



# Update on rules and regulations

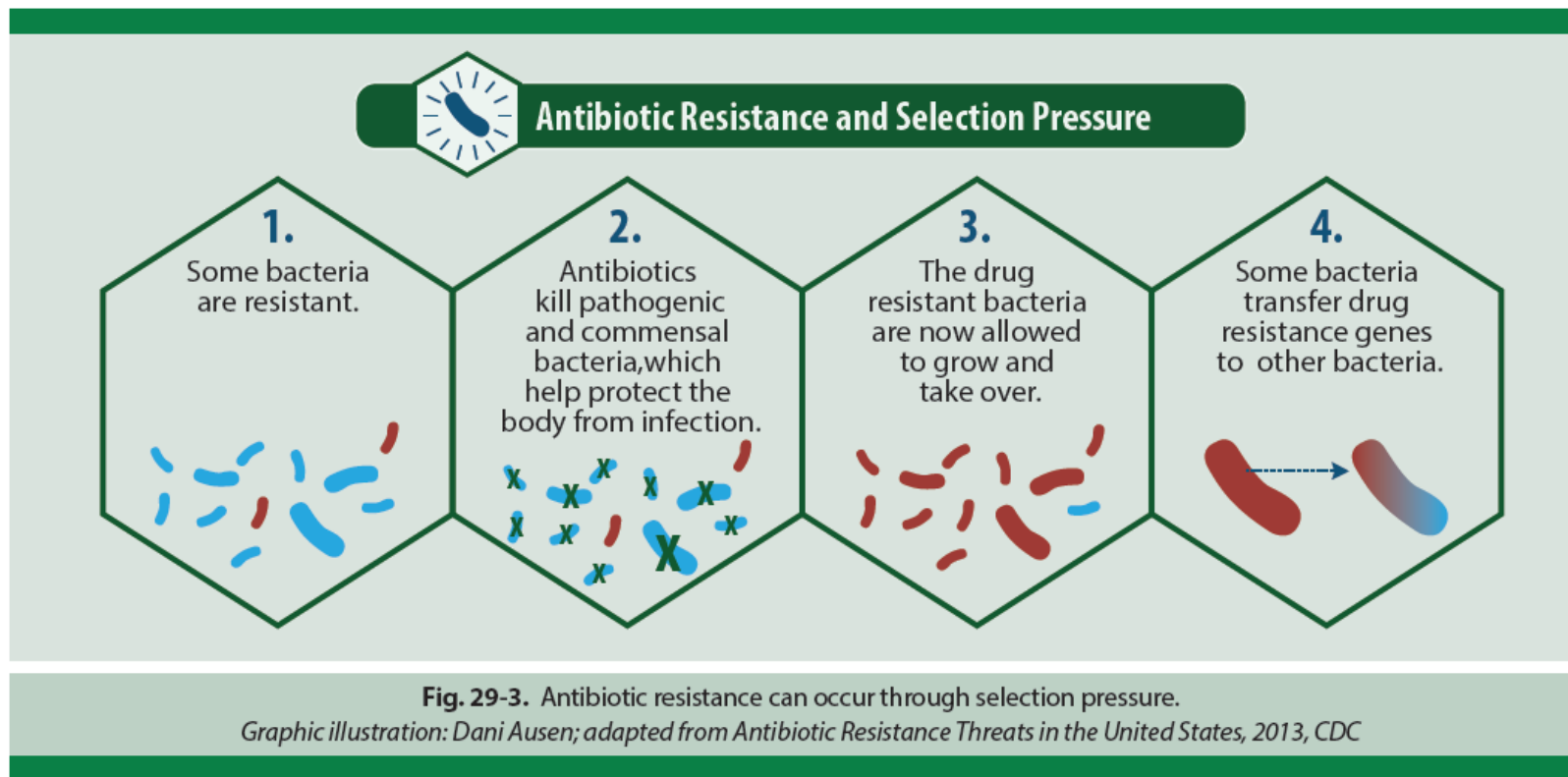
## For beef cattle in California

Gaby Maier, DVM, MPVM, PhD DACVPM

# Agenda

- Why do we care about antibiotic use in livestock
- Antibiotic use in livestock in California
  - Veterinary feed directive
  - SB27 – specific rules for antimicrobials for use in livestock in California
- Livestock ID
- Intra and Interstate movement of cattle

