



PATHWAY
to a Successful Future

2022 National Beef Quality Audit & National Market Cow & Bull Quality Audit:
"The Right Way at the Right Time"
Also see: <https://www.bqa.org>

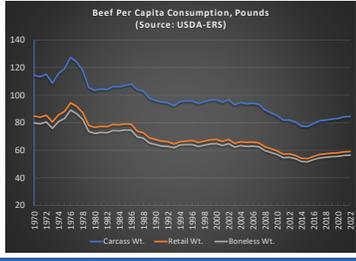


Funded by the Beef Checkoff

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Importance of the NBQA & NMCBQA from 1991-2022

- Per capita beef consumption & beef demand declined significantly 1976-1990.
- Needed to "stop the bleeding."
- Continued efforts are important to ensure that consumers "like" the price & quality of beef.




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Chronology of Total Quality Management

- Post WWII-Japan's manufacturing industry is in shambles with reputation of producing cheap imitations
- Japanese businessmen recognize problems and invite quality gurus **W. Edwards Deming**, Joseph Juran, and Armand Feigenbaum to revitalize Japanese industry




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Deming's 4 core principles (of 14) for Post WWII Japan

- Better design of products to improve service
- Higher level of uniform product quality
- Improvement of product testing in the workplace and in research centers
- Greater sales through side [global] markets



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Chronology of Total Quality Management

- 1980's-Deming lectured executives on quality and management
- He attributed 85% of issues limiting development to management
- In 1986, Ford introduced Taurus-Sable line
- By the end of that year, Ford was the most profitable American auto company




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HENDRICKS AND SINGHAL
Implementing an Effective TQM Program

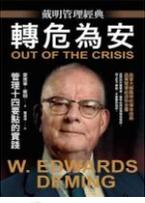
Table 5 Mean and Median Percentage Changes in Operating Income, Sales, and in the Ratios of Total Costs to Sales for the Sample of Firms That Won Quality Awards

| From Year | % Change in Operating Income | | | % Change in Sales | | | % Change in Total Cost/Sales | | |
|---|------------------------------|---------|---------|-------------------|---------|--------|------------------------------|--------|--------|
| | Obs | Mean | Median | Obs | Mean | Median | Obs | Mean | Median |
| Panel A: Changes in Performance on an Annual Basis | | | | | | | | | |
| -7 to -6 | 331 | 26.36* | 12.19* | 359 | 14.52* | 9.85* | 354 | -0.38* | -0.23* |
| -6 to -5 | 334 | 18.27* | 12.67* | 359 | 14.44* | 11.24* | 354 | 0.21 | -0.10 |
| -5 to -4 | 332 | 6.00* | 6.01* | 359 | 9.82* | 6.80* | 354 | 0.44* | 0.25* |
| -4 to -3 | 329 | 20.68* | 13.30* | 359 | 11.07* | 8.82* | 354 | -0.27* | -0.37* |
| -3 to -2 | 337 | 16.89* | 11.84* | 359 | 11.43* | 9.70* | 354 | -0.19 | -0.23* |
| -2 to -1 | 343 | 12.91* | 8.47* | 359 | 9.83* | 8.08* | 354 | 0.10 | -0.06 |
| -1 to 0 | 325 | 9.85* | 7.49* | 338 | 7.50* | 6.75* | 339 | 0.22 | 0.05 |
| 0 to +1 | 272 | 7.07* | 7.41* | 284 | 6.86* | 6.53* | 284 | 0.29* | 0.01* |
| +1 to +2 | 224 | -0.10 | 2.46 | 235 | 3.25* | 2.64* | 234 | 0.51* | 0.33* |
| +2 to +3 | 189 | 12.38* | 7.01* | 199 | 6.75* | 5.94* | 198 | 0.14 | 0.03 |
| Panel B: Changes in Performance Over Varying Time Periods | | | | | | | | | |
| -6 to -1 | 346 | 95.94* | 49.92* | 371 | 93.56* | 61.54* | 365 | 0.50* | 0.09 |
| -4 to -1 | 342 | 58.80* | 33.52* | 371 | 41.85* | 29.71* | 365 | -0.49* | -0.59* |
| -1 to +1 | 285 | 24.49* | 13.48* | 295 | 16.86* | 13.88* | 293 | 0.49* | 0.42* |
| -1 to +3 | 199 | 170.86* | 26.02* | 203 | 170.86* | 25.51* | 202 | 0.46* | 0.62* |
| -6 to +3 | 192 | 170.86* | 104.66* | 203 | 170.86* | 98.56* | 202 | 0.84* | 0.56 |

