brands are quizzing suppliers about their use of antibiotics and many are pledging to reduce or eliminate at least certain antibiotics from their supply chains and consumer products. Public health concerns remain at the forefront, given the alarming rise in pathogenic bacteria resistant to common antibiotics. In the U.S., major changes are coming in regulation of antibiotic use in food animals.

Yet, for both public health and animal welfare reasons, the therapeutic use of antibiotics is going to continue to be part of livestock and poultry production. So, what lies beyond the changes in regulation and current food market trends? Looking beyond antibiotics, what is the most critical need and the greatest opportunity?

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### First, what is an antibiotic?

An antibiotic is a type of **antimicrobial drug used in the treatment and prevention of bacterial infection** in humans and animals around the world. Antibiotics either kill or inhibit the growth of bacteria. The U.S. National Library of Medicine notes that antibiotics can save lives when used properly: “Your body’s natural defenses can usually take it from there.”

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### How do antibiotics work?

Although there are a number of different types of antibiotics, they work in one of two ways:

1. A bactericidal antibiotic kills the bacteria, usually by interfering with the formation of the bacterium’s cell wall or its cell contents
2. A bacteriostatic antibiotic stops bacteria from multiplying.

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### How are antibiotics used in livestock and poultry production?

Antibiotic therapy — by feed, water, injection or other means — treats an infection caused by microorganisms, targeting bacteria, fungi, or various parasites. It is important to note that antibiotics are not effective against viruses.

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### How is antibiotic use in food animal production changing?

Starting in January 2017, antimicrobial compounds previously licensed for use by feed manufacturers through the U.S. Food and Drug Administration (FDA) are going to require veterinary supervision. Under the Veterinary Feed Directive (VFD), such antibiotics can no longer be used for feed efficiency or growth promotion, but only in the context of a veterinarian-client-patient relationship and only “when necessary for assuring animal health.” This new regulation seeks to sustain the therapeutic use of these products and avoid increased resistance of pathogenic bacteria to common antibiotics.

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### How do changes under the VFD affect the feed industry?

The new federal regulation, administered by the FDA and its representative authorities at the state level, requires that many antibiotics licensed for use by feed manufacturers through 2016 must be used under supervision of a veterinarian starting at the beginning of 2017. The transition of former feed-grade antibiotic products to VFD status is already well under way as pharmaceutical companies train their technical and sales representatives and educate customers. Training and education is important in the transition to VFD because a number of non-VFD antibiotics remain available for use by licensed feed manufacturers.

### Drugs Transitioning From OTC to VFD Status

Establish drug name	Examples of proprietary drug name(s)
chlortetracycline (CTC)	Aureomycin, CLTC, CTC, Chioratet, Chiorachei, ChlorMax, Chlortetracycline, Deracin, Inchlor, Pennchlor, Pfchlor
chlortetracycline/sulfamethazine	Aureo S, Aureomix S, Pennchlor S
chlortetracycline/sulfamethazine/penicillin	Aureomix 500, Chlorachel/Pfcior SP, Pennchlor SP, ChlorMax SP
hygromycin B	Hygromix
lincomycin	Lincomix
oxytetracycline (OTC)	Aureomycin, TM, OXTC, Oxytetracycline, Pennox, Terramycin
penicillin+	Penicillin, Penicillin G Procaine
sulfadimethoxine/ormetoprim	Rofenaid, Romet
tylosin	Tylan, Tylosin, Tylovet
tylosin/sulfamethazine	Tylan Sulfa G, Tylan Plus Sulfa G, Tylosin Plus Sulfamethazine
virginiamycin	Stafac, Virginiamycin, V-Max

OTC = Over The Counter

For more on the VFD, see <http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm071807.htm>

### How does “antibiotic stewardship” fit in?

The FDA continues to affirm the important role antibiotics play in treating, controlling, and preventing disease in food-producing animals. The responsible planning and management of existing products — **“antibiotic stewardship”** — can help preserve the efficacy of current therapeutic treatments for both human medicine and modern livestock and poultry production. Promoting antibiotic stewardship requires multiple strategies to optimize animal health and wellness. Strategies for housing, management practices, disease prevention and treatment, and humane handling are important. However, proper nutrition programs are critical.

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