Drug Use in Dairy Cattle A Veterinary Perspective







Labor
Improper
antimicrobial
use

Waste Management

Dissemination of Pathogens

Intensive Shelter

Increased
Exposure
To Pathogens

Antimicrobial resistance

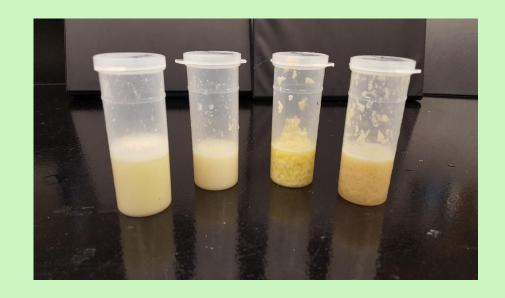
Disease Incidence



Mastitis.....

biggest infectious disease loss in North American dairy cattle

- -Lost production
- -Premature culling
- -Lost quality incentives
- -Discarded milk
- -Death
- -Treatment
- Decreased fertility



Mastitis......

 Largest cause of antimicrobial drug use in dairy cows



Antimicrobial Resistance (**AMR**) in Pathogens on Dairy Farms





Mastitis

Enteric

Improved Milk Quality



Drug Residues



Mastitis



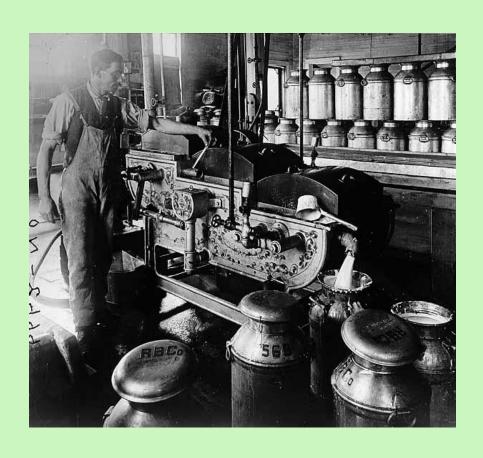
- Somatic Cell Counts
- Bacteria

Sanitation



AMR mastitis pathogens: Public health concern?

Pasteurization



AMR and Enteric Pathogens - Dairy

- Consumer exposure meat
- Occupational exposure
- Environmental hazard?



FDA Guidance for Industry Document #120 **Veterinary Feed Directive – VFD January 1, 2017** Contains Nonbinding Recommendations

#120

Guidance for Industry

Veterinary Feed Directive Regulation Questions and Answers

Final Guidance

(This version of the guidance replaces the version that was made (rms version or the guidance replaces the version that was made available in June 26, 2007. This guidance document has been revised to include information on transmitting electronic veterinary feed directive (VFD) orders via the Internet.)

This guidance document is intended to provide information concerning veterinary feed directive (VFD) orders.

Comments may be submitted anytime (see 21 CFR 10.115(g)(5)) on a guidance document to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. All comments Administration, 9530 Fishers Lane, rm. 1001, Rockville, MD 20532. All comments should be identified with the docket number FDA-1999-N-1591 (formerly 99n-1591) listed in the notice of availability that publishes in the Federal Register. Submit electronic comments to http://www.regulations.gov.

For questions regarding this guidance document, contact Dragan Momcilovic, Center for Veterinary Medicine (HFV-226) Food and Drug Administration, 7519 Standish Place, verennary Medicine (TFY-ZZD) Food and Drug Administration, 7019 Statistics Rockville, MD 20855, 240-453-6856; email: dragan.momcilovic@fda.hhs.gov.

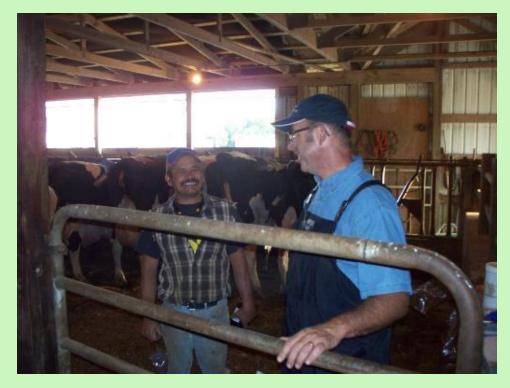
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES FOOD AND DRUG ADMINISTRATION CENTER FOR VETERINARY MEDICINE

March 26, 2009

VFD: What Changes?

Medically Important

- Therapeutic Use Only
- No Production Use
 - Enhance growth or feed efficiency
- No ELDU
- Valid VCPR



Medically Important Antimicrobial Use Food Animals-2017

Species	2016 (kg x 10 ⁶)	2017 (kg x 10 ⁶)	% Change			
Cattle	3.6	2.3	-35			
Swine	3.1	2	-35			
Poultry	1.3	0.9	-26			
All	8.4	5.6	-33			

U.S. 2017 IMM < 1% of total



FDA-CVM-Dec 2018

Milk Bacteriology





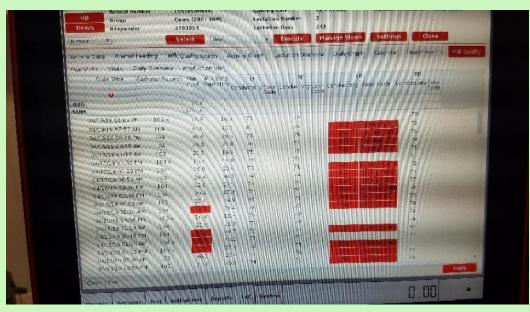
Veterinary Clinic and On-farm Culture





Record Keeping

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Antimicrobial Stewardship Starts with Animal Husbandry

Animal Husbandry Decreases Disease Incidence

Decreased Disease Incidence
Reduces Antimicrobial Drug Use





Quality Milk Alliance

http://qualitymilkalliance.com/













United States Department of Agriculture

National Institute of Food and Agriculture

Pasteurized Milk Ordinance

