Changes in Antibiotic Use in Animal Feed – What to Expect with new Veterinary Feed Directive Rules
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In December of 2013, the Food and Drug Administration (FDA) announced the implementation of a 3-year plan that will radically change the use of antibiotics in food animals. FDA uses the term "judicious use" to describe how they view the future of antibiotic use in animal agriculture. The plan focuses on the antibiotics used in both human and animals and the goal is address the issue of antimicrobial resistance while still keeping these drugs available to the feed industry. An increase in veterinary oversight for therapeutic use of antimicrobial drugs through the existing Veterinary Feed Directive (VFD) system is a major component of the plan. The final rule was published in June of 2015 and all regulations will take effect on **January 1, 2017**.

Only antibiotic drugs used in the feed and water of food producing animals are affected by the new regulations. Drugs included under new VFD guidelines include apramycin, chlortetracycline, erythromycin, hygromycin B, lincomycin, neomycin, oleandomycin, ormetoprim, oxytetracycline, penicillin, streptomycin, sulfadimethoxine, sufamerazine, sulfamethazine, sulfaquinoxalene, tylosin, and virginiamycin. Drugs **not included** include ionophores (monensin and lasalocid), decoquinate, amprolium, carbadox, bacitracin, and flavomycin. These drugs are not used in human medicine.

How will antibiotic use change?
Basically, we use antibiotics in the feed industry in 4 ways:

1. Treating animals diagnosed with an illness
2. Controlling the spread of an illness
3. Preventing illness in healthy animals
4. Enhancing growth or improving feed efficiency

Antibiotics will still be available in feed (or water) for treatment, control and prevention of diseases. However, with the new regulations, all the medically important drugs will all require a VFD for use in feed or a prescription if used in water. These same medically important drugs will no longer be available for use to enhance growth or improve feed efficiency.

What are some examples of current feeds that will be affected?
Products still available but requiring a VFD: A preconditioning feed containing a combination of chlortetracycline and sulfamethazine and used to keep animals on feed after shipping. A milk replacer with neomycin and oxytetracycline. A feed or mineral product with chlortetracycline and lasalocid for control of anaplasmosis (CTC) and increased weight gain and efficiency (lasalocid). In the case of a product with a combination of drugs, if one drug is under a VFD, the combination is under a VFD.

Products that would no longer be available: A calf starter with a chlortetracycline level labeled for increased weight gain and improved efficiency. A beef mineral or supplement with chlortetracycline labeled for increased weight gain, improved feed efficiency, and reduction of liver abscesses. It is important to note that veterinarians would not be allowed to write an extra-label prescription for an antibiotic on the VFD list with an indication for use of growth promotion.

How do producers, veterinarians, and feed distributors work together to abide by VFD regulations?
Producer: Must work with a veterinarian licensed in the state where the animals are located to obtain a VFD for an animal or group of animals. Producer must also follow directions for feeding, must not feed after the expiration date, and maintain records for 2 years.
Veterinarian: Must be licensed to practice medicine and be in compliance with state requirements for an appropriate and valid veterinarian-client-patient relationship (VCPR). The veterinarian is responsible for preparing

the written VFD (paper or electronic) with all required information including name of the VFD drug, description and location of the animals, and the length of the VFD (maximum of 6 months). Records must be maintained for 2 years.
Feed distributor: Must review the VFD for completeness and provide the feed only if all required information is provided. The feed distributor is also required to notify the FDA of their intention to distribute VFD feeds (one-time notification). As with the producer and veterinarian, the feed distributor must maintain records for 2 years.

In the past, decisions to use medication in animal feed were primarily made by producers and nutrition advisors with veterinarians playing a very limited role. Veterinarian involvement is now required if a medically important antibiotic is fed to a food producing animal. One positive aspect of these new regulations may be to improve the relationships between producers, veterinarians, feed distributors, and nutrition advisors.

Can the industry survive without the use of these drugs for growth promotion and feed efficiency?
Yes. Alternatives to the drugs we are losing are available including ionophores (monensin and lasalocid) and probiotic supplements. The gains made over the last few decades in animal production are not all attributable to the use of antibiotics in feed.

Where can you find more information on the new VFD regulations?
Feedstuffs and Elanco have teamed up to develop an excellent website called VFD Central. This site provides articles, links to FDA publications, and webinars on the VFD regulations (http://feedstuffs.com/vfd.aspx). Our team at the University of Kentucky Regulatory Services will be actively involved in education of our Kentucky feed industry in preparation for the coming changes. One example of this educational effort is the development of a poster to be displayed in feed distributors with a list of VFD drugs and highlighting the regulatory changes coming in January 2017. We are also updating our website with links to the VFD Central website and other VFD web sites (http://www.rs.uky.edu).