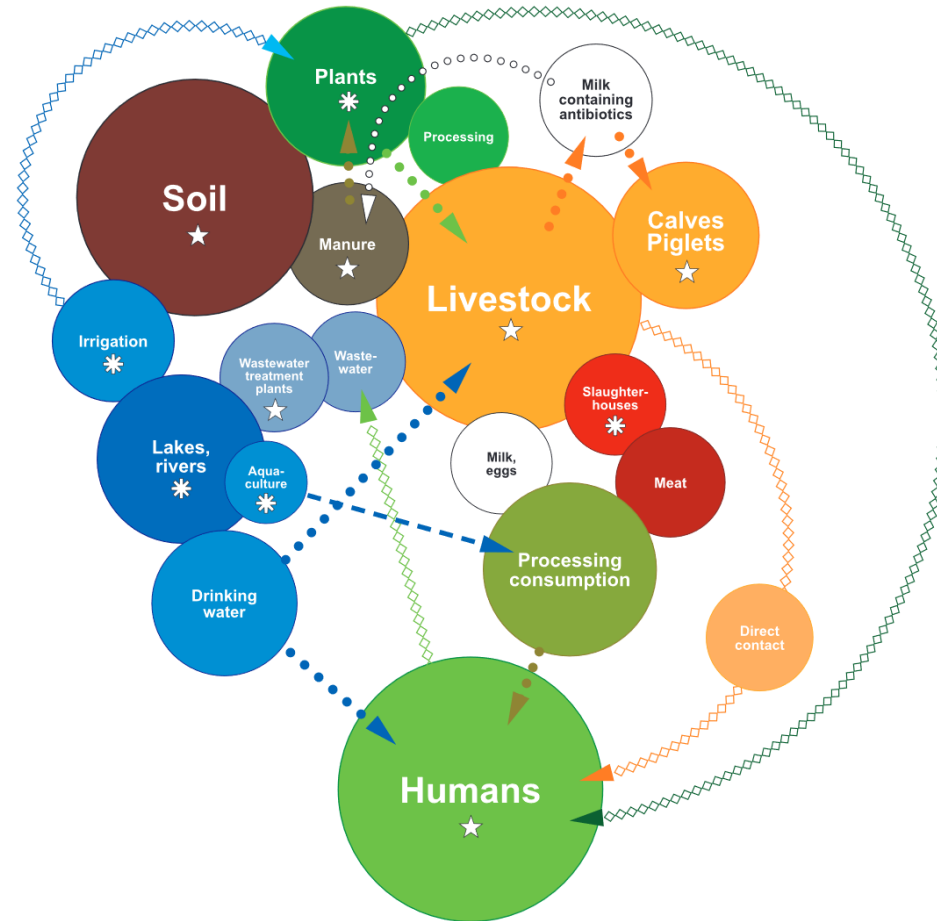
# Why do we care about antibiotic use in livestock?