Note: Changes are reported without adjusting for the performance of the controls. a, b, c, and d denote, respectively, significantly different from zero at the 1%, 2.5%, 5%, and 10% levels for one-tailed tests.

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Thought leading to the NBQA



“Cease dependence on inspection to achieve quality. Eliminate the need for mass inspection by building quality into the product in the first place.”

W. Edwards Deming




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“Lost Opportunities”

- Chuck Lambert’s 1990 “Lost opportunities in Beef Production”
- \$11.999 BILLION in lost economic opportunities
- Inefficiencies cost \$458.00 per head







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Thoughts Leading to the NBQA

Desire to purchase = $\frac{\text{Price}}{\text{Satisfaction}}$





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Rationale for Original 1991 Audit

“The U.S. cattle industry cannot expect improvements in prices for its products or by-products when ‘quality’ doesn’t warrant such increases.”



1991 National Beef Quality Audit




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National Beef Quality Audit

- Phase I: Interview Buyers of Beef
- Phase II: Conduct In-Plant Data Collection
- Phase III: Strategy Workshop
- Rollout: May 2023





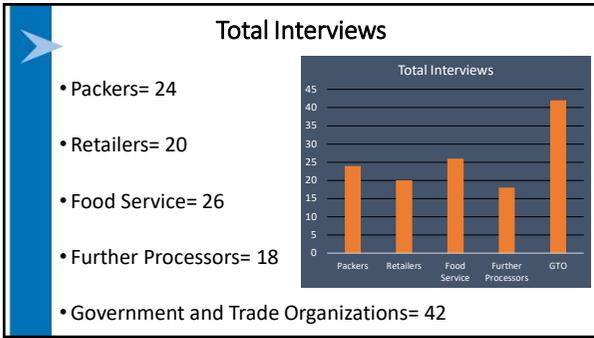
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Face to Face Interviews

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Number of companies participating in branded beef programs by sector

| 2022 | Packers | Retailers | Food Service | Processors |
|------------------------|-------------|------------|--------------|------------|
| Total Companies | 16 | 20 | 21 | 12 |
| Avg/Company | 14.5 | 6.8 | 6.9 | 2.3 |

| 2016 | Packers | Retailers | Food Service | Processors |
|------------------------|------------|-----------|--------------|------------|
| Total Companies | 28 | 23 | 15 | 44 |
| Avg/Company | 7.6 | 4 | 2 | 7.3 |

Packer – “We have programs for: Size, Weight, Quality Grade, Natural, Antibiotic Free, Source Verified, Age Verified, Breed, Locally Raised, Animal Welfare, No Hormones/implants/antibiotics, and others.”

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Quality Factors (“Buckets”)

- How and Where the Cattle were Raised
- Lean, Fat and Bone
- Weight and Size
- Visual Characteristics
- Food Safety
- Eating Satisfaction
- Cattle Genetics

Further Processor – “Unsafe product means bad business; we want to make a good product that people love.”

Packer – “Customers that are super happy with experience.”

