NAVIGATING PATHWAYS to SUCCESS

2016 National Beef Quality Audit

Fed Steer and Heifer &
Market Cow and Bull Results

11/30/17

"Lost Opportunities"

- "Lost opportunities in Beef Production" by Chuck Lambert, 1990
- $11.999 BILLION lost
- Inefficiencies cost $458.00 per head

11/30/17

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NAVIGATING PATHWAYS to SUCCESS

Face to Face Interviews

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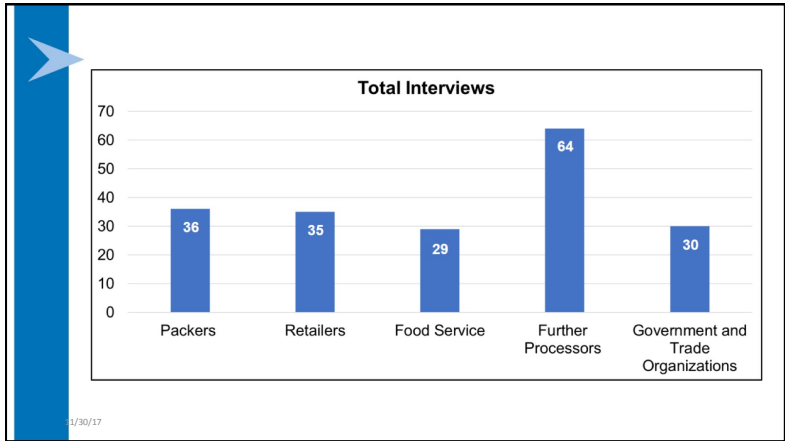

Total Beef Coverage

- Packers:
  - >92% of all of the US beef slaughtered in 2016
- Retail:
  - >55%* of the US Market
- Food Service:
  - >25%* of the US Market

*Estimated using publically available market research due to several large companies refusing to reveal volumes

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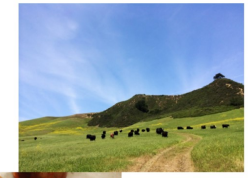
Quality Factors ("Buckets")

1. How and Where the Cattle were Raised
2. Lean, Fat and Bone
3. Weight and Size
4. Visual Characteristics
5. Food Safety
6. Eating Satisfaction
7. Cattle Genetics



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What does the term Food Safety mean to your Company?

Packer n=38	Retailer n=40	Food Service n=43	Further Processors n=90	GTO n=42
40% Critical	25% Produced in a Safe Environment	19% Top Priority	32% Critically Important	19% Obligation to Consumer
29% Pathogen Free	23% Critical to Business	19% Wholesomeness	19% Produced in Safe Environment	14% Trade
13% Obligation to Consumer	18% Obligation to Consumer	19% Pathogen Free	9% Pathogen Free	12% Residues
		9% Brand Protection	9% Compliance	12% Crucial to Business
		9% Supplier Assurance		12% Pathogen Free

"Food borne illness is the first thing that will shut us down. Especially if there is a death. I will pick suppliers based on that. I don't want to risk a foodborne illness."
-Retailer

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What does the term Eating Satisfaction mean to your Company?

Packer n=66	Retailer n=71	Food Service n=61	Further Processors n=112	GTO n=43
29% Customer Satisfaction	23% Customer Satisfaction	26% Customer Satisfaction	35% Customer Satisfaction	16% Customer Satisfaction
17% Tenderness	20% Tenderness	18% Flavor	13% Tenderness	16% Experiences
14% Flavor	13% Flavor	11% Tenderness	10%Flavor	12% Flavor
		11% Quality	6% Quality	12% Tenderness
				9% Returning Customers

"It is paramount. All of the forks of the organization come down to customer satisfaction. It's what we hang our hat on."
-Further Processor

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What Does the Term How and Where the Cattle were Raised Mean to your Company?

Packer n=46	Retailer n=45	Food Service n=49	Further Processors n=104	GTO n=41
38% Source Location	47% Geography	27% Animal Welfare	29% Geography	32% Production Practices
Welfare/Handling 28%	18% Animal Well-Being	Local/COOL 22%	19% Production Practices	20% Geography
13% Feed Type	16% Other	14% Feed Type	10% Animal Welfare	10% Marketing
			10% Customer Specs	

"It means the cattle we buy are USA cattle, because they are inspected better than anywhere else ." **-Retailer**

" 'How' they were raised is more important than 'where' cattle were raised."
- Food Service

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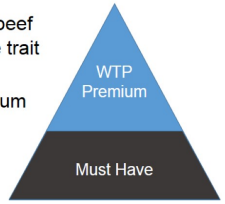
Must Have vs. Willingness to Pay

- **Must Have**:
  - Non-negotiable quality factor(s) that must be included in the purchasing agreement before the transaction can take place.
  - Example: Product must be purchased from a USDA inspected facility.
- **Willingness to Pay**:
  - The inclination to offer a premium for a certain beef quality attribute for those that do not require the trait as a Must Have.
  - Example: I would be willing to pay a 10% premium for a guaranteed ribeye thickness.



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Must Have Question

- Excluding purchase price and any other economic conditions, are there specific characteristics or attributes of cattle or beef products that are Absolutely Must Have in order for your company to purchase the product?

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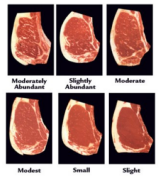

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Likelihood that a "Bucket" was a Must Have

Bucket	Packer	Retailer	Food Service	Further Processing
How and Where Cattle were Raised	31% ↑	30% ↑	8% ↓	9%
Lean, Fat and Bone	17% ↑	18% ↓	19% ↓	32%
Weight and Size	9% =	6% ↓	11% ↑	11%
Visual Characteristics	11% ↑	9% ↓	15% ↓	8%
Food Safety	31% ↑	24% ↑	42% ↑	33%
Eating Satisfaction	None ↓	36% ↑	35% ↑	14%
Cattle Genetics	11% ↑	18% ↑	None ↓	6%

Arrows indicate directional changes since the 2011 NBQA.

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Percent of Companies Willing to Pay a Premium for each "Bucket"

Bucket	Packer	Retailer	Food Service	Further Processing
How and Where Cattle were Raised	42% ↑	38% ↑	45% ↑	47%
Lean, Fat and Bone	65% ↑	54% ↑	39% ↑	46%
Weight and Size	47% ↑	65% ↑	55% ↑	67%
Visual Characteristics	39% ↑	61% ↑	15% ↓	36%
Food Safety	71% ↑	46% ↓	50% ↑	41%
Eating Satisfaction	55% ↑	84% ↑	56% ↑	57%
Cattle Genetics	45% ↑	59% ↑	29% ↓	39%

Excludes any company that listed a "Bucket(s)" as a Must Have.
Arrows indicate directional changes since the 2011 NBQA.

