

BQA Success Stories

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Today's Topics

How & why BQA began
Successes over the past 40 yr
Current challenges



Chemical Residues

- **Prevalence in early 80's was ??%**



Dosage: Penicillin Injectable is administered by the intramuscular route. The product is ready for injection after warming the vial to room temperature and shaking to ensure a uniform suspension. The daily dose of penicillin is 3,000 units per pound of body weight (1 mL per 100 lbs body weight).



Industry Challenges

- Extra-label dosages common
- Home brews “**Bloody Marys**”
- No guidance on dose volume/site
- Chloramphenicol
- Aminoglycosides



Chemical Residues

- Prevalence in early 80s was **1.8%**
- Dr. Dee Griffin was staff veterinarian for a company that owned feedlots in Oklahoma and Kansas
- **Three recent residue violations**
- Ladd Hitch – “fix it!”



Residue Avoidance Plan

- Open communication – feeder, packer, FSIS
- Muscle and kidney analysis
- Increase withdrawal times accordingly
- Improved TRT records
- Used LAST test - high risk cattle

Collecting Urine is Easy

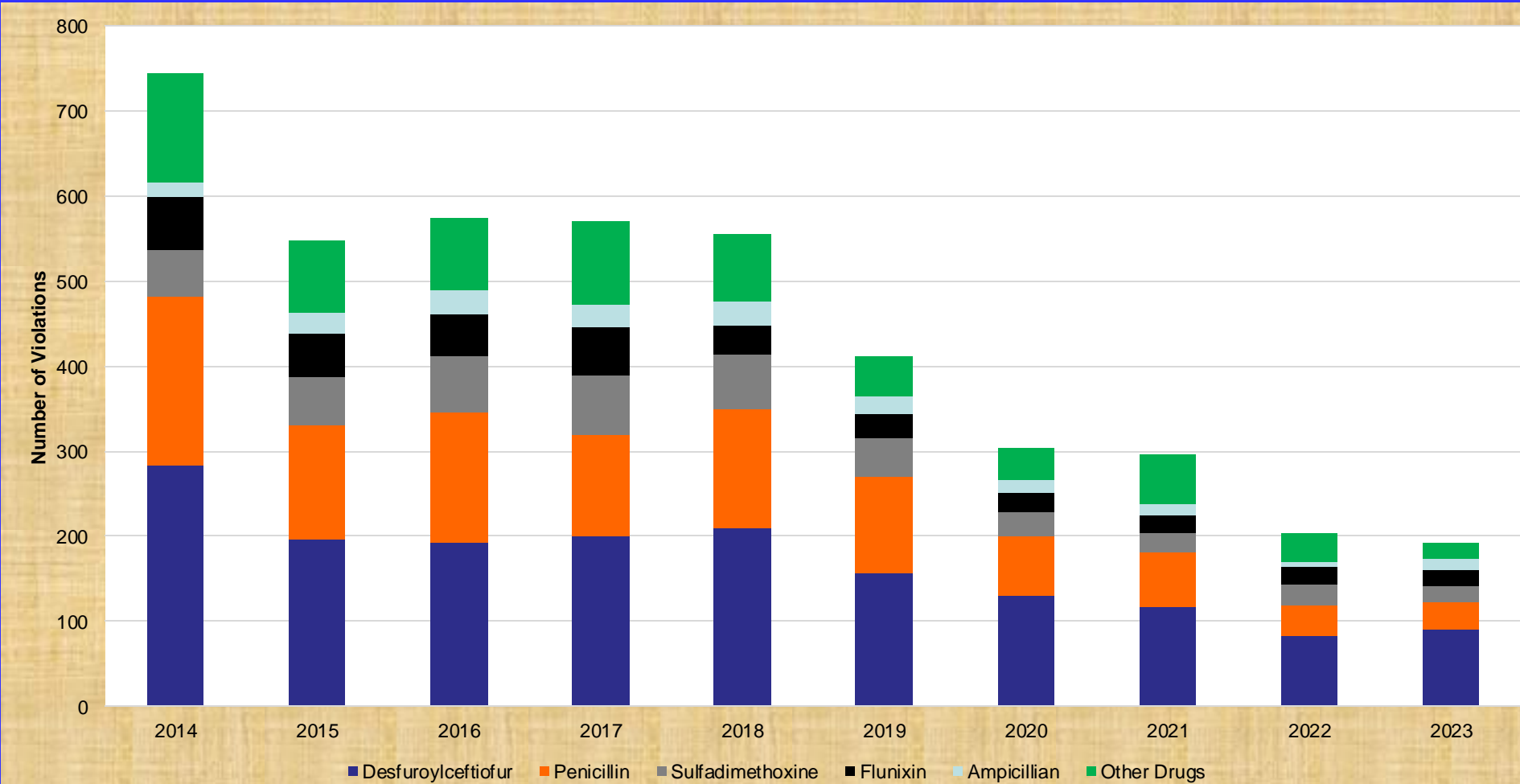


Beef Safety Assurance

- From these efforts the Beef Safety Assurance was born
- Program name later changed to **Beef Quality Assurance**



Figure 1: Number of Violations by Drug Type, 2014-2023



Residue Rates in Cattle

2022

2023

• Beef cows	0.306%	0.451%
• Fed cattle	0.194%	0.113%
• Dairy cows	0.235%	0.115%

•

- (2023 Courtesy of Dr. Dee Griffin, Lincoln, NE)



The Next Big Challenge

- Meat cutters were seeing blemishes in beef – late 80s very early 90s
- Was it a food safety threat?
- Was it a beef quality threat?
- How prevalent was the problem?
- How do we fix it?



Strategy to Attack the Issue

- Recognize the problem
- Define the cause
- Determine how to attack the problem
- Educate stakeholders
- Monitor and report progress



The BQA Approach

- Dr. Gary Cowman joined NCBA
- Organized BQA Advisory Group
- Conclusion – blemishes likely due to IM injections, needed data to be credible
- Funded research to define cause
- Checkoff \$\$\$ were important