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What does the Term Animal Well-being Mean to your Company?

| Packer n=26 | Retailer n=18 | Food Service n=26 | Further Processors n=14 | GTO n=42 |
|---------------------|---|---|--|---------------------|
| 61% Animal Handling | 50% Animal Handling | 61% Animal Handling | 36% Animal Handling | 55% Animal Handling |
| 38% Five Freedoms | 39% Five Freedoms | 42% Animal Comfort | 28% Animal Health | 52% Five Freedoms |
| 27% Animal Comfort | 33% Animals are Safe and Adequate Nutrition | 23% Animals are Safe and Adequate Nutrition | 28% Animal Comfort | 36% Animal Health |
| | | | 28% Live Animal Quality Assurance Programs | 28% Animal Comfort |

Further Processor – “Quality and care for the animal throughout its entire existence.”

Packer – “Top priority that animals are treated with respect and dignity.”

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Sustainability Goals

Food Service – “[Making] food with integrity and cultivating a better world, protecting the world.”

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What are your company’s sustainability goals?

| Packer n=18 | Retail n=14 | Food Service n=11 | Further Processor n=14 |
|---------------------|---------------------|----------------------|------------------------|
| 64.7% Environmental | 58.3% Environmental | 67.7 % Environmental | 61.5% Environmental |
| 23.5% Unknown | 33.3% Unknown | 33.3% Unknown | 30.8% Unknown |
| 23.5% Social | 25.0% Social | 0.0% Social | 23.1% Social |
| 11.8% Economical | 0.0% Economical | 0.0% Economical | 23.1% Economical |

Packer – “Recycle more water than consumed in plant, reduce greenhouse gas emissions and reduce carbon footprint.”

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Strengths and Potential Threats

Strengths of Fed Cattle Industry

- Product Quality
- Doing more with less – efficiency

Food Service – “Living in the past/Unwilling to discuss hard topics.”

Packer – “Genetics have improved beef quality.”

Retailer – “[The beef industry is] able to make informed decisions to increase quality.”

Potential Threats of Fed Cattle Industry

- Environmental concerns
- Federal regulations

Packer – “Regulations are sometimes too restrictive and processing companies are easy targets.”

Further Processor – “Drought is a real concern for supply of beef.”

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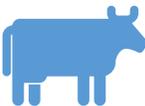
What Changes has your Company Witnessed since the 2016 NBQA?

Increased efficiency

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Market Cow/Bull 

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Strengths and Weaknesses

Strengths of Market Cow/Bull Industry

- Secondary Value
- Opportunity – Producer Education

Food Service – “It provides outlets for producers, and a low-quality product is transformed into a high-quality processed product that meets consumers’ standards.”

Weaknesses of Market Cow/Bull Industry

- Public Perception
- Foreign Objects

Packer – “Bird shot in bulls and other foreign materials.”

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Impacts of COVID-19 Pandemic on Beef Industry

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Positive Outcomes

- Beef performed

Packer – “Lot of people out there for the fake meat, but pandemic showed people wanted beef.”



Negative Outcomes

- Labor issues
- Supply chain malfunctions

Retailer – “Negative was and continues to be product availability and workmanship. We are willing to take just about anything at this point.”

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Conclusions

- Sustainability is primarily viewed as an environmental issue, while many are not familiar with their company's goals or plans to become more sustainable.
- Food Safety has become part of companies' business model, and they associate food safety with product quality.
- In contrast to previous audits, the Market Cow/Bull sector is now perceived to provide secondary value to animals.

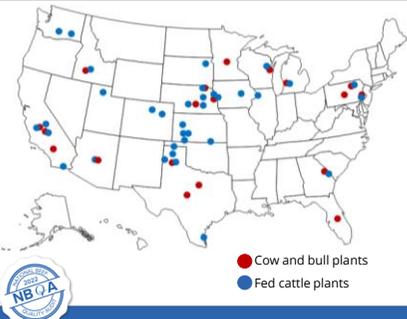
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In-Plant Fed Survey

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PHASE II

- 42 plants
- 18 states
- Sep 2021 through Nov 2022
- N = ~30,000 head both fed + market cow & bull

● Cow and bull plants
● Fed cattle plants




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NBQA-2022: Harvest-floor Assessments (September 2021-November 2022)

- Transportation and cattle mobility
- Animal identification method
- Hide color
- Hide brand
- Mud or manure
- Cattle horns
- Carcass bruises
- Offal and head/tongue condemnations
- Dentition