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Average Premium Amount Companies are Willing to Pay for a "Bucket"

Bucket	Packer	Retailer	Food Service	Further Processing
How and Where Cattle were Raised	5.28% ↓	3.30% ↓	11.78% ↓	6.17%
Lean, Fat and Bone	7.43% ↓	6.50% ↓	3.30% ↓	8.14%
Weight and Size	10.77% =	6.50% ↓	7.50% ↓	7.03%
Visual Characteristics	5.17% ↓	6.71% ↓	6.67% ↓	7.26%
Food Safety	11.13% =	9.36% ↓	3.3% ↓	10.0%
Eating Satisfaction	10.06% ↓	12.59% =	8.75% ↓	5.55%
Cattle Genetics	9.85% ↓	10.15% ↑	7.29% ↓	6.9%

Excludes any company that listed a "Bucket(s)" as a Must Have.
Arrows indicate directional changes since the 2011 NBQA.

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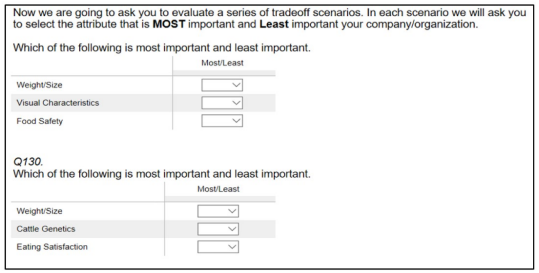
Relative Importance

- Method that utilizes trade off scenarios to determine a cardinal ranking of the "Buckets" of Beef Quality.


Now we are going to ask you to evaluate a series of tradeoff scenarios. In each scenario we will ask you to select the attribute that is **MOST** important and **Least** important your company/organization.

Which of the following is most important and least important.

	Most/Least
Weight/Size	
Visual Characteristics	
Food Safety	

Q130.
Which of the following is most important and least important.

	Most/Least
Weight/Size	
Cattle Genetics	
Eating Satisfaction	

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Relative Importance of the Quality "Buckets" for Steers and Heifers

Quality Category	Packer	Retailer	Food Service	Further Processor	GTO
How and Where Cattle were Raised	11.4^{c} (0.05)	6.3^{d} (0.03)	6.1^{e} (0.03)	5.3^{f} (0.02)	12.2^{c} (0.05)
Lean Fat and Bone	13.7^{b} (0.06)	4.7^{f} (0.03)	9.3^{c} (0.05)	9.2^{d} (0.03)	10.7^{d} (0.05)
Weight and Size	9.3^{f} (0.04)	6.1^{e} (0.09)	9.0^{d} (0.04)	10.2^{c} (0.03)	8.9^{e} (0.04)
Visual Characteristics	6.8^{g} (0.03)	9.3^{c} (0.03)	5.7^{f} (0.03)	7.4^{e} (0.02)	11.3^{d} (0.05)
Food Safety	36.7^{a} (0.13)	44.0^{a} (0.04)	46.3^{a} (0.15)	46.5^{a} (0.10)	30.2^{a} (0.12)
Eating Satisfaction	11.2^{d} (0.05)	23.6^{b} (0.14)	18.5^{b} (0.08)	16.0^{b} (0.05)	17.6^{b} (0.07)
Cattle Genetics	11.0^{e} (0.05)	6.0^{e} (0.02)	5.1^{g} (0.03)	5.4^{f} (0.02)	9.1^{e} (0.04)

^{a,b,c} Percentages within each column without a common superscript differ (P <0.05)

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Relative Importance of the Quality "Buckets" for Cows and Bulls

Trait	Packer	Retailer	Food Service	Further Processor	GTO
How and Where Cattle were Raised	7.8%^{d}	1.5%^{e}	2.9%^{f}	4.4%^{f}	10.6%^{d}
Lean, Fat and Bone	13.4%^{b}	6.1%^{d}	11.1%^{b}	11.7%^{b}	14.0%^{b}
Weight and Size	8.4%^{c}	1.8%^{e}	4.9%^{d}	5.3%^{d}	7.1%^{f}
Visual Characteristics	4.5%^{f}	21.2%^{b}	4.2%^{e}	4.9%^{e}	9.2%^{e}
Food Safety	56.3%^{a}	52.3%^{a}	66.4%^{a}	62.7%^{a}	39.0%^{a}
Eating Satisfaction	5.4%^{e}	15.9%^{c}	8.4%^{c}	8.2%^{c}	13.0%^{c}
Cattle Genetics	4.1%^{g}	1.1%^{e}	2.1%^{g}	2.7%^{g}	7.2%^{f}

^{a,b,c} Percentages within each column without a common superscript differ (P <0.05)

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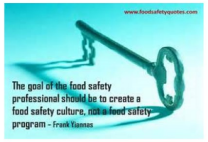
Most Important "Buckets" by Cattle Type

Cattle Type	How and Where Cattle were Raised	Lean Fat and Bone	Weight and Size	Visual Characteristics	Food Safety	Eating Satisfaction	Cattle Genetics
Steers and Heifers	8.3%^{e}	9.5%^{c}	8.7%^{d}	8.1%^{e}	40.7%^{a}	17.4%^{b}	7.3%^{f}
Cows and Bulls	5.6%^{f}	11.9%^{b}	6.1%^{d}	5.9%^{e}	58.8%^{a}	8.3%^{c}	3.5%^{f}

^{a,b,c} Percentages within each row without a common superscript differ (P <0.05).



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Strengths of the Steer and Heifer Industry

Packer n=42	Retail n=52	Food Service n=48	Further Processor n=105	GTO n=46
28.5% Product Quality	26.9% Product Quality	39.6% Product Quality	28.6% Product Quality	28.3% Product Quality
11.9% Taste	13.5% Nutrition	14.6% Food Safety	18.1% Food Safety	19.6% Production Practices
11.9% Story	11.5% Sustainability	8.3% Supply	8.6% Supply	15.2% Marketing
11.9% Food Safety	9.6% Food Safety	8.3% Market	6.7% Animal Welfare	
			6.7% Consistency	

"The product! Even though it is really high (price), people still love it." - **Packer**

"Ability to supply a wholesome product. No other beef compares to U.S. beef." - **Packer**

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What are the Strengths of the Cow and Bull Industry?