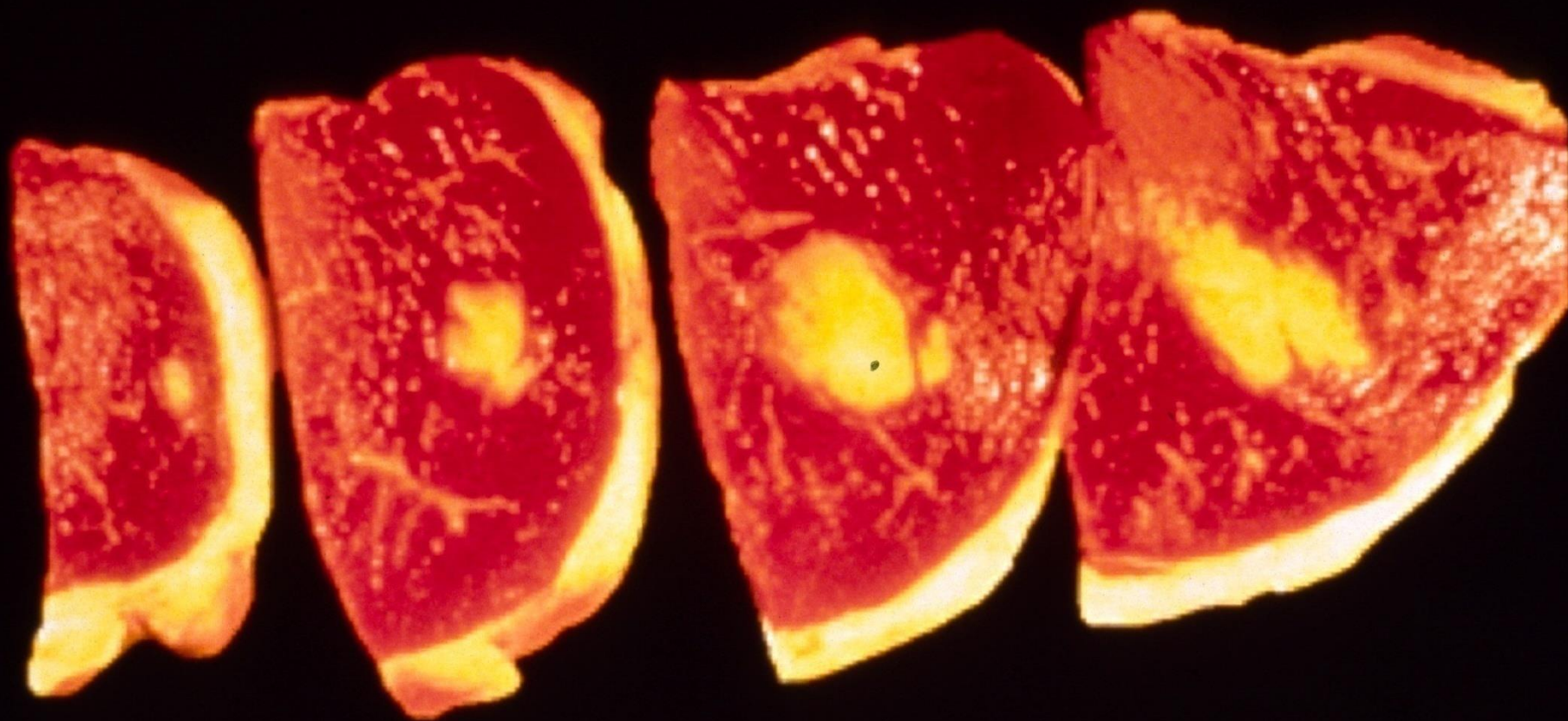


Blemishes Resulting from I.M. Injections at Branding and Weaning

Colorado State University

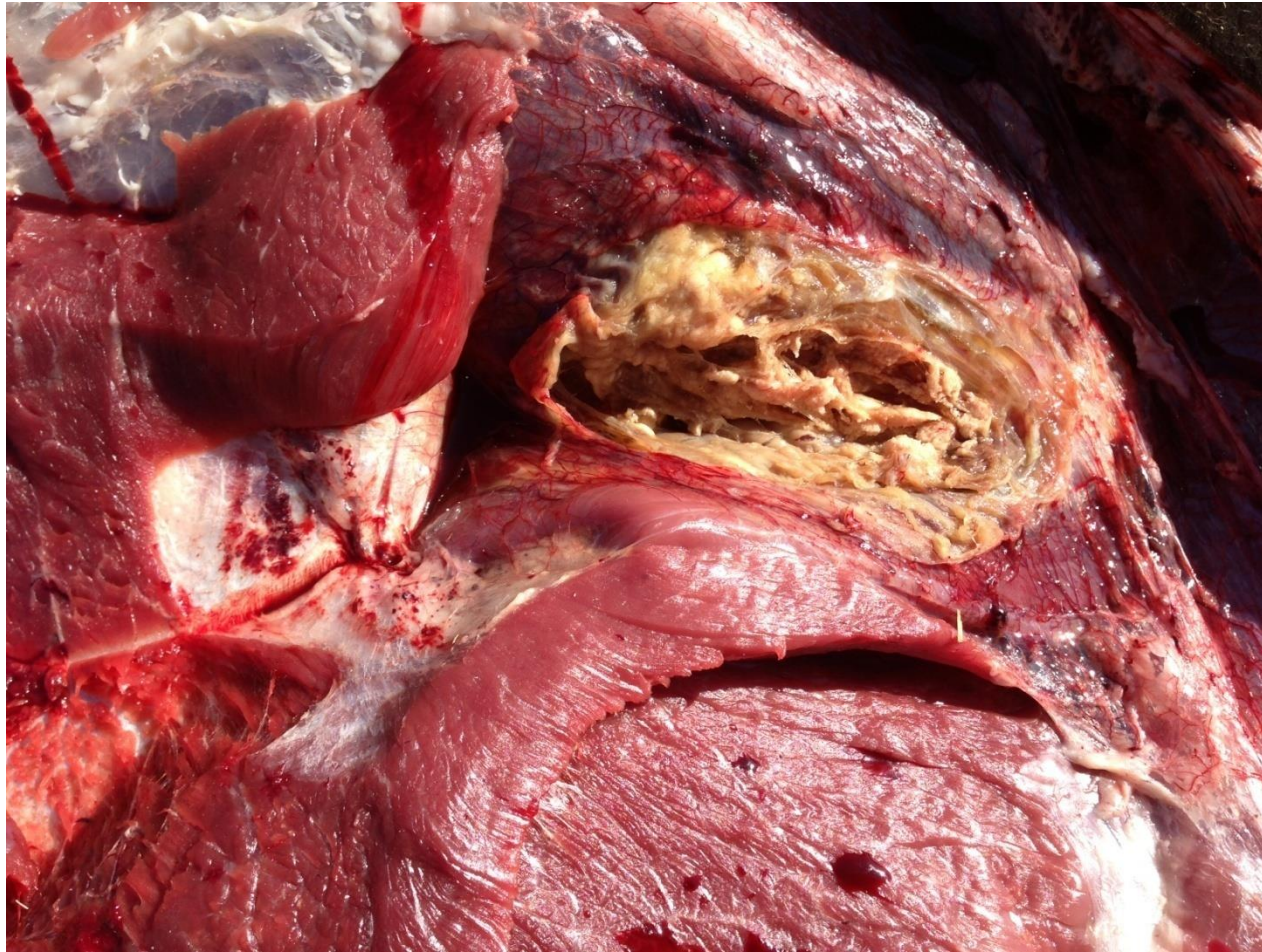
Product	Dose	Branding %	Weaning %
Clostridial	2 mL	72.5 ^a	46.3 ^a
Clostridial	5 mL	92.7 ^b	79.5 ^b
Vitamin AD ₃	1 mL	5.3 ^c	10.0 ^c
Antibiotic	4.5 mL/100lb	51.2 ^d	92.3 ^b

a,b,c,d differ (P<0.05); branded at 50-d; weaned at 200-d; harvested at 430-d



5 mls 7-Way at Branding Time
(50 Days of Age)