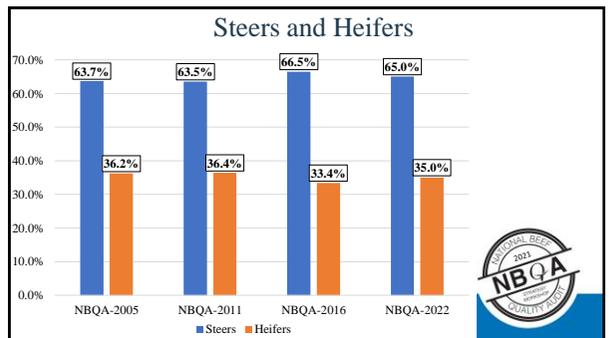
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In-Plant

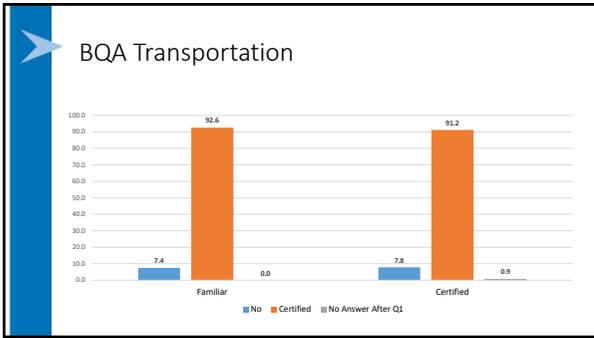
- n = 9,746 fed beef carcasses
- Data were collected from September 2021 to November 2022
- 35 Plants
- 10% of the day's production




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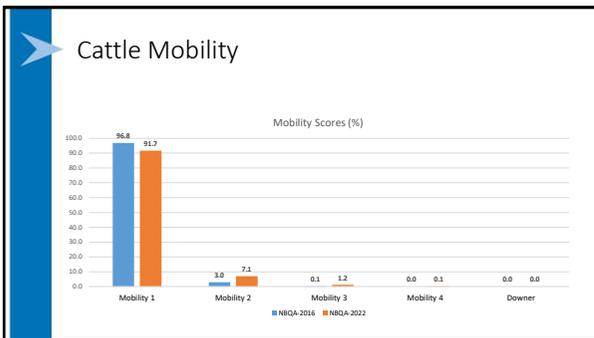
Two BQAT Courses

BQA TRANSPORTATION CERTIFICATION FOR THE PROFESSIONAL DRIVER
LEARN THE PRINCIPLES OF TRANSPORTING CATTLE IN COMMERCIAL TRAILERS THAT INCLUDE CATTLE WELL-BEING, MEAT QUALITY AND THE FINANCIAL IMPACTS IT HAS ON THE CATTLE INDUSTRY.

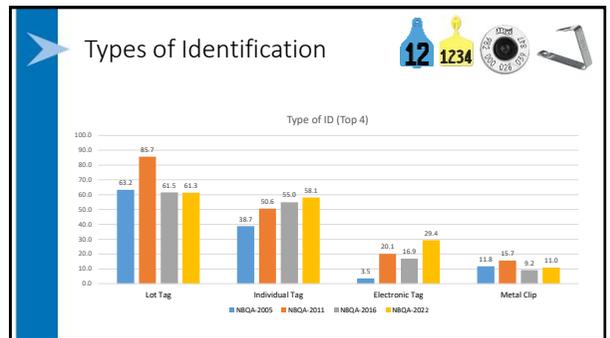
BQA TRANSPORTATION CERTIFICATION FOR THE FARMER AND RANCHER
LEARN THE PRINCIPLES OF TRANSPORTING CATTLE IN PRIVATE GOOSENECK TRAILERS THAT INCLUDE CATTLE WELL-BEING, MEAT QUALITY AND THE FINANCIAL IMPACTS IT HAS ON THE CATTLE INDUSTRY.