Packer n=27	Retail n=9	Food Service n=13	Further Processor n=32	GTO n=10
37% Product Quality	33.3% Value	30.8% Don't Buy US	31.3% Quality of the Product	30% Economics
18.5% Source	22.2% Product	15.4% Sustainability	18.8% Supply	30% Value
18.5% Value	11.1% Taste	15.4% Food Safety	12.5% Food Safety	10% Tradition
				10% Product Production
				10% Cost

"We are a hamburger nation. Growing the steers and the heifers for 10% of the marbled cuts, the rest doesn't matter and are too fat. Need the lean products." - **Packer**

"Cheaper prices. Some customers only buy ground product." - **Retailer**

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

Packer n=54	Retailer n=41	Food Service n=42	Further Processors n=97	GTO n=34
46% Welfare/Handling	56% Welfare/Handling	43% Welfare/Handling	48% Welfare/Handling	62% Welfare/Comfort
19% Very High Priority	15% Humane Slaughter	21% Animal Comfort and Needs	10% Customer Specs	15% Drug Administration
13% Morality	7% Important	7% Important	9% Moral Obligation	12% Following Standards

"Treating animals with dignity and respect through the life cycle." **-Packer**

"Having humans treat animals properly. Not stressed and living happily until slaughter." **-Further Processor**

Does your Company Require your Suppliers to Source Cattle Raised using any Live Animal Quality Assurance Programs?

Answers	Packers n=36	Retailers n=35	Food Service n=29	Processors n=64
Yes (Total)	15	14	8	21
BQA	4	1	2	1
Other	10	9	2	12
Welfare Audits	1	4	4	8
Don't Know	4	4	4	10

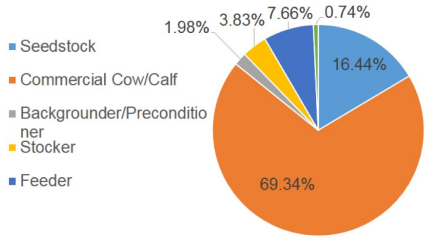
Quality Challenges

- Ranked according to priority

1991	1995	2000	2005	2011	2016
External Fat	Overall Uniformity	Overall Uniformity	Traceability	Food Safety	Food Safety
Seam Fat	Overall Palatability	Carcass Weights	Overall Uniformity	Eating Satisfaction	Eating Satisfaction
Overall Palatability	Marbling	Tenderness	Instrument Grading	How and Where Cattle were Raised	Lean Fat and Bone
Tenderness	Tenderness	Marbling	Market Signals	Lean Fat and Bone	Weight and Size
Overall Cutability	External and Seam Fat	Reduced Quality Due to Use of Implants	Segmentation	Weight and Size	How and Where Cattle were Raised
Marbling	Cut Weights	External Fat	Carcass Weights	Cattle Genetics	Visual Characteristics

Producer Input

- Aided online survey (not supply chain face-to-face interviews) between October and November to gather input and provide additional context
- 809 respondents



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Relative Importance of Factors for Producers vs. Interviewees

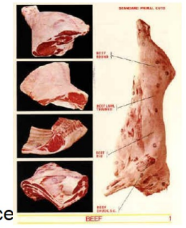
Cattle Type	How & Where Cattle were Raised	Lean, Fat & Bone	Weight & Size	Visual Characteristics	Food Safety	Eating Satisfaction	Cattle Genetics
Steers/Heifers	13.7%[e]	8.3%[g]	20.8%[a]	9.8%[f]	17.5%[b]	14.3%[d]	15.5%[c]
Cows/Bulls	12.2%[c]	10.7%[d]	8.9%[f]	11.3%[d]	30.2%[a]	17.6%[b]	9.1%[e]
Steers/Heifers	8.3%[e]	9.5%[c]	8.7%[d]	8.1%[e]	40.7%[a]	17.4%[b]	7.3%[f]
Cows/Bulls	5.6%[f]	11.9%[b]	6.1%[d]	5.9%[e]	58.8%[a]	8.3%[c]	3.5%[f]

Producers
Phase I Interviewees

11/30/17

Interviews: Key Takeaways

- Branded Beef program use has increased.
- Producers and processing/retail/food service define genetics in different manners.
- Consistency in size is more important than increases in size.
- Food Safety dominated discussions of relative importance and willingness to pay premiums, but was felt to be implied as part of doing business.
- Eating Satisfaction is defined as "Customer Satisfaction" & Tenderness/Flavor drive Customer Satisfaction.
- Traceability is defined differently by what the topic is; food safety, marketing or animal health.



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Interviews: Key Takeaways

- Impact of the cow/bull segment of the industry in providing beef is often overlooked in the industry.
- The image of the Cow and Bull industry is less popular, less visible with Animal Welfare as one of the biggest weaknesses across multiple sectors.
- Although companies are listing portions of BQA as important to their businesses, they are not specifically citing BQA when almost directly asked. Better communication/sharing of BQA principles to packers, retailers, food service, and further processing entities could improve marketing weaknesses and public perceptions that plague our industry.

Beef Quality Assurance

11/30/17

NATIONAL BEEF 2016 NBQA QUALITY AUDIT

NAVIGATING PATHWAYS to SUCCESS

In-Plant Survey

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Funded by the Beef Checkoff.

Transportation, Mobility, and Harvest-Floor Assessments

11/30/17

Transportation

			Horned		Hornless	
			(m^2)	(ft^2)	(m^2)	(ft^2)
Cattle (mature fed cows and steers	364	800	1.0	10.9	0.97	10.4
	455	1,000	1.2	12.8	1.1	12.0
	545	1,200	1.4	15.3	1.4	14.5
	636	1,400	1.8	19.0	1.7	18.0

Mean values for time and distance traveled, number of cattle in the loads, trailer dimensions, and the subsequent area allotted per head for all trailer types surveyed.

	n	Mean	Std. Dev.	Min	Max
Time traveled (hrs.)	220	2.7	2.4	0.25	12.0
Distance traveled (mi.)	217	135.8	132.5	8	870
Number of cattle in load	220	36.6	4.8	10	47
Number of compartments used	217	3.5	0.9	2	6
Trailer dimensions (sq ft)	212	439.7	27.6	192.0	636.0
Area allotted per head (sq ft)	212	12.2	1.8	9.2	24.5

