

Veterinary Feed Directive

Antibiotic Stewardship in Agriculture



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The logo for the University of Arkansas, featuring the letters 'U of A' in a stylized, red, serif font. The 'U' is large and the 'of A' is smaller and positioned to the right of the 'U'.

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What is a Veterinary Feed Directive Drug?

- In 1996, congress enacted the Animal Drug Availability Act (ADAA) for the approval of new animal drugs and medicated feeds.
- Prior to ADAA, all drugs in animal health were either over-the-counter (OTC) or prescription (Rx).
- VFD drugs are food grade antibiotics used in or on animal feed.
- Currently, medicated feed can be purchased at feeds stores or online without involving a veterinarian.
- Many VFD drug labels have statements for use indicating “increase rate of gain” or “increase feed efficiency”.
- VFD drugs do not include injectable antibiotics.



What Has Changed?



Campylobacter

How do bacteria become resistant?

- Antibiotic resistance is a natural mechanism in bacteria.
 - They can neutralize antibiotic with enzymes before it can do harm.
 - They can pump the antibiotic out before it can do harm.
 - They can change the antibiotic attack site.
- Practices by humans that may contribute to resistance include:
 - Not using the right antibiotic (extra label use).
 - Not using enough of the antibiotic (under dosing).
 - Not using the antibiotic for a long enough time (duration).
 - Using the same antibiotic over and over again (increased exposure).
 - Using the antibiotic on a healthy animal (not indicated).



Why Can't We Just Make New Antibiotics?

- 5 of the top 50 pharmaceutical companies (by sales) currently conduct research to develop new antibiotics (Pew Charitable Trusts, 2015).
- The FDA approval process for a drug is long and costly.
- Booming markets for drugs that treat chronic illnesses have a much bigger payoff than drugs that treat infectious disease.
- There are currently approximately 36 antibiotics going through clinical trials with the FDA (Pew Charitable Trusts, 2015).
- Generating Antibiotic Incentives Now (GAIN) Act (2012) provides 5 extra years of patent protection and a fast-track approval process through the FDA for new drugs that are designated qualified infectious disease products (QIDP).
- As it stands, it is very important to protect the effectiveness of antibiotics we have now.

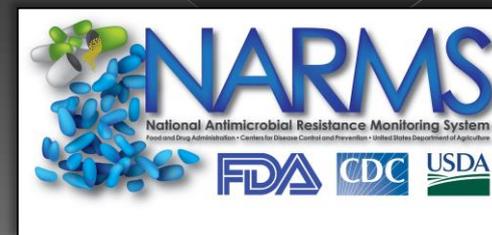


National Strategy for Combating Antibiotic-resistant Bacteria (CARB)

1. Slow the emergence of resistant bacteria and prevent the spread of resistant infections.
2. Strengthen national One-Health surveillance efforts to combat resistance.
3. Advance development and use of rapid and innovative diagnostic tests for identification and characterization of resistant bacteria.
4. Accelerate basic and applied research and development for new antibiotics, other therapeutics and vaccines.
5. Improve international collaboration and capacities for antibiotic resistance prevention, surveillance, control and antibiotic research and development.

How Does This Relate to Agriculture?

- 1996- National Antimicrobial Resistance Monitoring System (NARMS) was established.
- The CDC estimates that annually, at least 2 million illnesses and 23,000 deaths are caused by antibiotic-resistant bacteria in the United States.
- Drug-resistant *Campylobacter* and *Salmonella* account for 400,000 food-born illnesses yearly making them serious threats to public health.
- 2012- FDA Center for Veterinary Medicine (CVM) started taking steps to protect the public from food-born antibiotic resistant bacteria.
- 2013- the CVM asked animal drug companies to (1) stop labeling drugs that are medically important as growth promoters and (2) change labeling of medically important drugs to require veterinary supervision.



Medically Important Drugs Used in Feed

- Tetracyclines: chlortetracycline and oxytetracycline (Terramycin®)
- Macrolides: tylosin (Tylan®), erythromycin and filmicosin
- Lincosamides: lincomycin
- Aminoglycosides: neomycin, gentamicin, apramycin and hygromycin
- Sulfa Drugs: sulfaquinoxaline, sulfadimethoxine and sulfamethazine
- Penicillins*



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VFD Specifics

- A VFD order involves a veterinarian, producer and distributor.
- A veterinary-client- patient relationship (VCPR) must be established before a veterinarian can write a VFD order.
- Veterinarian must follow label on drug (no extra-label use).
- Producer must heed the expiration date and duration of use.
- All VFD orders will have a maximum of a 6 month expiration date.
- Copies of VFD orders must be kept no less than 2 years.