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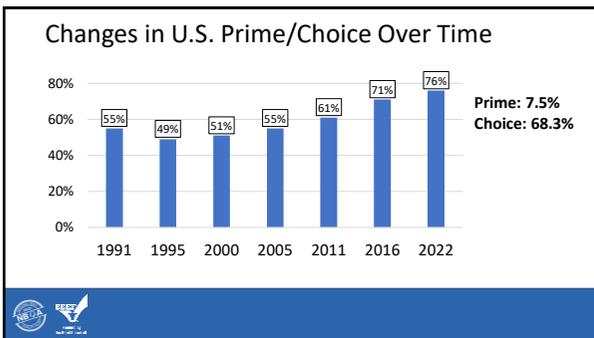
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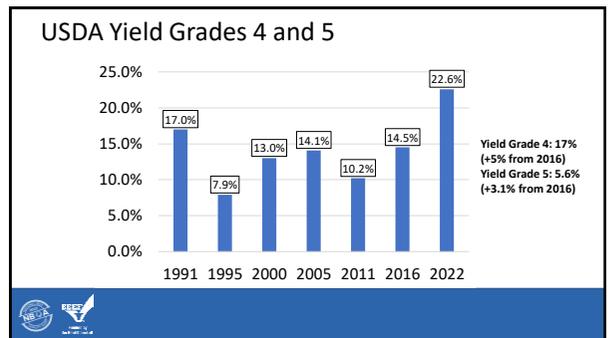
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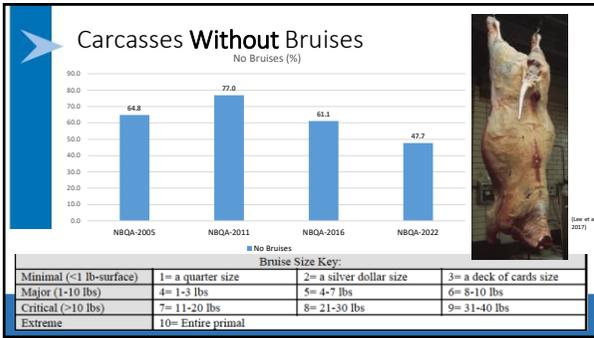
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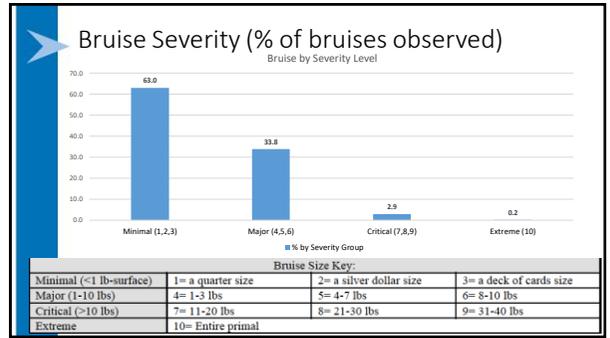
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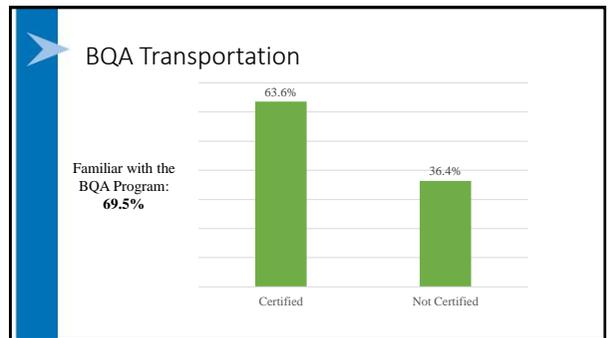
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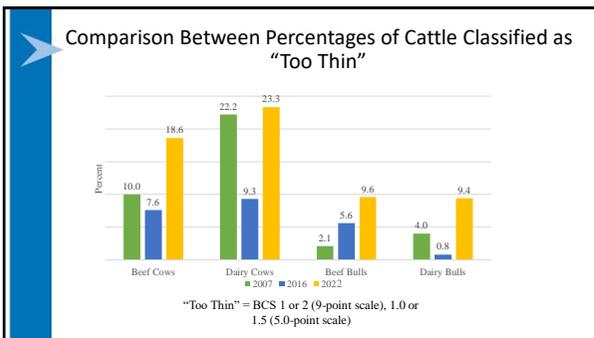
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In-Plant Market Cow/Bull Survey