Injection site lesion - feedlot







~ Round ~

Injectable Antibiotic

Injection – Site

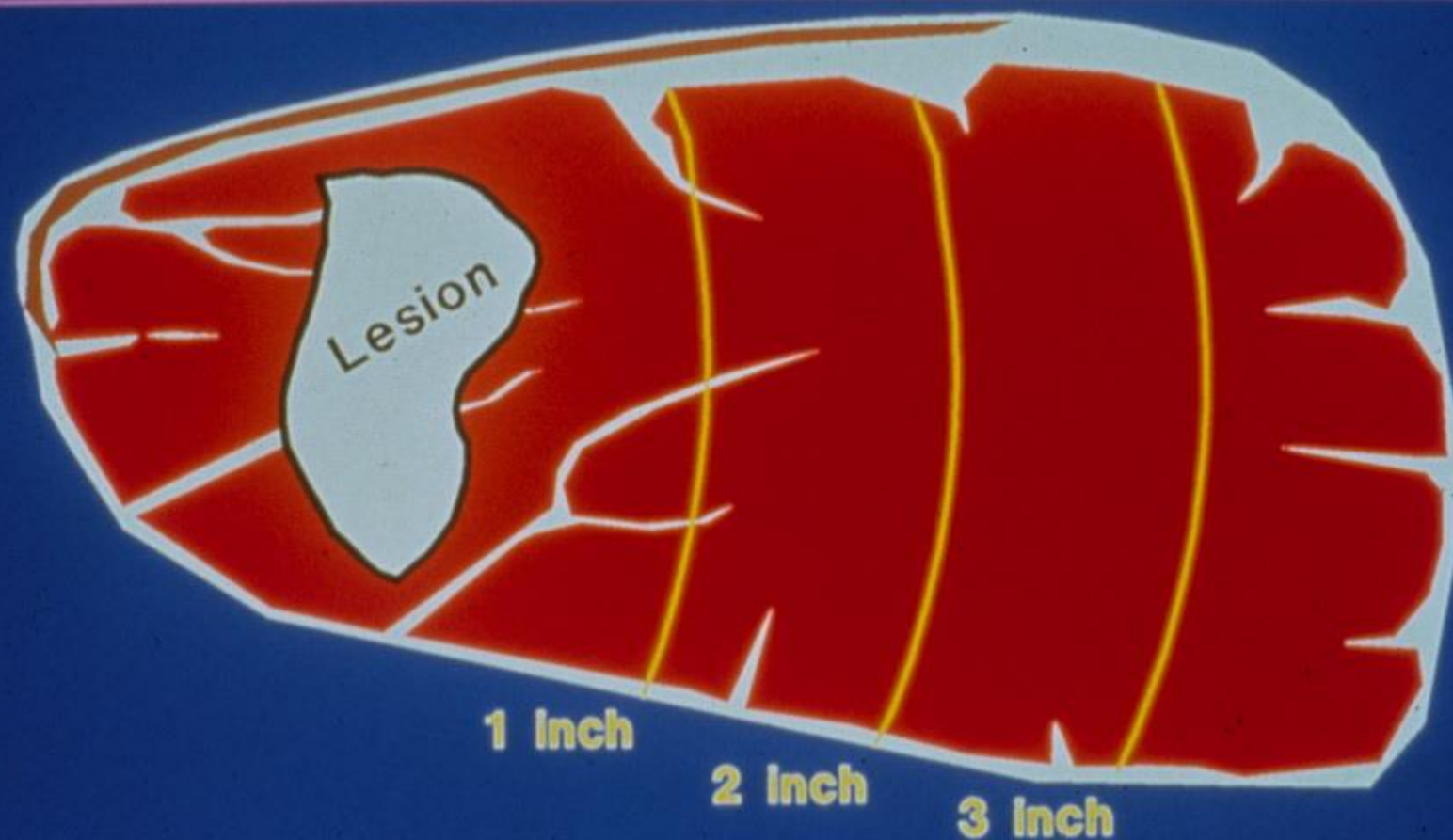
-- *Lesions & Scars* --

* Effects on Muscle Tenderness





INJECTION-SITE LESIONS OF THE ROUND (FLAT) Shear-Force Determination



SOURCE: George et al., Colorado State University, 1994

Injection-Site Lesions ~ Round

Warner-Bratzler Shear Values



■ Injected Muscle

n=46

■ Control Muscle

n=40

P<.001

Colorado State University - 1995

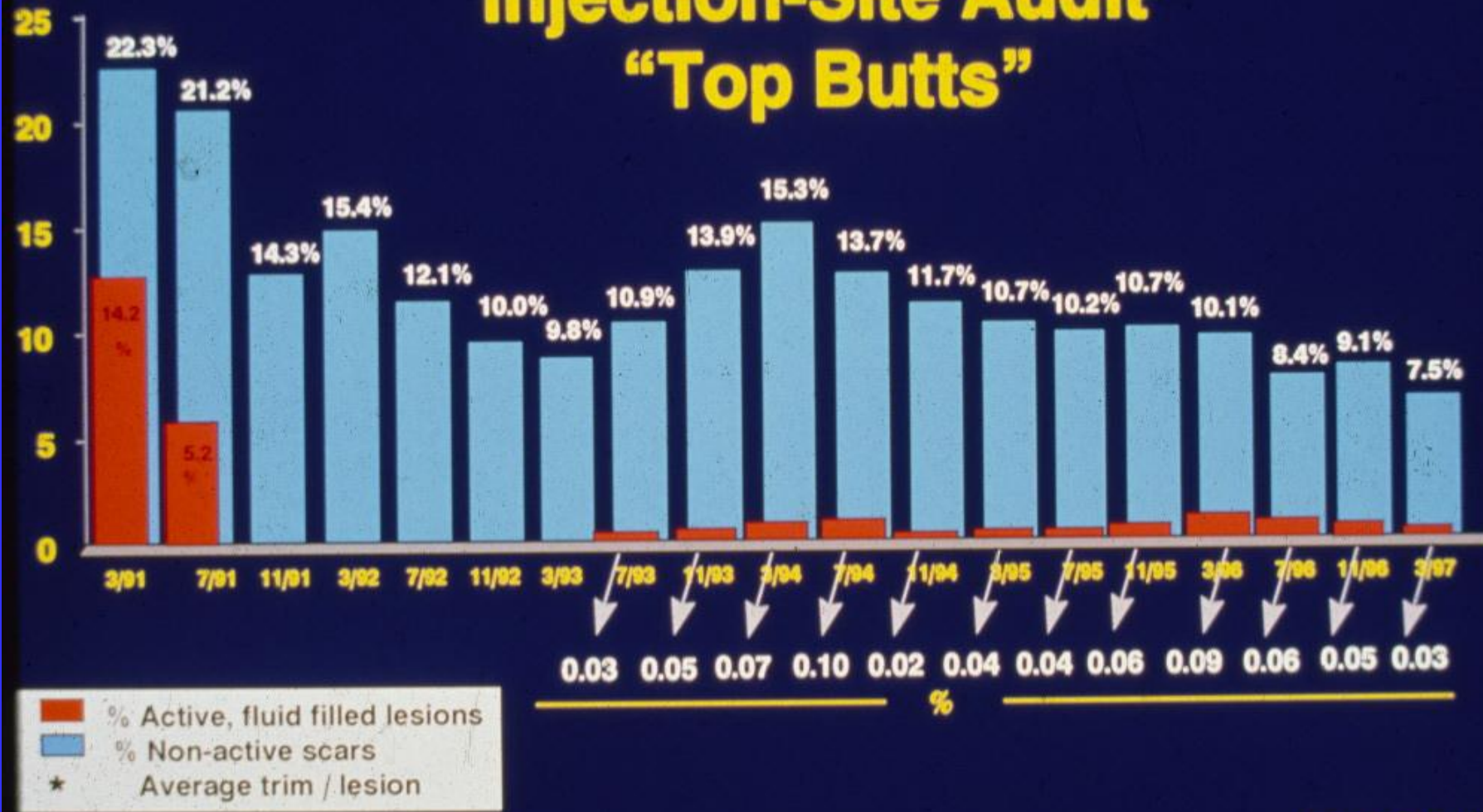
NCA/BQA - 1995

Producer Education

- Intense education campaign
- State BQA Coordinators, animal science extension, veterinarians, beef councils and industry
- Measured progress – collected data on 12,000 top butts 3X/yr



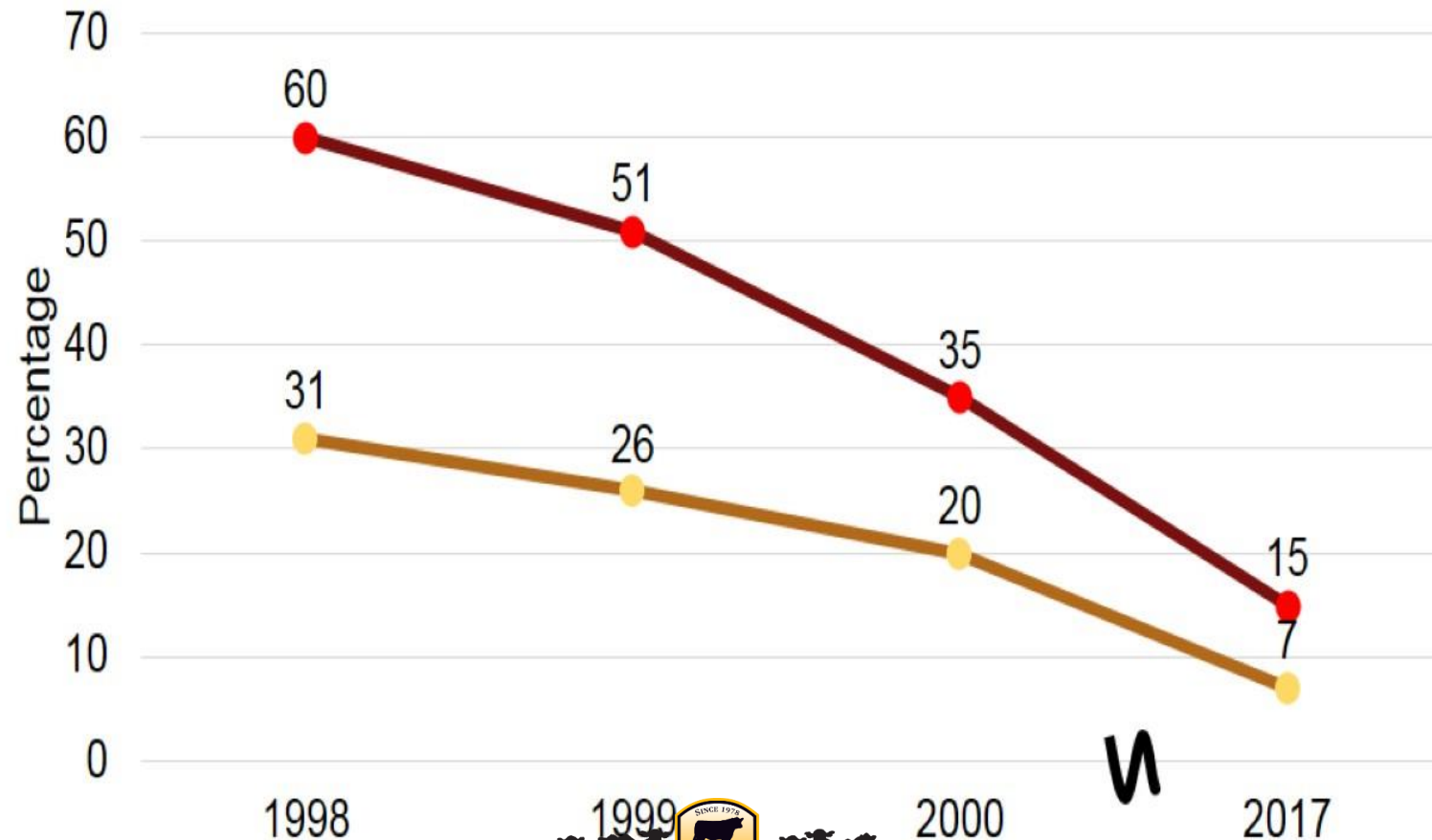
Injection-Site Audit "Top Butts"