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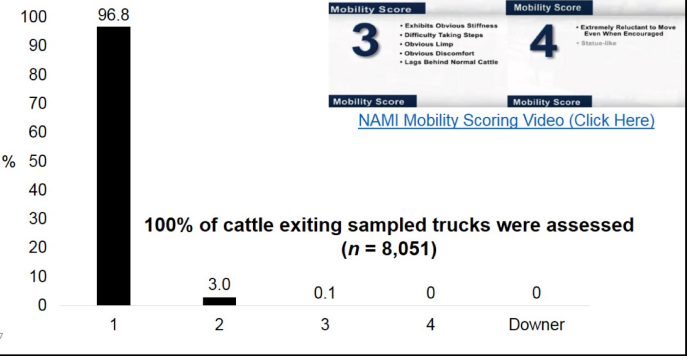
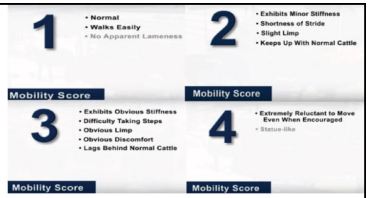
Approximately 10% of cattle trucks were sampled within a day's production at each plant

Cattle Mobility





NAMI Mobility Scoring Video (Click Here)

100% of cattle exiting sampled trucks were assessed (*n* = 8,051)

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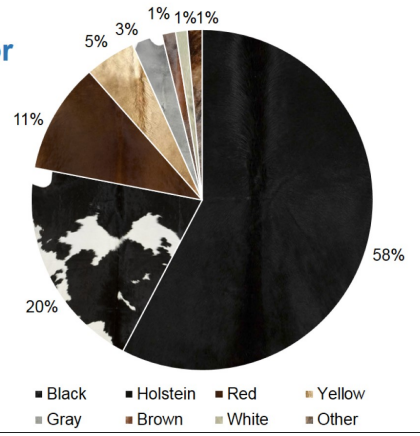
Cattle Identification

- Percentages of hide-on carcasses that were identified individually and type of identification used[1]

Item	NBQA-2005	NBQA-2011	NBQA-2016
With identification	90.3	97.5	95.6
No identification	9.7	2.5	4.4
Lot visual tags	63.2	85.7	61.5
Individual visual tags	38.7	50.6	55.0
Electronic tags	3.5	20.1	16.9
Metal-clip tags	11.8	15.7	9.2
Bar-coded tags	0.3	0.0	0.05
Wattles	0.0	0.5	0.01
Other	2.5	5.3	2.6

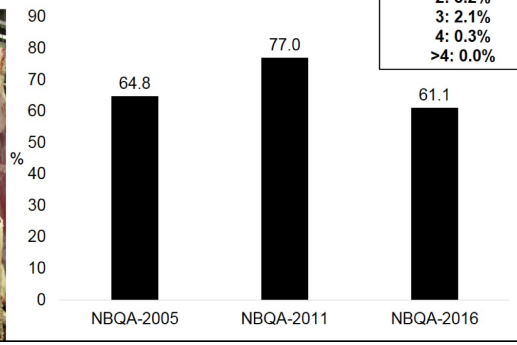
[1]Total exceeded 100% due to animals having multiple forms of identification.

Hide Color

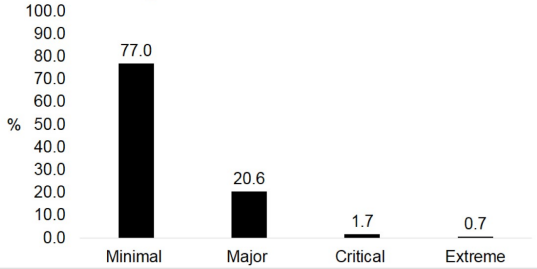


Carcasses without Bruises

Number of Bruises on a Single Animal
1: 28.2%
2: 8.2%
3: 2.1%
4: 0.3%
>4: 0.0%

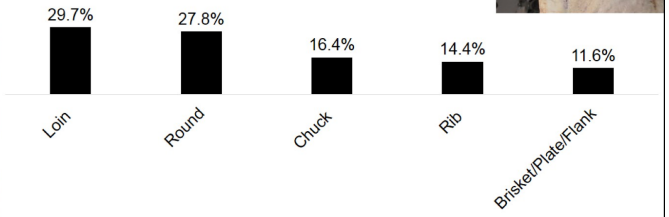


Bruise Severity



Bruise Size Key:			
Minimal (<1 lb-surface)	1= a quarter size	2= a silver dollar size	3= a deck of cards size
Major (1-10 lbs)	4= 1-3 lbs	5= 4-7 lbs	6= 8-10 lbs
Critical (>10 lbs)	7= 11-20 lbs	8= 21-30 lbs	9= 31-40 lbs
Extreme	10= Entire primal		

Bruise Location

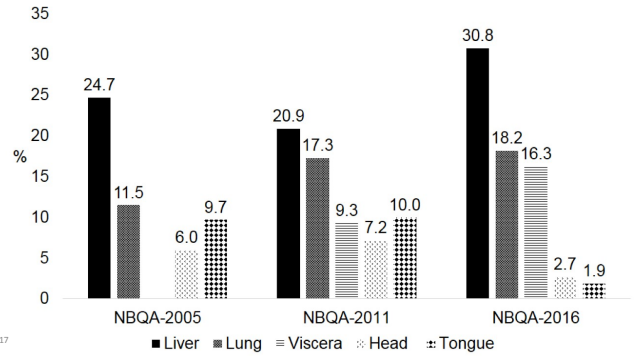


Financial Impact

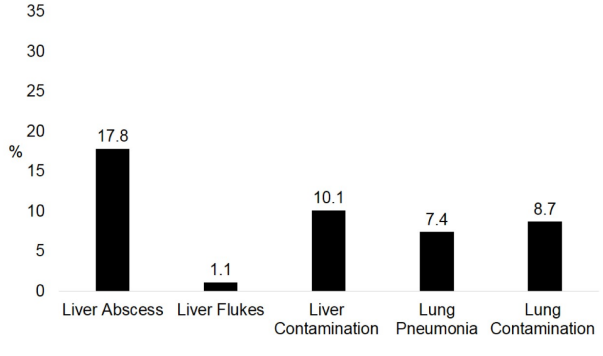
Load of 36 Head		
Minor	**Major**	**Extreme**
One bruise on both loins	One bruise on both loins	2 Loins = 129 lbs.
$1,245.10	$2,074.81	$13,382.55

Loin Value
Loin/cwt = $288.17
Minor Bruise (<1 lb of trim loss) = **$2.85**
Major Bruise (10 lbs. of trim loss) = **$28.82**
Extreme Bruise (Entire Primal) = **$185.76**