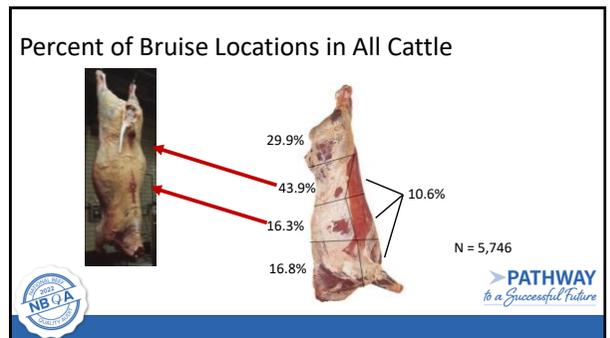
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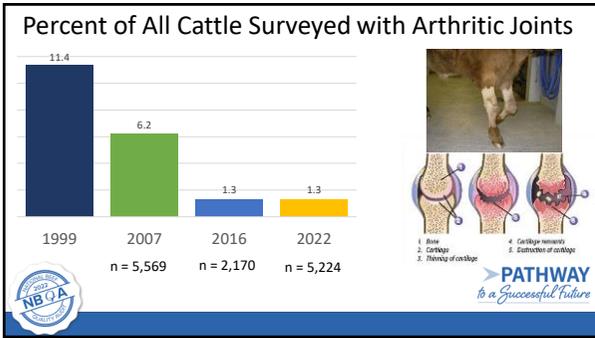
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Plants (%) Reporting Foreign Objects Found in Beef From Market Cows and Bulls

| Objects found | Percentage (%) |
|-------------------|----------------|
| Buckshot/Birdshot | 100.0 |
| Bullets | 18.8 |
| Needles | 18.8 |
| Wire | 18.8 |
| Darts | 18.8 |
| Other | 12.5 |

Detection Systems:
X-Ray (87.5%)
Metal Detectors (75.0%)

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Overview

| Positives | Fed | Market Cow/Bull |
|---|--|---|
| <ul style="list-style-type: none"> Increase in BQAT certifications Increased usage of electronic identification | <ul style="list-style-type: none"> Lower mobility scores Increase in bruises found | <ul style="list-style-type: none"> Lower BCS Foreign material |

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Strategy Workshop

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Fed Cattle Categories for Focused Improvement

| NBQA 2016 | NBQA 2022 |
|--|--|
| <ul style="list-style-type: none"> Food Safety and Animal Health Eating Quality and Reduction of Variety Optimizing Value and Eliminating Waste | <ul style="list-style-type: none"> Animal Health and Welfare Eating Quality and Satisfaction Sustainability |

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Market Cows & Bulls Categories for Focused Improvement

| NBQA 2016 | NBQA 2022 |
|---|---|
| <ul style="list-style-type: none"> Timeliness in marketing of animals at ranch and dairy based on defects Changes to placement and size of brands on the ranch, recognizing legal requirement limitations of states Appropriate injection placement Greater coordination between veterinarians and producers to ensure promotion of BQA principles More effective communication with those that transport or purchase animals about their right to refuse to transport or purchase Remaining diligent in educating on the principles of BQA | <ul style="list-style-type: none"> Timeliness in marketing of animals at ranch and dairy based on defects Reduce the presence of foreign material Adding value, multiple primal cuts come from market cows and bulls Greater coordination between veterinarians and producers to ensure promotion of BQA principles Remaining diligent in educating on the principles of BQA |

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Acknowledgements

| | | |
|--|---|--|
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|--|---|--|



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Thank you!



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