NCBA/BQA (04/97)



Percentage of rounds with an injection-site lesion



Recommended Injection - Location



Needle Selection for SC

- **16 gauge x $\frac{1}{2}$ to $\frac{3}{4}$ "**
- **16 gauge x $\frac{5}{8}$ " my favorite**
- **$\frac{3}{4}$ inch longer than necessary**
- **Use steep angle for needle insertion**





Dart in muscle at major packer



Dart shown after trimming

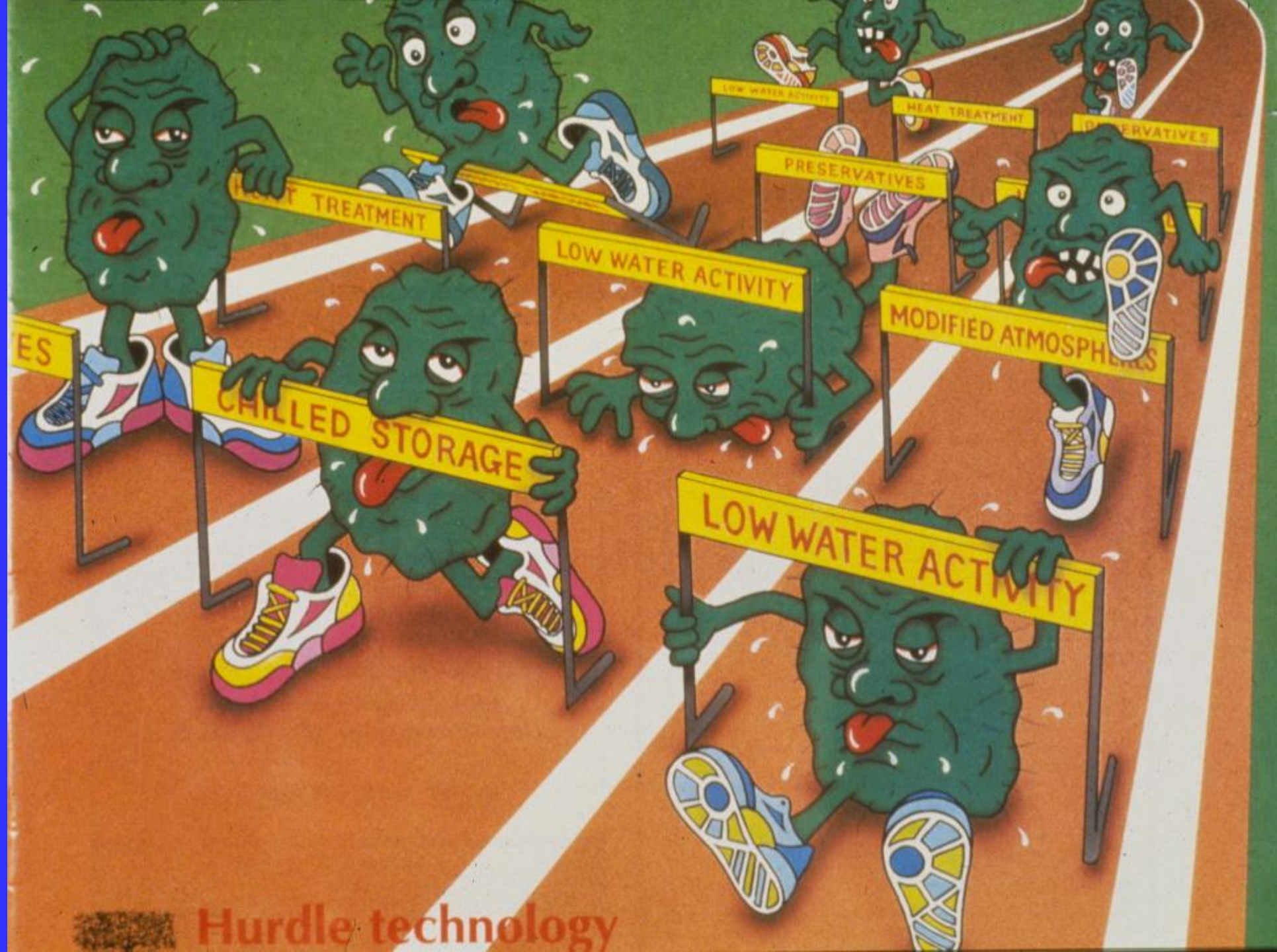




E. Coli O157:H7

- Undercooked ground beef 1992-1993
- 73 restaurants linked
- Over 700 sickened
- 171 hospitalized, 4 deaths
- Farm intervention steps unknown
- Packer steps greatly reduce risk
- Consumer/cooking education essential

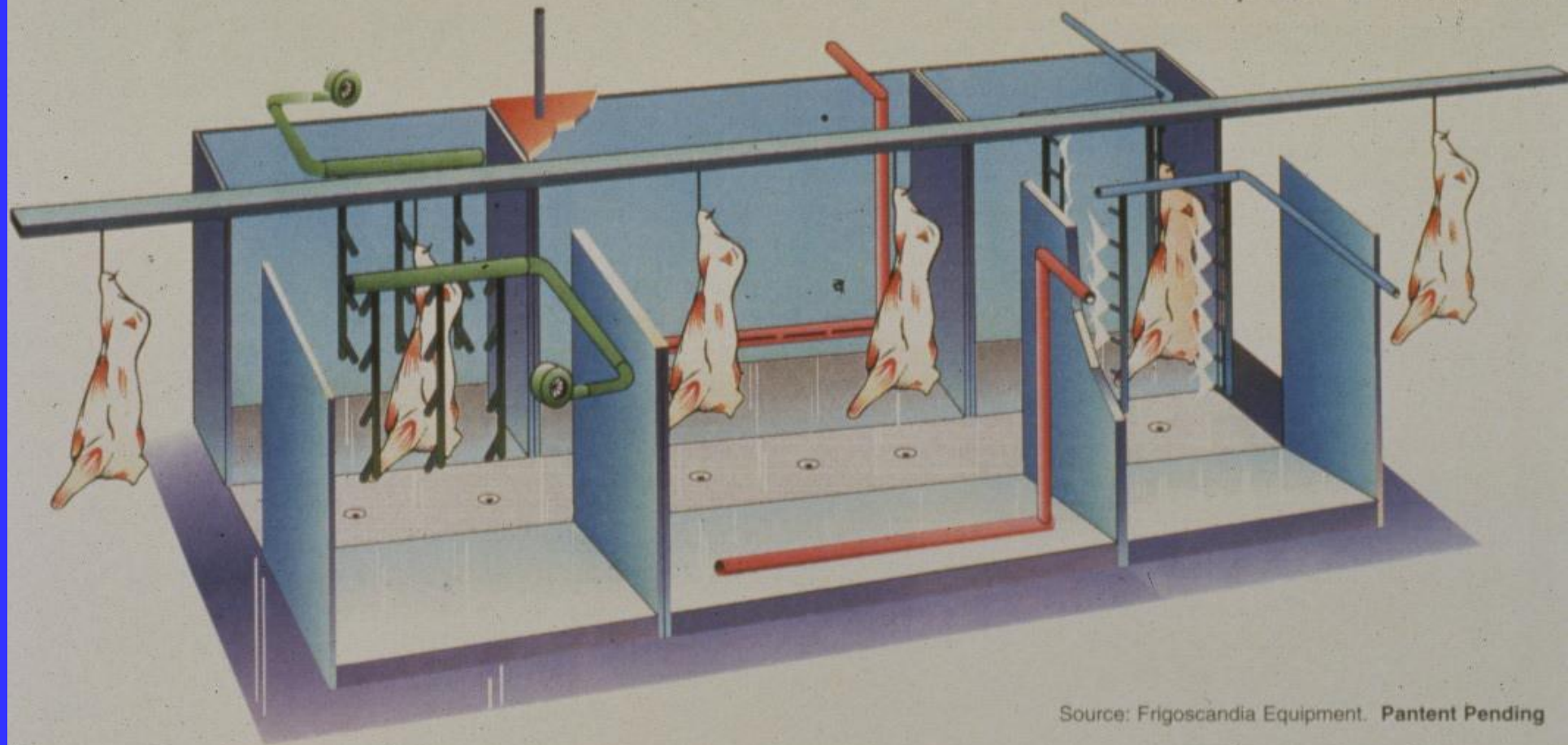




 Hurdle technology

This diagram shows how carcasses pass through the de-watering chamber to the steam pasteurization chamber to the chilled water chamber.