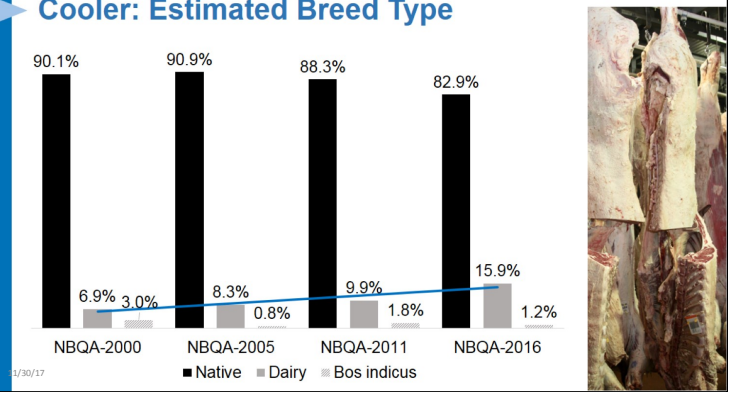
Offal Condemnations



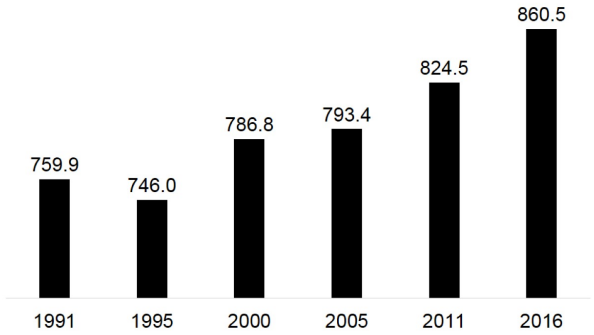
Liver and Lung Condemnations



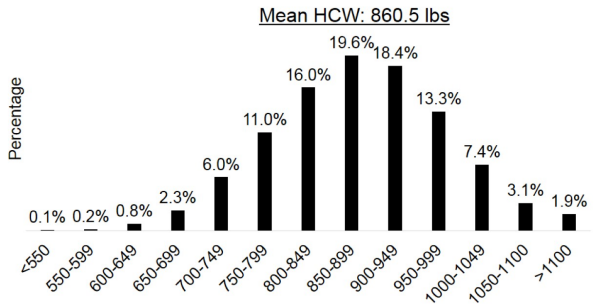
Cooler: Estimated Breed Type



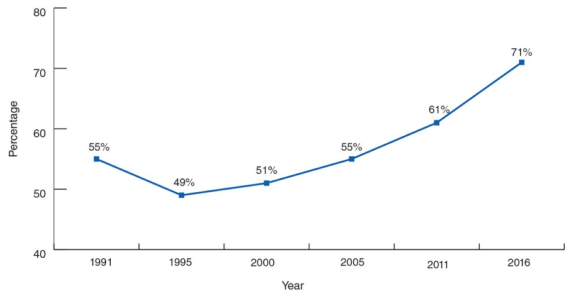
Change in HCW over time



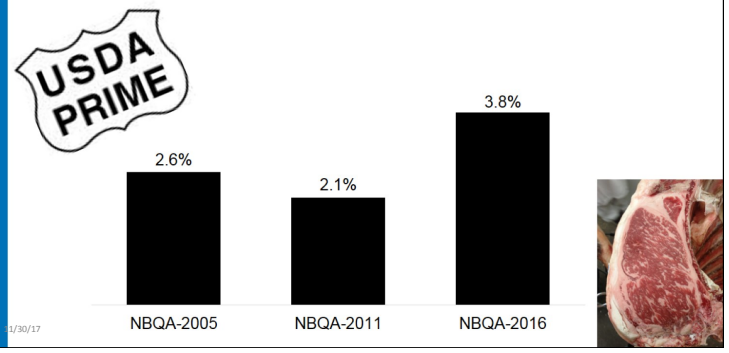
Carcass Weight Distribution



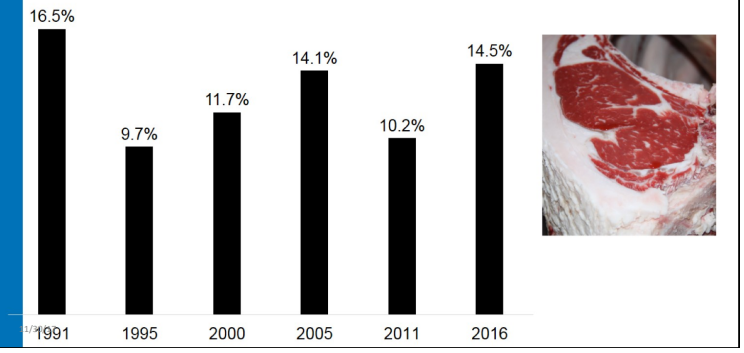
Changes in Prime and Choice over time



Carcasses Grading USDA Prime



USDA Yield Grades 4 and 5



Comparison of native and dairy carcass characteristics

Trait	Native	Dairy
USDA yield grade	3.1	3.0
Adj. fat thickness (in)	0.60	0.36
Carcass weight (lbs)	860.2	845.7
Ribeye area (in^2)	14.1	12.5
Marbling score	Small 69	Small 86

Comparison of In-Plant Carcass Assessments

Trait	NBQA-1991 (n = 7,375)	NBQA-1995 (n = 11,799)	NBQA-2000 (n = 9,396)	NBQA-2005 (n = 9,475)	NBQA-2011 (n = 9,802)	NBQA-2016 (n = 9,106)
USDA yield grade	3.2	2.8	3.0	2.9	2.9	3.1
USDA quality grade[1]	686	679	685	690	693	696
Adjusted fat thickness, in	0.59	0.47	0.47	0.51	0.51	0.56
HCW, lbs	760.6	747.8	786.8	793.4	824.5	860.5
LM area, in^2	12.9	12.8	13.1	13.4	13.8	13.9

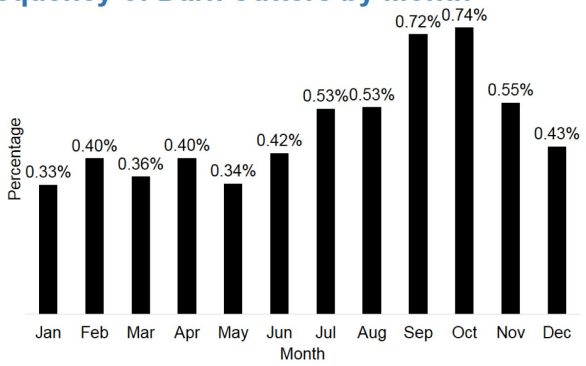
[1]600 = Select^{00}, 700 = Choice^{00}, and 800 = Prime^{00} (USDA, 2016).