# Threats to people

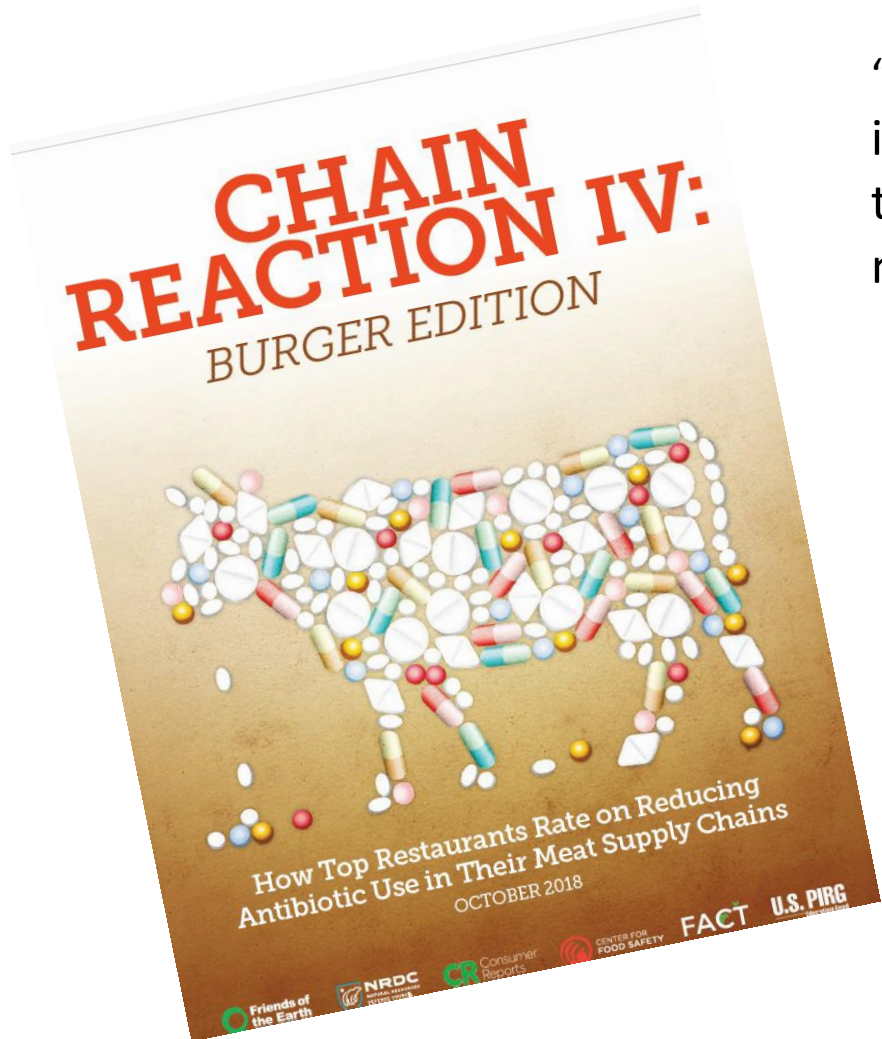
Estimated minimum number of human illnesses and deaths caused annually by antibiotic resistant bacteria and fungi in the US:

At least  
23,000 deaths  
2,049,442 illnesses  
Costing as much as  
\$ 55 billion



**Pathway map of AMA and AMR dissemination within agriculture, the environment, and the food processing industry.**

# Consumer Demand



“59 percent of those polled indicated that they’d be more likely to eat at a restaurant that served meat raised without antibiotics”

“Policymakers should only allow beef producers to use medically important antibiotics under the guidance of a licensed veterinarian, and to treat animals diagnosed with an illness or to control a verified disease outbreak”

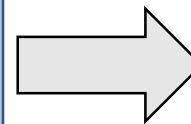


# Veterinary Feed Directive

- In effect since January 1, 2017, federal rule - all of U.S.
- Uses of Antimicrobial Drugs in Veterinary Medicine:
  - Disease treatment
  - Disease control
  - Disease prevention
  - ~~• Improved efficiency and improved rate of gain (growth promotion)~~

Removing production uses for medically important antimicrobials = used to treat humans

Veterinary oversight of medically important antimicrobials for livestock in or on feed (VFD) or drinking water (prescription)



Valid Veterinary Client Patient Relationship

- 1.) The client has authorized the veterinarian
- 2.) **The veterinarian is personally acquainted with the care of the animal(s) by virtue of an examination of the animal or by visits to the premises**
- 3.) The veterinarian has assumed responsibility for making medical judgments

# Which antimicrobials are medically important?

Medically Important Antibiotics in Human Medicine	
Importance	Antibiotics
Critically Important	Third generation cephalosporins Fluoroquinolones Macrolides Trimeth/sulfameth
Highly Important	Natural penicillins Penase resistant penicillins Antipseudomonal penicillins Aminopenicillins Fourth generation cephalosporins Carbapenems Aminoglycosides Clindamycin Tetracyclines Glycopeptides Streptogramins Oxazolidones Pyrazinamide Isoniazid Rifamycins Chloramphenicol Metronidazole Polymyxin B
Important	First generation cephalosporins Second generation cephalosporins Cephamycins Monobactams Quinolones

Fig. 29-12. VFD drugs are those that are deemed medically important by the FDA. All of the antibiotic classes listed in all three of the categories are considered medically important to human medicine. Source: FDA Guidance for Industry #152