steam pasteurization



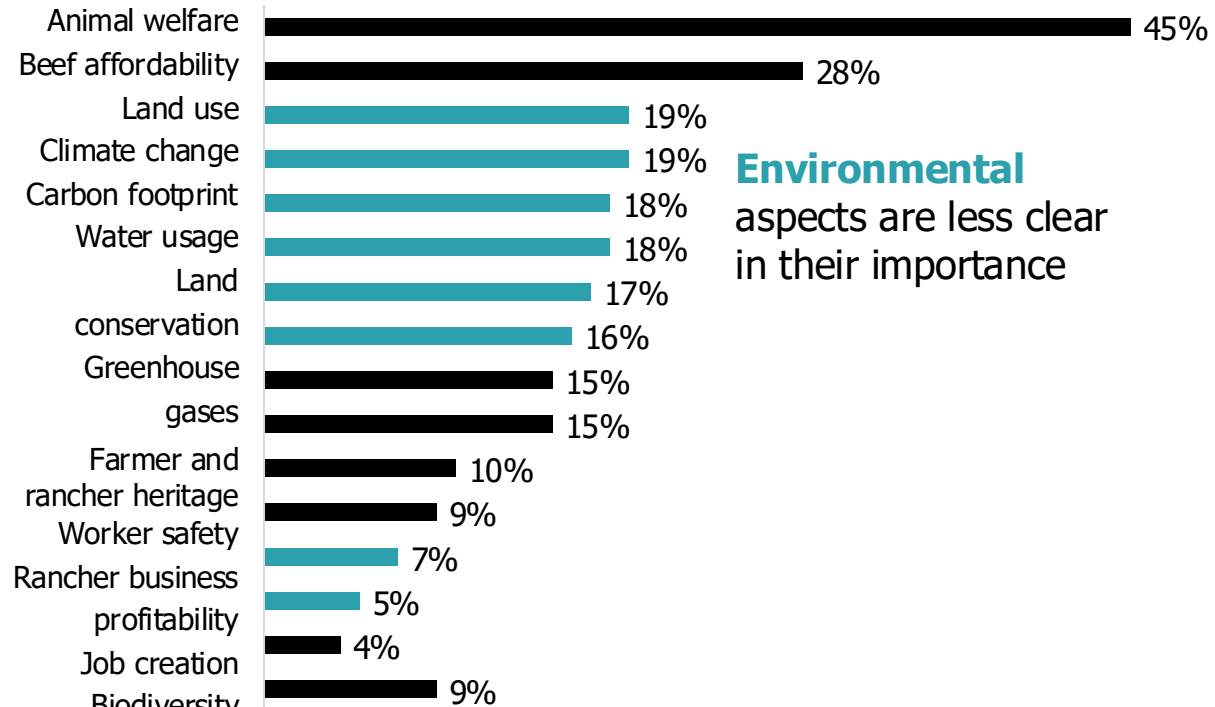
Source: Frigoscandia Equipment. Patent Pending

Organic acids



Beef & Sustainability Topics

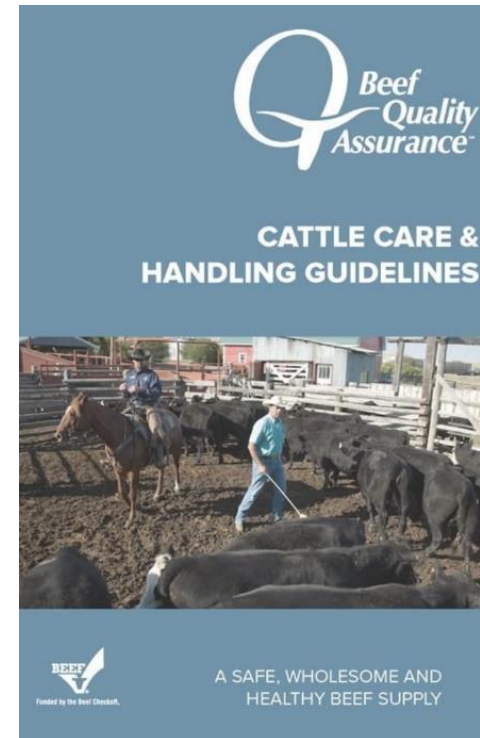
Animal welfare is clearly most important to address when it comes to beef sustainability



Out of the following topics, which are the most important to address when it comes to beef and sustainability? Please select up to 3.
Source: Sustainability Perceptions and Proof Point Assessment, Dynata Platform 2021

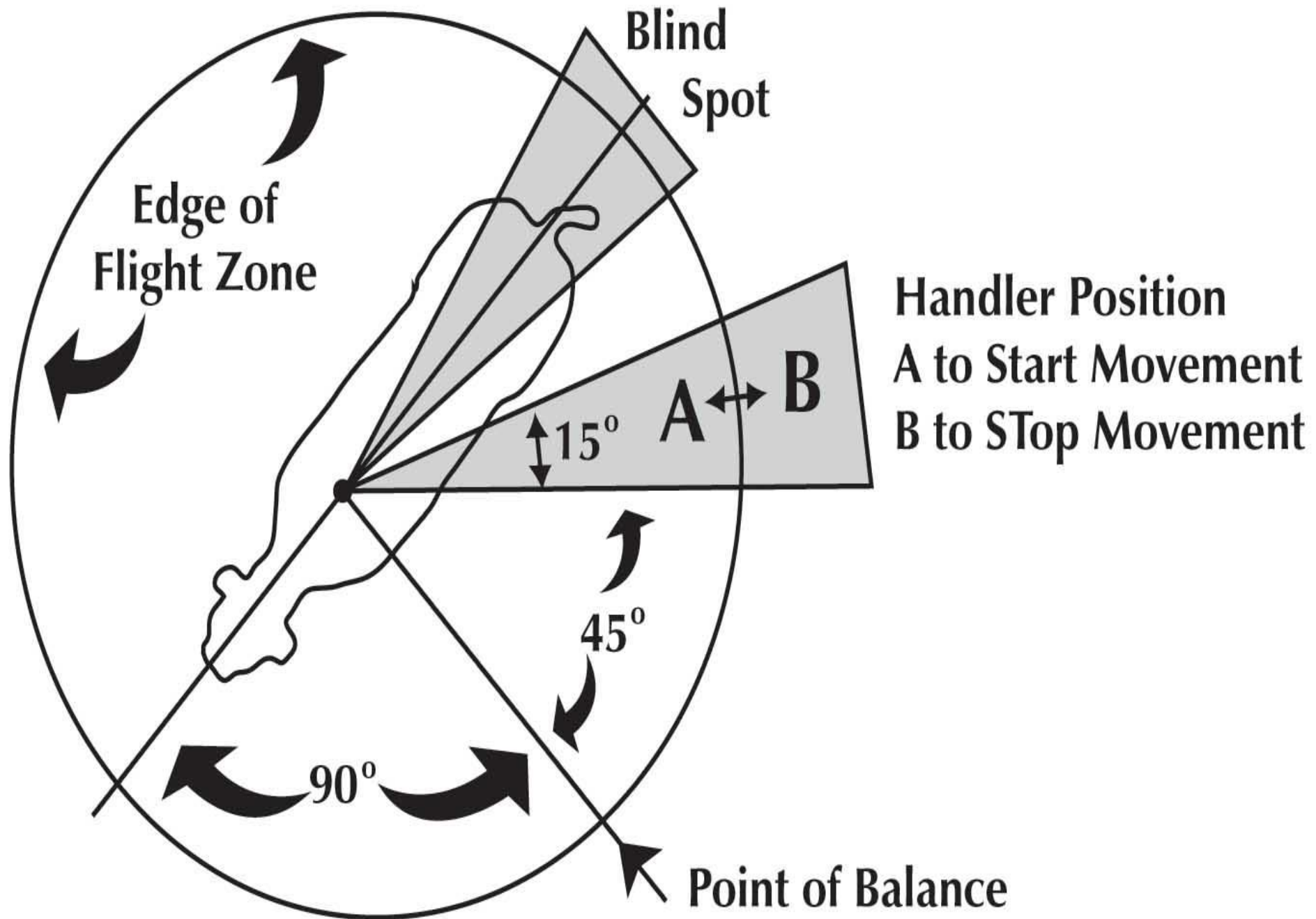
Beef Cattle Care and Handling Guidelines