Instrument Grading Carcass Assessment

- *n* = 4,544,635
- Data were collected from January 2016 to December 2016 every month for one week
- Multiple plants (*n* = 18) from multiple companies (*n* = 5)

11/30/17

Frequency of Dark Cutters by Month



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In-Plant vs. Instrument Grading Comparison

Trait	Cooler mean (*n* = 9,106)	Instrument mean (*n* = 4,544,635)
USDA yield grade	3.1	3.1
Adj. fat thickness (in)	0.56	0.54
Hot carcass weight (lbs)	860.5	867.7
Ribeye area (in^2)	13.9	13.8
Marbling score	Small 70	Small 75

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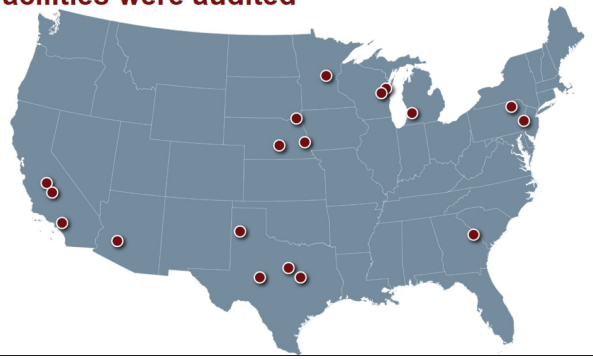
In-Plant Assessments Cows and Bulls

11/30/17

Cattle, offal, and carcasses in 18 commercial facilities were audited

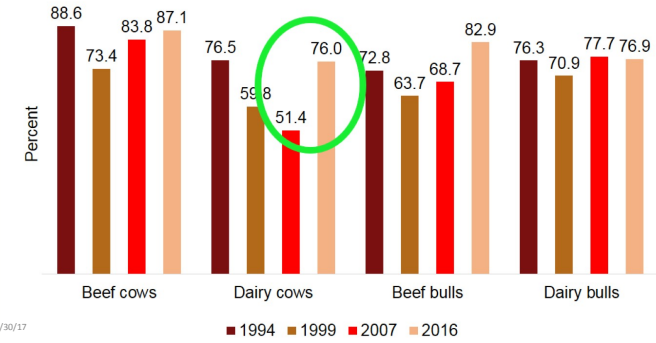


Trailer and travel information for pot belly trailers

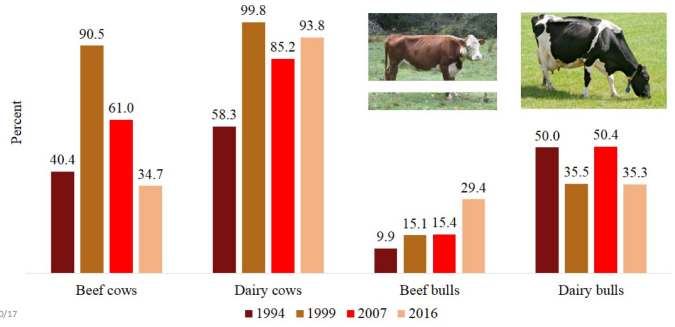
Mean values for time and distance traveled, number of cattle in the loads, trailer dimensions, and the subsequent area allotted per head for pot belly trailer types surveyed.

	n	Mean	Std. Dev.	Min	Max
Time traveled, h	100	9.3	6.25	0.17	39.5
Distance traveled, miles	95	397.6	271.15	2	1412.9
Number of cattle in load	102	35.1	4.88	23	47
Number of compartments used	101	5	1.08	2	6
Trailer area, ft²	101	430.09	31.14	192.0	467.5
Area allotted per animal, ft²	101	12.4	1.79	6.4	18.02

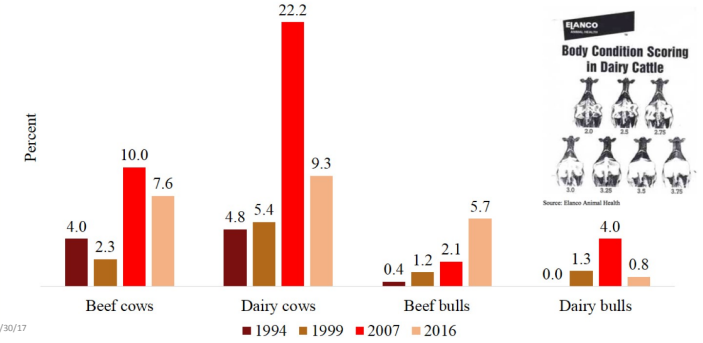
Percentage of cattle considered sound



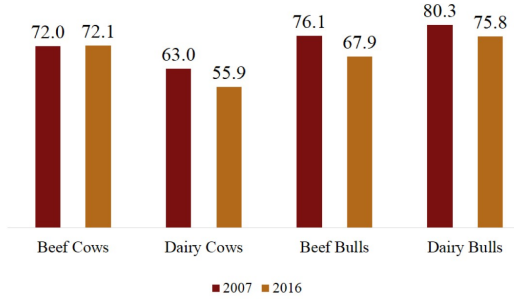
Percentage of cattle that are "too light" muscled (muscle score 1 & 2 out of 5)



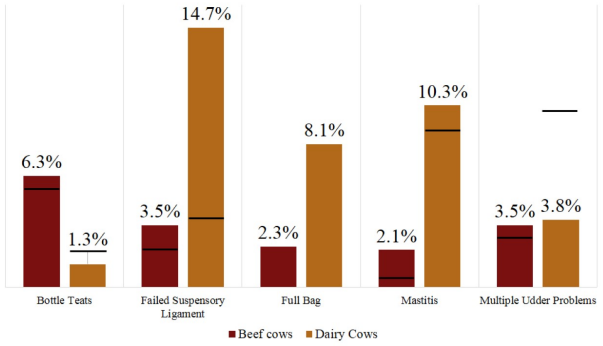
Percentage of cattle that are "too thin" (Score 1 or 2 (beef); Score 1.0 or 1.5 (dairy)