Not all of these are available as livestock drugs or for use in feed

# Which products are affected?

Established Drug Name	Examples of Proprietary Drug Name(s)
Chlortetracycline (CTC)	Aureomycin, CLTC, CTC, Chloratet, Chlorachel, ChlorMax, Chlortetracycline, Deracin, Inchlor, Pennchlor, Pfichlor
Chlortetracycline sulfamethazine*	Aureo S, Aureomix S, Pennchlor S
Chlortetracycline sulfamethazine penicillin*	Aureomix 500, Chlorachel/Pfichlor SP, Pennchlor SP, ChlorMax SP
Hygromycin B	Hygromix
Lincomycin	Lincomix
Oxytetracycline (OTC)	TM, OXTC, Oxytetracycline, Pennox, Terramycin
Oxytetracycline neomycin*	Neo-Oxy, Neo-Terramycin
Penicillin+	Penicillin, Penicillin G Procaine
Sulfadimethoxine ormetoprim*	Rofenaïd, Romet
Tylosin	Tylan, Tylosin, Tylovet
Tylosin sulfamethazine*	Tylan Sulfa G, Tylan Plus Sulfa G, Tylosin Plus Sulfamethazine
Virginiamycin	Stafac, Virginiamycin, V-Max

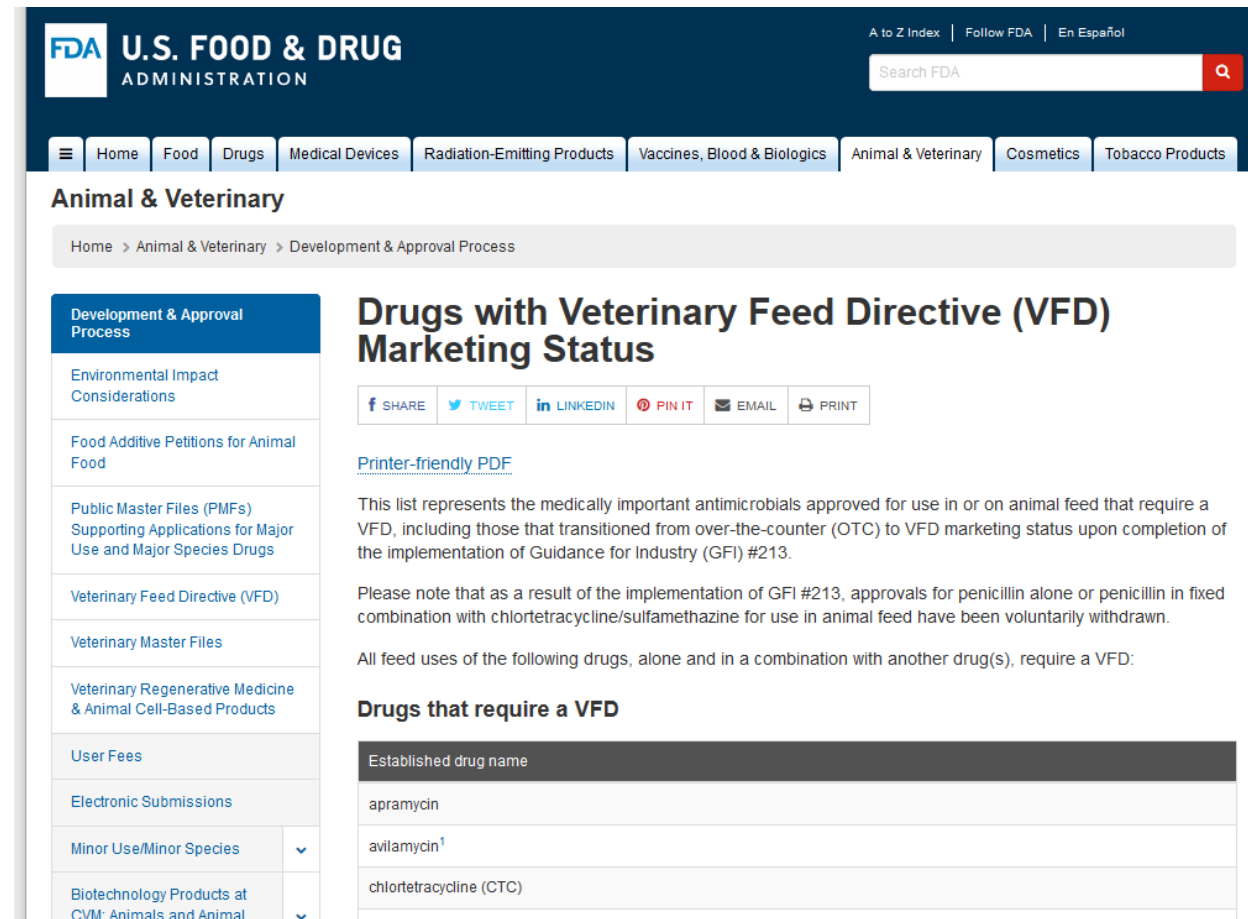
Note: Apramycin, erythromycin, neomycin (alone), oleandomycin+, sulfamerazine, and sulfaquinoxaline are also approved for use in feed and are expected to transition to VFD status, but are not marketed at this time. If they return to the market after January 1, 2017, they will require a VFD.