- Broad based input
- Science based
- Credible
- Workable
- Affordable



Cattle Handling





Cattle Handling Assessment

• Observation ≤ %

– Electric prod	10
– Miscatch	0
– Vocalizing	5
– Jump/run	25
– Stumble	10
– Fall	2



Low Stress Weaning

- **Reduced walking and bawling**
- **Improved rest and feeding behavior**
- **Enhanced weight gain**
- **Improved health**



Low Stress Weaning

Unit	No. hd	Pulls%	Deads%
A	1200	0	0
B	3000	0.94	0.15

2024

STOCKMANSHIP
STEWARDSHIP



NEOGEN

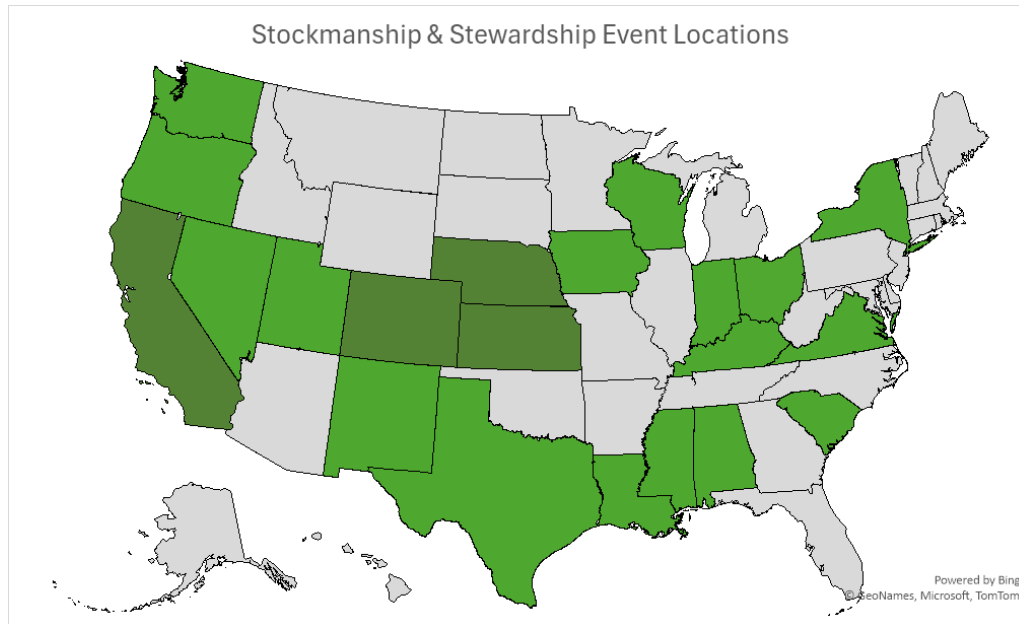


August 28 - 29th
Lancaster, WI

2024 Stockmanship & Stewardship Tour



Stockmanship & Stewardship



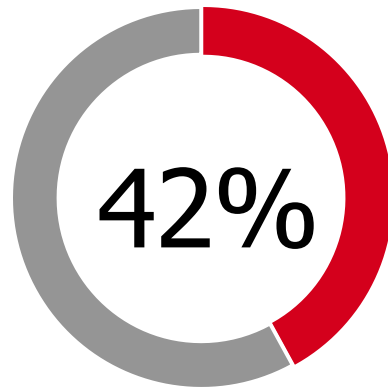
- Regional Live Cattle Handling Workshops and BQA Trainings
- 33 Total Events since 2017
 - 30 in-person
 - 3 virtual
- 5,766 Attendees

Unaided Concerns With Cattle Production

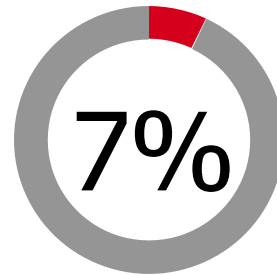
Unaided, animal welfare issues are top of mind when it comes to concerns of cattle production

- Of the **51%** who have a concern...

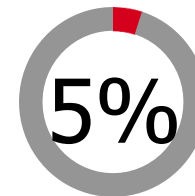
- Animal Welfare



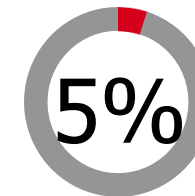
- Hormones



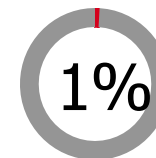
- Environment



- Antibiotics



- Price





National Beef Quality Audit



Quality Challenges – Ranked according to priority

1991	1995	2000	2005	2011	2016
<ul style="list-style-type: none"> -External Fat -Seam Fat -Overall Palatability -Tenderness -Overall Cutability -Marbling 	<ul style="list-style-type: none"> -Overall Uniformity -Overall Palatability -Marbling -Tenderness -External & Seam Fat -Cut Weights 	<ul style="list-style-type: none"> -Overall Uniformity -Carcass Weights -Tenderness -Marbling -Reduced Quality Due to Use of Implants -External Fat 	<ul style="list-style-type: none"> -Traceability -Overall Uniformity -Instrument Grading -Market Signals -Segmentation -Carcass Weights 	<ul style="list-style-type: none"> -Food Safety -Eating Satisfaction -How and Where Cattle were Raised -Lean Fat & Bone -Weight & Size -Cattle Genetics 	<ul style="list-style-type: none"> -Food Safety -Eating Satisfaction -Lean Fat & Bone -Weight & Size -How & Where Cattle were Raised -Visual Characteristics

Information provided by the National Beef Quality Audit

INDUSTRY PRIORITIES, RANKED BY IMPORTANCE, 1991 VS. 2022

1991	2022
External Fat	Food Safety
Seam Fat	Cattle Genetics
Overall Palatability	Eating Satisfaction
Tenderness	Weight and Size
Overall Cutability	Visual Characteristics
Marbling	Lean, Fat and Bone



**2022 NATIONAL BEEF
QUALITY AUDIT - MARKET
COW AND BULL 4 PAGER**



**2022 NATIONAL BEEF
QUALITY AUDIT - FED
CATTLE 4 PAGER**

U.S. CATTLE INDUSTRY FEEDYARD AUDIT





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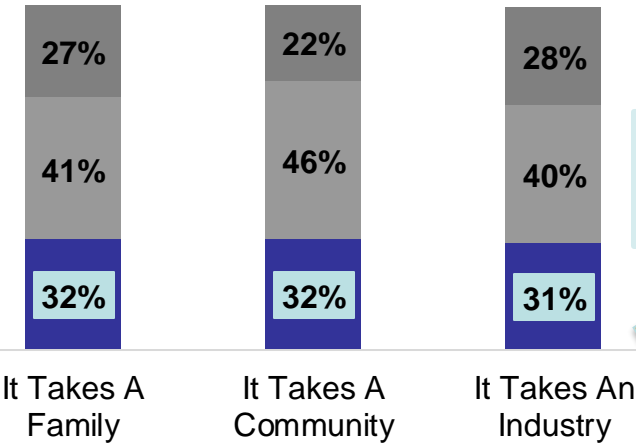
Funded by Beef Farmers and Ranchers

Raised & Grown Asset Testing: Perception of How Cattle Are Raised For Food

Consumers were asked to share their perception of how cattle are raised for food before and after viewing one of the following videos for Beef. It's What's For Dinner. Notably *more* consumers indicated a positive perception of how cattle are raised *after* viewing each video.

Consumer Perception: Before Viewing Videos

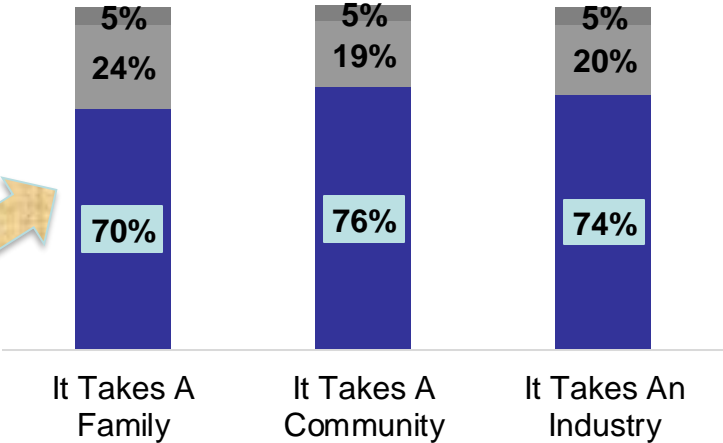
■ Positive ■ Neutral ■ Negative



+ 39-44
pct. point
increase

Consumer Perception: After Viewing Videos

■ Positive ■ Neutral ■ Negative



Source: Raised & Grown Asset Survey. 2023. "What is your perception of how cattle are raised for food? Please select one response.; After viewing this commercial, what is your perception of how cattle are raised for food? Please select one response." n= 3,013
Survey design and analysis provided by National Cattlemen's Beef Association, a contractor to the Beef Checkoff.