Percentage of Cattle with No Defect

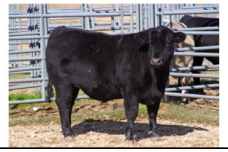


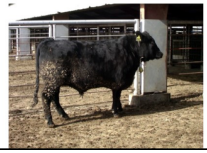
Defects Observed in Cows



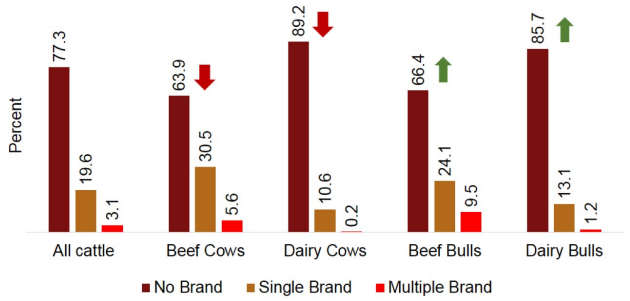
Mud Prevalence

	All Cattle (*n* = 5,239)	Beef Cows (*n* = 2,094)	Dairy Cows (*n* = 2,612)	Beef Bulls (*n* = 400)	Dairy Bulls (*n* = 82)
Amount					
None	56.0	54.9	57.8	52.8	48.8
Small	34.1	35.0	32.0	39.0	42.7
Moderate	8.1	8.1	8.5	6.8	6.1
Large	1.1	0.8	1.4	0.8	1.2
Extreme	0.7	1.2	0.2	0.8	1.2





Brand Presence

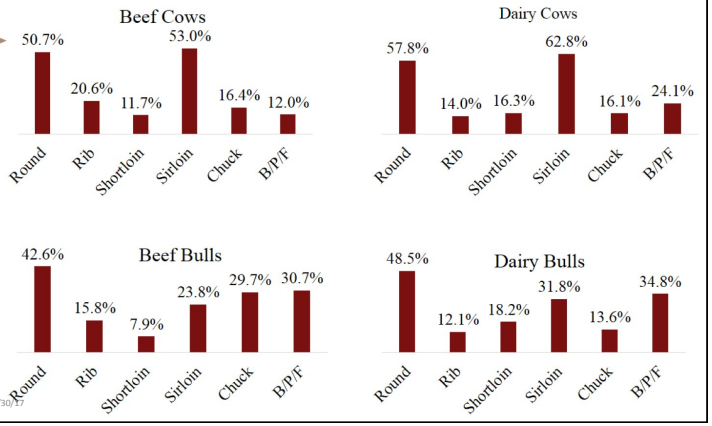


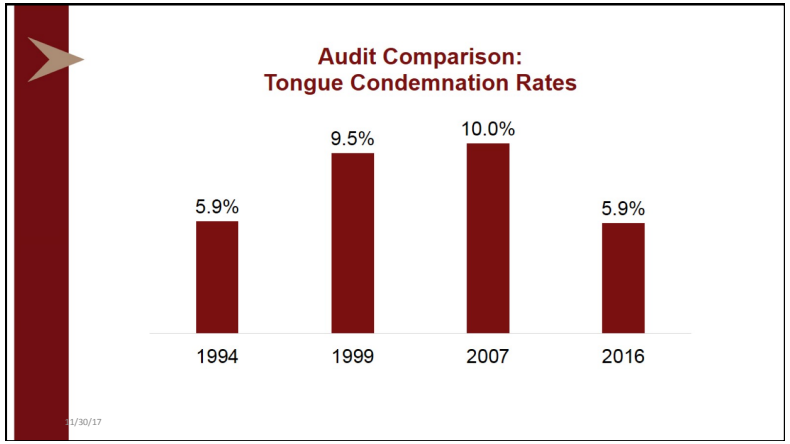
Bruise Severity

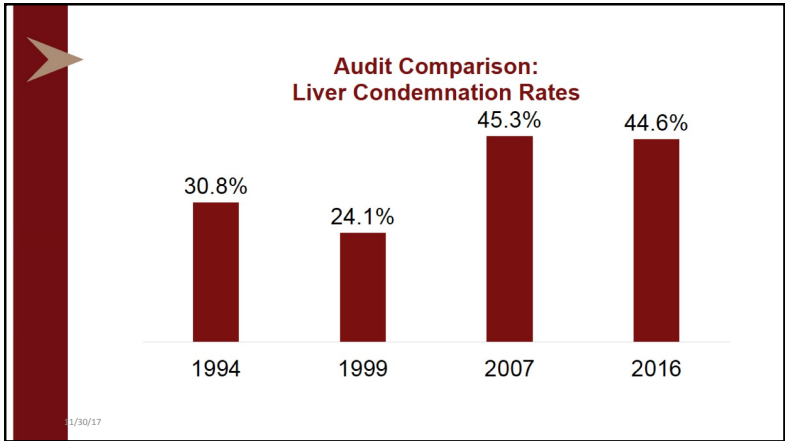
	1994	1999	2007	2016
Cows	n = N/A	n = 4,848	n = 5,092	n = 4,262
No Bruise	20.3%	11.8%	36.6%	35.9%
Minimal	51.5%	77.2%	36.7%	67.3%
Major	53.9%	41.7%	30.9%	45.1%
Critical	30.7%	21.6%	12.4%	4.9%
Extreme	N/A	2.4%	5.4%	1.4%
Bulls	n = N/A	n = 831	n = 477	n = 389
No Bruise	63.8%	47.1%	46.8%	57.1%
Minimal	25.3%	44.4%	31.5%	42.4%
Major	19.5%	16.7%	20.1%	21.9%
Critical	7.4%	6.9%	11.5%	1.5%
Extreme	N/A	1.0%	7.6%	0.3%