§Type A medicated articles used to manufacture medicated feed, all products may not be marketed at this time

\*Fixed-ratio, combination drug

+Currently only approved for production uses

Fig. 29-13. Those antimicrobials that are not medically important will remain in OTC marketing status. Source: FDA



The screenshot shows the FDA website's 'Animal & Veterinary' section. The main heading is 'Drugs with Veterinary Feed Directive (VFD) Marketing Status'. Below the heading are social media sharing options (Share, Tweet, LinkedIn, Pin It, Email, Print) and a 'Printer-friendly PDF' link. The text explains that this list represents medically important antimicrobials approved for use in or on animal feed that require a VFD, including those that transitioned from over-the-counter (OTC) to VFD status upon completion of the implementation of Guidance for Industry (GFI) #213. It also notes that approvals for penicillin alone or penicillin in fixed combination with chlortetracycline/sulfamethazine for use in animal feed have been voluntarily withdrawn. A section titled 'Drugs that require a VFD' lists the following established drug names: apramycin, avilamycin<sup>1</sup>, and chlortetracycline (CTC).



# Which products are NOT affected by VFD?

## Antimicrobials:

- Ionophores, e.g. monensin
- Bacitracin
- Bambermycins
- Tiamulin

## Other Drugs

- Dewormers (ivermectin, fenbendazole)
- Beta agonists (ractopamine)
- Coccidiostats (decoquinate)

Unless in combination with a VFD drug

# Important things to know about a VFD

- **Expiration date:** last date the VFD feed can be fed
  - Not more than 6 months after issue
  - From date of issue until end of use
- **Duration of Use** (different from expiration date)
- **No extralabel use** (different duration or different disease or different animals)
- Must be **written**
- Keep copies for at least **2 years**

# What is SB27?

- Senate Bill 27, signed on October 10, 2015
- In effect since **January 1, 2018**
- Applies only to **California**
- **Goal:** Preserve efficacy and ensure current and future availability of antibiotics for use in livestock