Beef it's What for Dinner

- They share our story with consumers
- Production chain receives feedback from consumers
- Both sides win!!



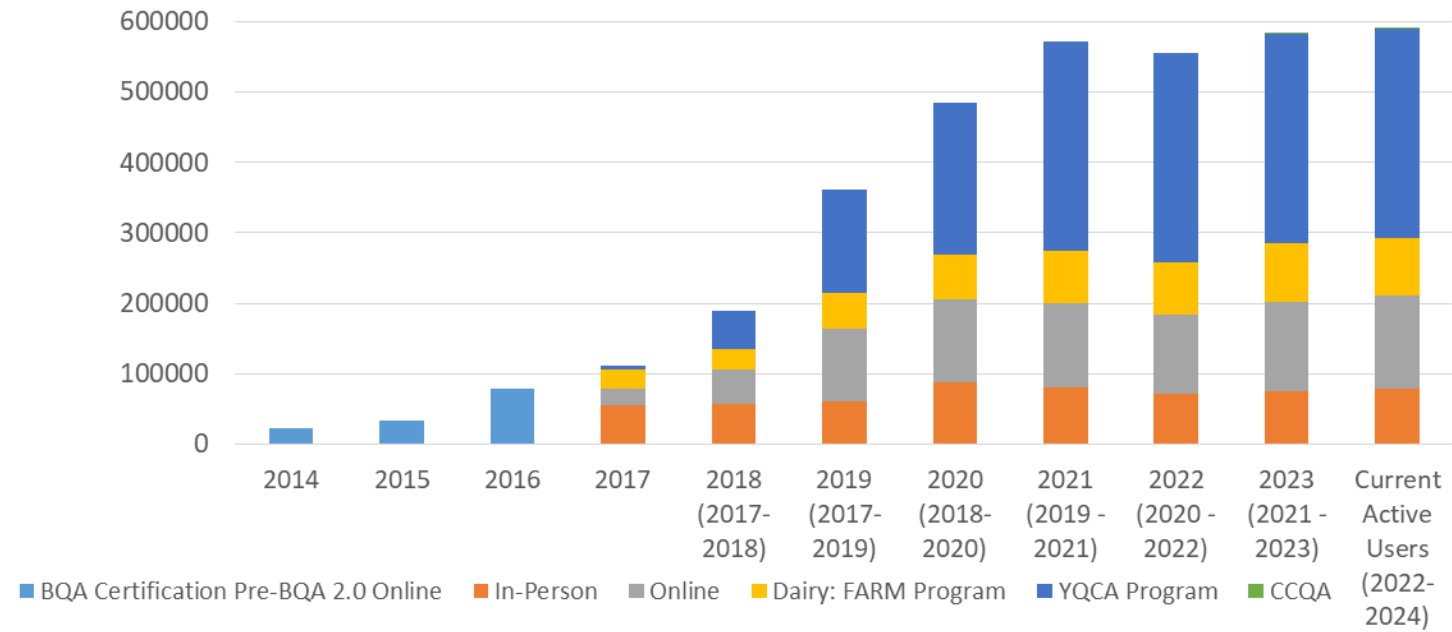
A Huge Thank You

- Producer education and BQA staff
- State BQA coordinators
- State beef councils
- Cattlemen's organization
- University researchers
- University extension
- Thousands of industry folks who care enough to become BQA certified