Veterinarian-Client-Patient Relationship (VCPR)

1. The veterinarian assumes responsibility for the health of the animals and the client agrees to follow the veterinarians' instructions.
2. The veterinarian has sufficient knowledge of the animals to make a diagnosis by either examining the animals or making medically appropriate visits to the livestock operation at least once per calendar year (depending on the state).
3. The veterinarian is readily available for follow-up evaluation or has arranged for veterinary emergency coverage or continuing care with another veterinarian.
4. The veterinarian provides oversight of treatment, compliance, and outcome.
5. The veterinarian maintains patient records (3 years for most states).



Veterinarian Responsibility

- Only veterinarians actively licensed and in good standing can write VFD orders for producers. In Arkansas, \$5000 fine per offense if a VFD is written without a license.
- The veterinarian must fill out VFD orders completely.
- The veterinarian must be familiar with the labeled use of VFD drugs (no extra-label use allowed).
- The veterinarian must keep the original copy of the VFD for at least 2 years and provide copies to the FDA upon request.



Licensed Feed Mills vs Distributors

- A "distributor" is any person who distributes a medicated feed containing a VFD drug to another person.
- To make feed with VFD drugs, the feed mill must be licensed by the FDA to manufacture medicated feed (Form FDA 3448).
- For a mill to make medicated feed for a distributor, a written letter from the receiving distributor is needed before the VFD feed is made (the distributor must keep a copy of this letter with the VFD order).
- To distribute a VFD feed to the producer, a copy of a VFD order containing all the information is required before the producer receives the VFD feed.



Distributor Responsibilities

- File a one-time notice with FDA of intent to distribute VFD drugs.
- Notify FDA within 30 days of any change in ownership, business name or business address.
- Fill a VFD order only if the VFD order contains all required information.
- Ensure that the VFD order is manufactured and labeled in conformity with the approved use of drug.
- Label must say “Caution: Federal law restricts medicated feed containing this veterinary feed directive (VFD) drug to use by or on the order of a licensed veterinarian”.
- Retain VFD orders along with records of distribution for 2 years and provide them for FDA inspection upon request.



What is included in a VFD order?

- Veterinarian's name, address and telephone number
- Client's name, address and telephone number
- Premise at which animals specified in the VFD are located
- Date of VFD issuance with an expiration date
- Name of the VFD drug(s)
- **Species and production class of animals to be fed the VFD feed**
- **Approximate number of animals to be fed the VFD feed**
- Indication for which the VFD is used
- Concentration of VFD drug in the feed and the duration of use
- **Withdrawal time, special instructions and cautionary statements**
- Number of reorders (refills) authorized, if permitted by the drug approval
- **Addition of the statement "Use of feed containing this veterinary feed directive (VFD) drug in a manner other than as directed on the labeling (extra-label use), is not permitted".**
- **An affirmation of intent for combination VFD drugs**
- The veterinarian's electronic or written signature

Producer Responsibilities

- Establish a VCPR with a veterinarian.
- Give VFD feed (including combination feed) to animals based on a VFD order issued by a licensed veterinarian.
- Stop feeding the VFD feed to animals after the expiration date indicated on the VFD order.
- Provide a copy of the VFD order to the feed distributor if the issuing veterinarian sends the distributor's copy through the producer.
- Maintain a copy of the VFD order for a minimum of 2 years and provide them for inspection by the FDA upon request.



Important VFD Dates

- June 2015- VFD Final Rule published by the FDA.
- October 2015- VFD Final rule goes into effect for all VFD drugs with a current label- Pulmotil (ilmicosin) and Aquaflor (florfenicol)
- December 2016- Target for drug manufacturers to implement changes affected by the VFD Final Rule.
- January 2017- Target for ALL medically important antimicrobials to need a VFD order by a veterinarian.

VFD Key Point Summary

- A VFD order is needed to get medically important antibiotics in feed.
- A VCPR must be established prior to getting a VFD order.
- No more extra-label use of VFD drugs.
- All VFD orders will have a maximum of a 6 month expiration date. All feed on site will have to be used by that expiration date or a new VFD order is needed.
- The veterinarian, client and distributor must all maintain a copy of VFD records for a minimum of 2 years.
- VFD regulations are designed to help decrease antibiotic resistance.

For More Information...

- Current info from the FDA including updated lists:
<http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/ucm071807.htm>
- National Strategy for Combating Antibiotic-Resistant Bacteria:
https://www.whitehouse.gov/sites/default/files/docs/carb_national_strategy.pdf
- Antibiotic resistance threats in the United States, 2013:
<http://www.cdc.gov/drugresistance/pdf/ar-threats-2013-508.pdf>
- Tracking the Pipeline of Antibiotics in Development
<http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2014/03/12/tracking-the-pipeline-of-antibiotics-in-development>