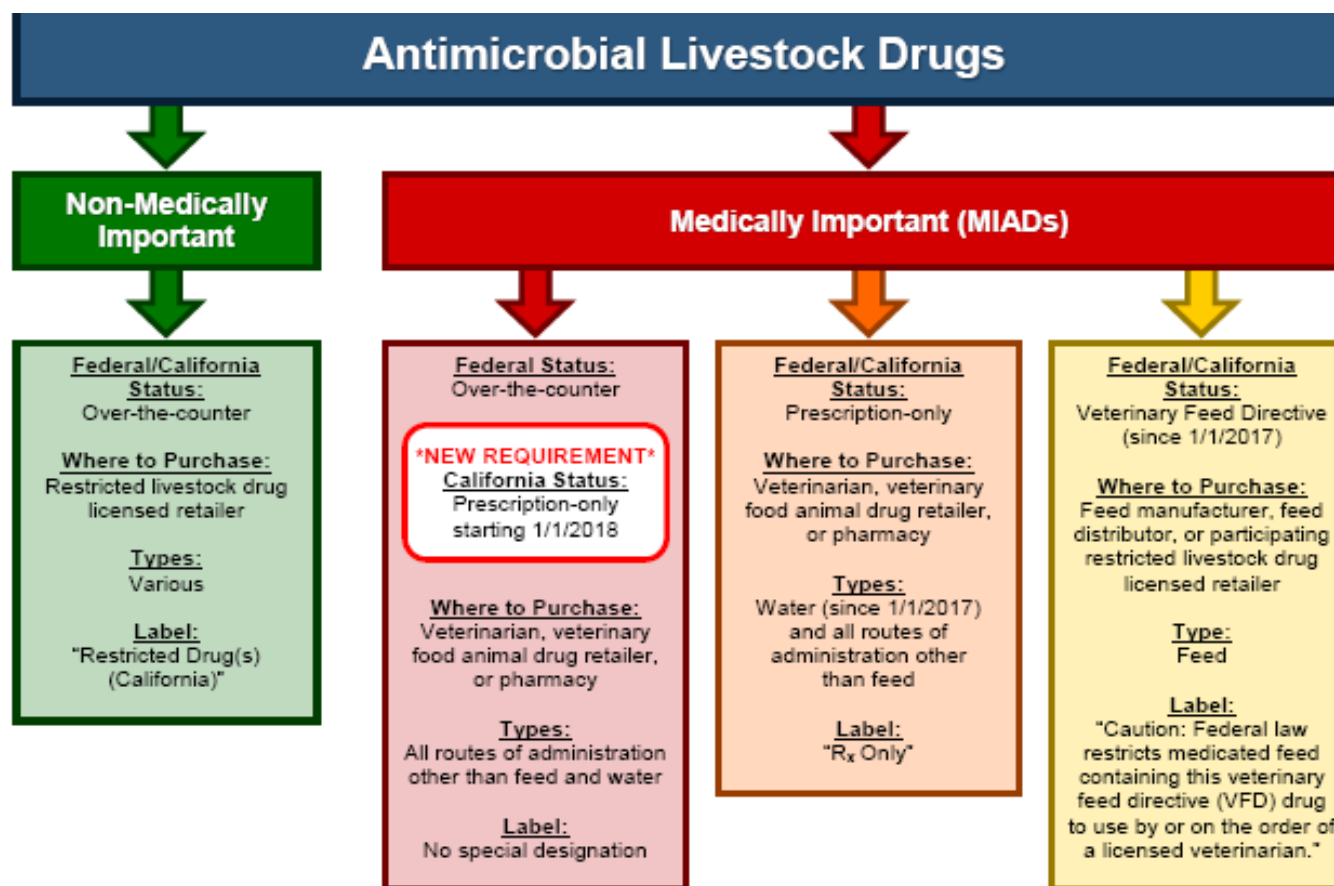
## 3 components:

Stewardship

Surveys and  
Studies

Regulated  
Use

# What has changed in CA for antimicrobials?



# Which drugs are affected?

## Change from OTC to prescription

- **Injectables:**

- Lincomycin
- Tylosin
- Penicillin
- Tetracyclines
- Sulfonamides

- **Oral-Bolus:**

- Oxytetracycline (calf scour bolus)
- Sulfonamides (Albon, Sustain)

- **Oral drench:**

- Spectinomycin (Scour Chek)

- **Topical - ophthalmic**

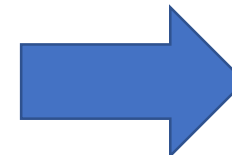
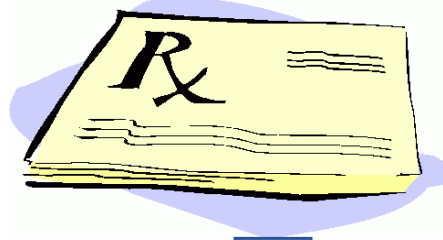
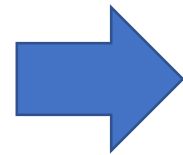
- Tetracyclines (Terramycin)

- **Intramammary**

- Cephapirin (Today, Tomorrow)
- Penicillin (Albadry, Hanford's)

# How and where to get Antimicrobials?

Need VCPR



[www.safe.pharmacy/  
buying-safely/#USvets](http://www.safe.pharmacy/buying-safely/#USvets)



VFADR = Veterinary Food  
Animal Drug Retailer

[www.pharmacy.ca.gov/about/verify\\_lic](http://www.pharmacy.ca.gov/about/verify_lic)