BQA Verified Certifications & Equivalents

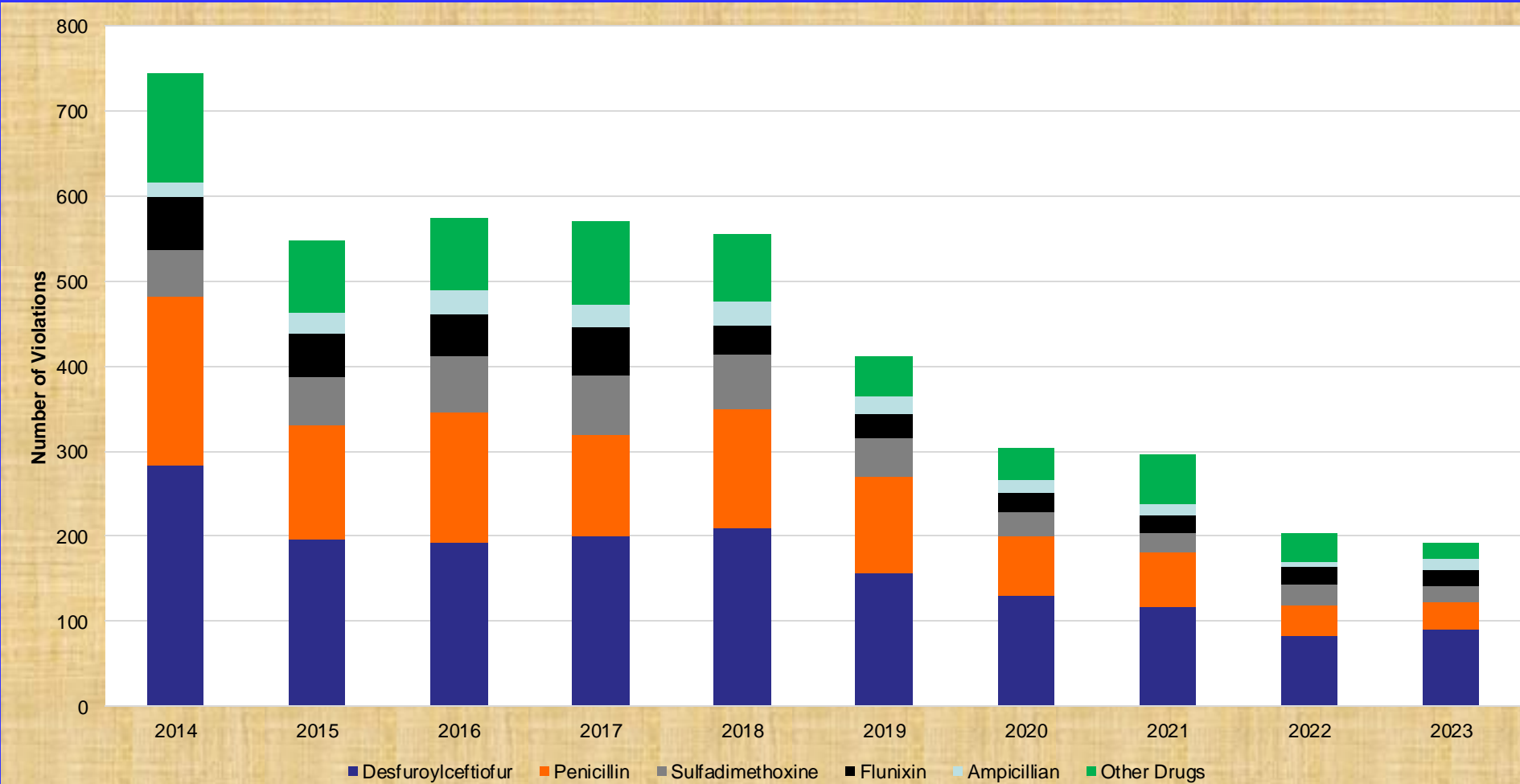
Active Certifications at Year End





FEEDING QUALITY
F O R U M

Figure 1: Number of Violations by Drug Type, 2014-2023

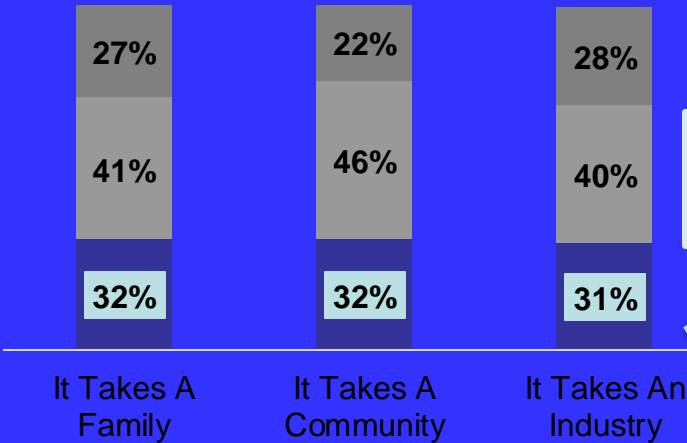


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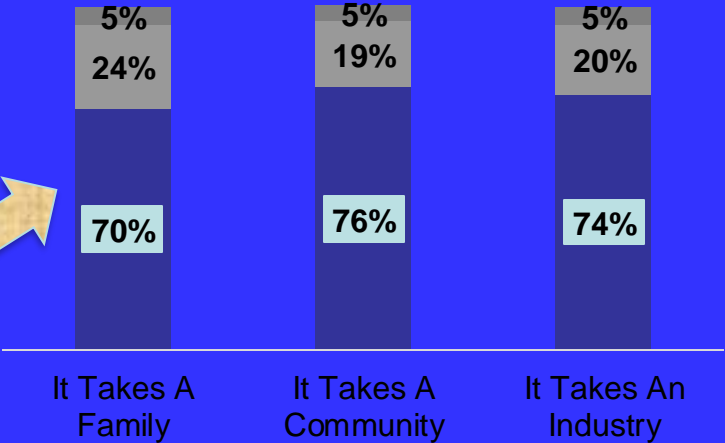
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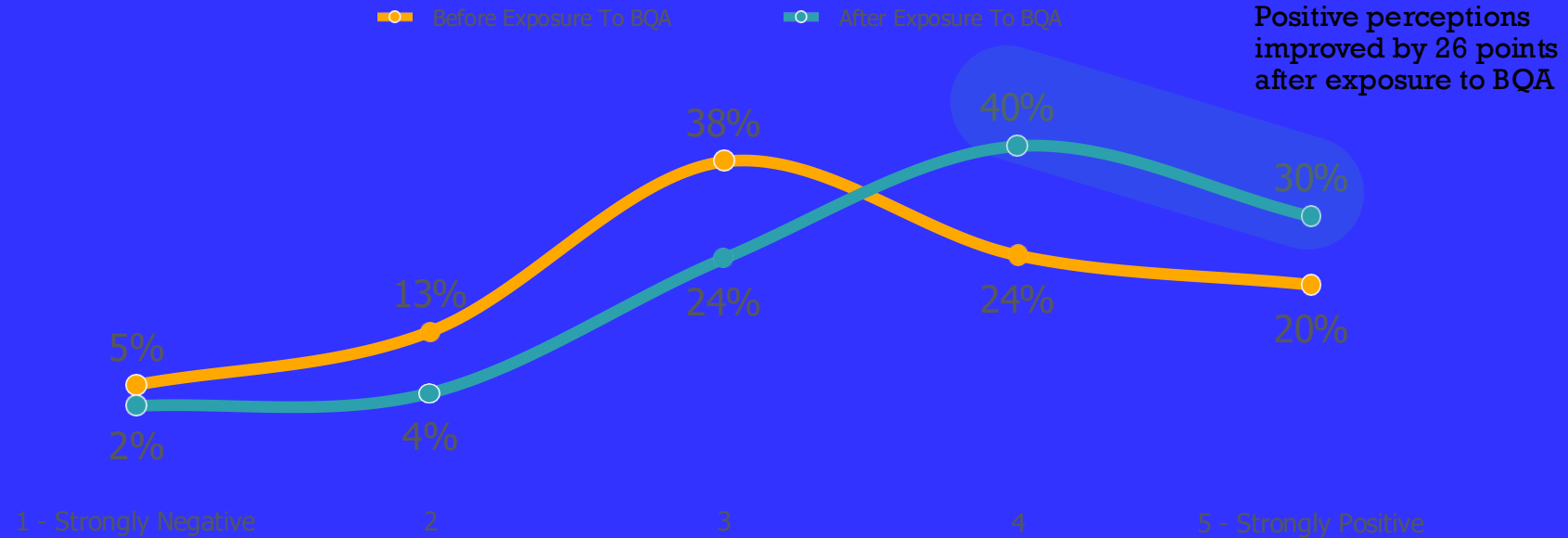
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Perceptions of How Cattle are Raised

Improved

Perception Of How Cattle Are Raised For Food



C1a. What is your perception of how cattle are raised for food? Please select one response.

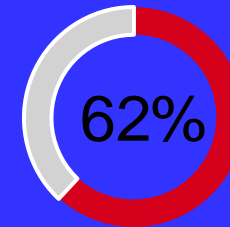
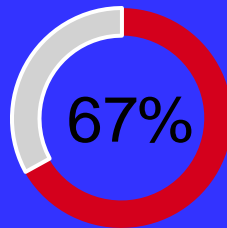
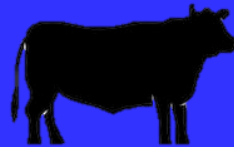
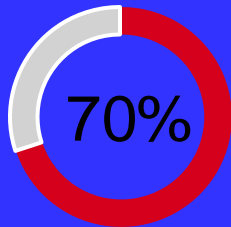
B11. Now after everything you have read about the Beef Quality Assurance Program, what is your perception of how cattle are raised for food?

5



Impact of BQA

Learning about BQA made consumers more confident in safety and animal welfare, while also showing potential to represent the industry



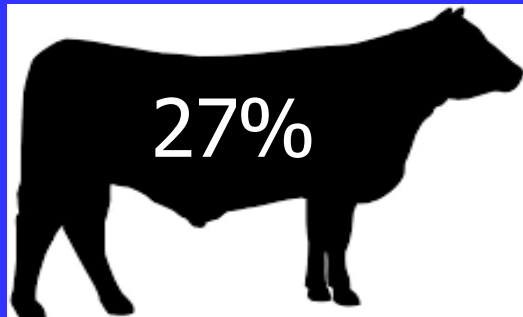
Source: 2018 Responsible Beef Exploration



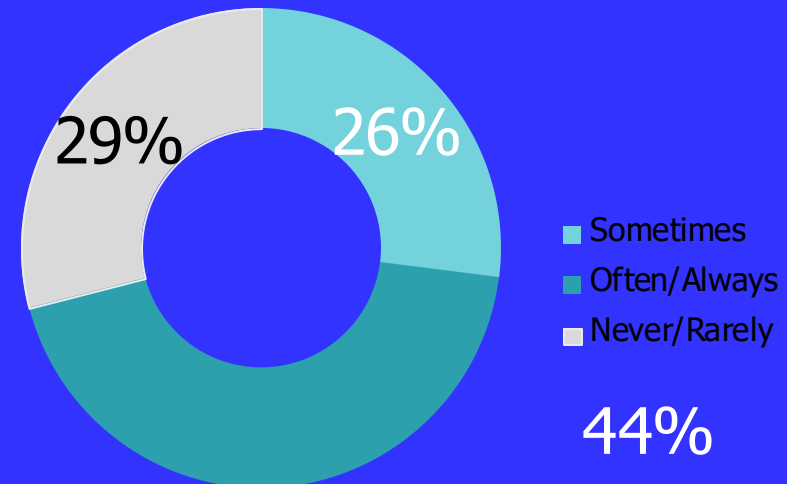
Consumer Knowledge

Consumers are unfamiliar with how cattle are raised, but consider this aspect when choosing a protein

Familiarity with How Cattle are Raised



Consider How Food Was Raised/Grown



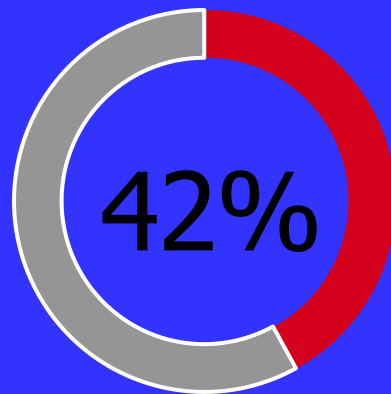
Source: Consumer Beef Tracker January – June 2022. CR1r1: "Please indicate how knowledgeable you are about each of the following." Q9: "How much do you consider each of the following when you are deciding to have a meal at home with beef, chicken, pork, fish, meat alternatives, or some other source of protein."

Unaided Concerns With Cattle Production

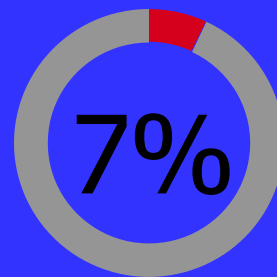
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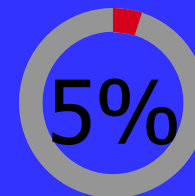
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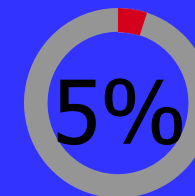
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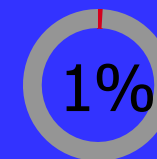
- Environment



- Antibiotics



- Price



Source: Consumer Beef Tracker January – June 2022. CR3a: What, if any, concerns do you have about how cattle are raised for food. Please be as specific as possible."