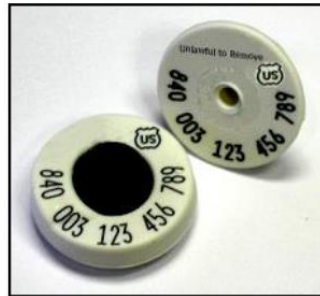
# Livestock identification requirements

- Official Id required for cattle moving **within** California:
  - Dairy cattle born in CA after 1/1/17 prior to leaving premises
  - Dairy cattle on change of ownership
  - **Non-virgin** sexually intact male cattle **less than 18 months** } When changing ownership
  - **Intact male cattle 18 months or older** }
    - Unless moving to slaughter or livestock marketing facility and then to slaughter within 3 days



# Options for official animal ID

Official eartags

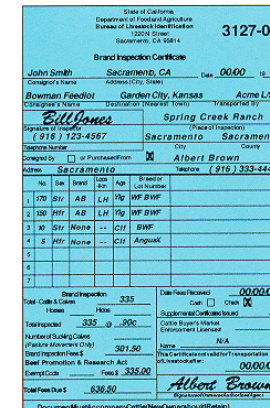


Location-Based Tags

Breed registration tattoo with registration certificate




Registered brand with brand inspection certificate



No.	Sex	Brand	Color	Age	Brand or Lot Number
1	FD	Str	AB	LM	WF BWF
2	SD	Str	AB	LM	WF BWF
3	SD	Str	None	---	BWF
4	S	Str	None	---	Angus
5					
6					
7					





# Also for bulls changing ownership

- Need a DNA detection or amplification test (PCR) for trich
  - Both public and private sales
  - Unless going to slaughter
- Trichomonosis approved eartag (from your vet when testing)



[https://www.cdfa.ca.gov/ahfss/Animal\\_Health/pdfs/Trich\\_RuleChangeSummary.pdf](https://www.cdfa.ca.gov/ahfss/Animal_Health/pdfs/Trich_RuleChangeSummary.pdf)

# Livestock identification requirements

- Official ID required for cattle **entering** California:
  - Female dairy cattle of any age
  - Male dairy cattle born after 3/11/2013
  - **Intact male** beef cattle **18 months or older**
  - **Intact female** beef cattle **6 months or older**
  - **Cattle of any age** used for rodeo, show, exhibition purposes
  - **Mexico** origin cattle regardless of age or sex
  
- [http://www.usaha.org/upload/Resolution/2017/Resolution\\_8\\_ID\\_in\\_Cattle.pdf](http://www.usaha.org/upload/Resolution/2017/Resolution_8_ID_in_Cattle.pdf)

# Outlook on livestock ID requirements

- Official ID for interstate movement:
  - Nationally: for beef cattle 18 months or older
  - **Expected** starting Jan. 1, 2021: discontinue visual only tags (silver bright, orange) as official ID for interstate movement
  - **Expected** starting Jan. 1, 2023: official ID must be electronic
  - Specifications for IDs will be determined before July 1, 2019
  - Not yet confirmed, but will most likely happen
  - USDA expects to provide seed money to states and/or industry for implementation
- [http://www.usaha.org/upload/Resolution/2017/Resolution\\_8\\_ID\\_in\\_Cattle.pdf](http://www.usaha.org/upload/Resolution/2017/Resolution_8_ID_in_Cattle.pdf)

# Visions for National Animal ID system

**“However, despite being a globally-recognized leader in all points of the beef value chain, the U.S. currently does not have robust, nationally-significant animal identification and traceability system(s) in place for its domestic beef industry”**

World Perspectives, Comprehensive Feasibility Study: U.S. Beef Cattle Identification and Traceability Systems

## Advantages of an ID system:

- Enhanced consumer confidence
- Competitiveness in international markets
- Traceability for animal disease outbreaks

[http://www.beefusa.org/CMDocs/BeefUSA/NCBA%20feasibility%20study%20on%20traceability\\_WPI%20report%2001302018.pdf](http://www.beefusa.org/CMDocs/BeefUSA/NCBA%20feasibility%20study%20on%20traceability_WPI%20report%2001302018.pdf)



# Thank you – questions?

Contact: Gaby Maier  
Email: [gumaier@ucdavis.edu](mailto:gumaier@ucdavis.edu)  
Phone: 530-754-0886