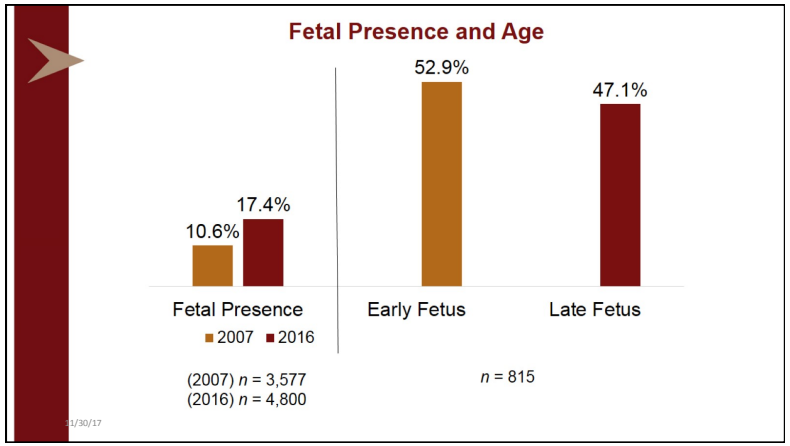
Of cow/bull bruises

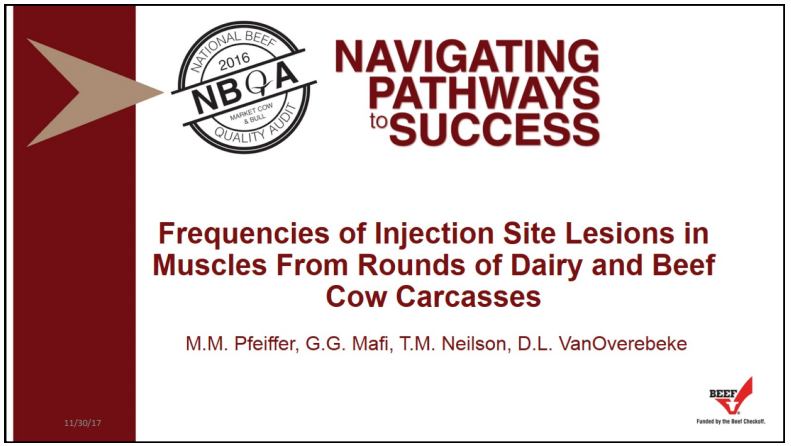
Severity	Beef Cows	Dairy Cows	Beef Bulls	Dairy Bulls
Minimal	53.6	57.5	57.2	74.3
Major	39.7	37.6	38.8	24.8
Critical	5.6	3.7	3.9	0.0
Extreme	1.0	1.2	0.0	1.0




Audit Comparison:
Tongue Condemnation Rates
5.9%
9.5%
10.0%
5.9%
1994
1999
2007
2016
11/30/17


Audit Comparison:
Liver Condemnation Rates
30.8%
24.1%
45.3%
44.6%
1994
1999
2007
2016
11/30/17


Fetal Presence and Age
10.6%
17.4%
52.9%
47.1%
Fetal Presence
Early Fetus
Late Fetus
2007 2016
(2007) n = 3,577
(2016) n = 4,800
n = 815
11/30/17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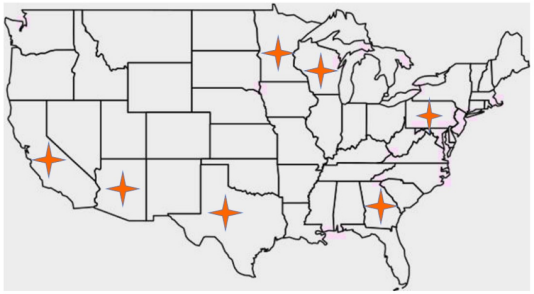
to SUCCESS
Frequencies of Injection Site Lesions in Muscles From Rounds of Dairy and Beef Cow Carcasses
M.M. Pfeiffer, G.G. Mafi, T.M. Neilson, D.L. VanOverebeke
BEEF
Funded by the Beef Checkoff.
11/30/17

Locations



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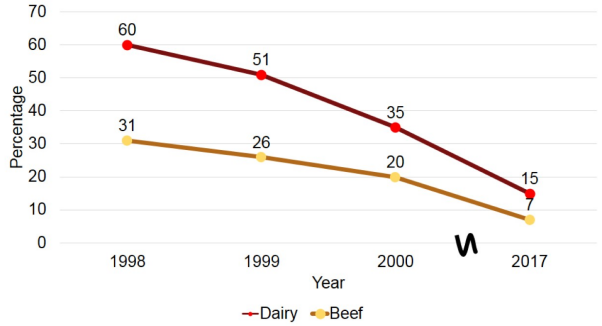
Frequency of injection-site lesions in 2017

	Beef	Dairy
Total Pieces Audited	677	623
Pieces with Lesion(s)	47	93
Percent of rounds w Lesion(s)	6.94	14.93
Average number of lesions per pieces with lesion(s)	1.09	1.12
Maximum lesions in one round	2	4

11/30/17

Percentage of rounds with an injection-site lesion



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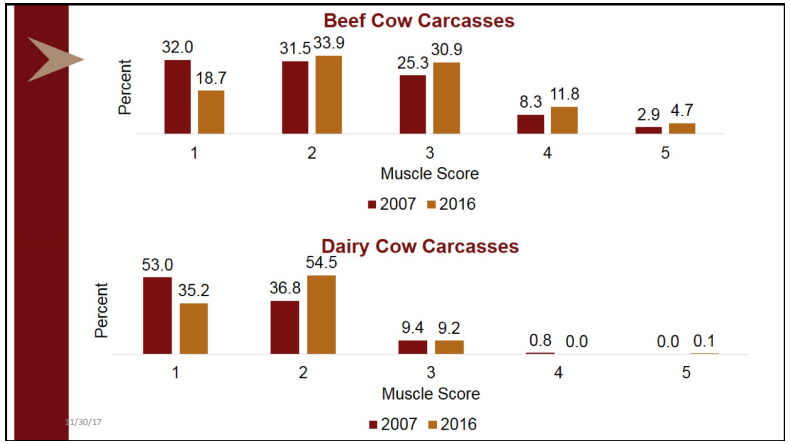
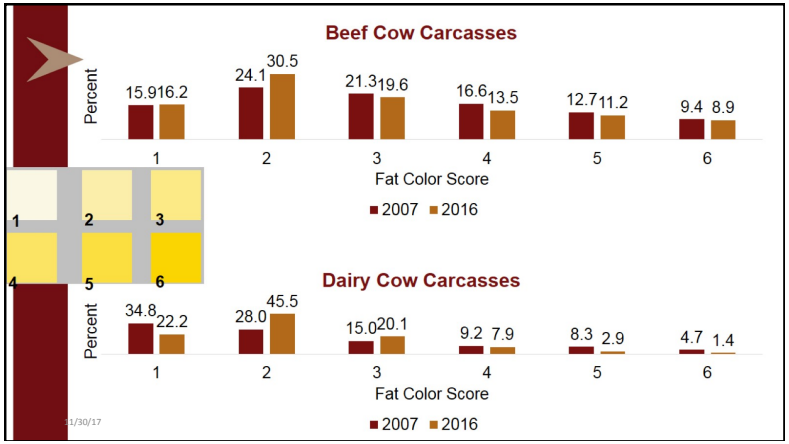
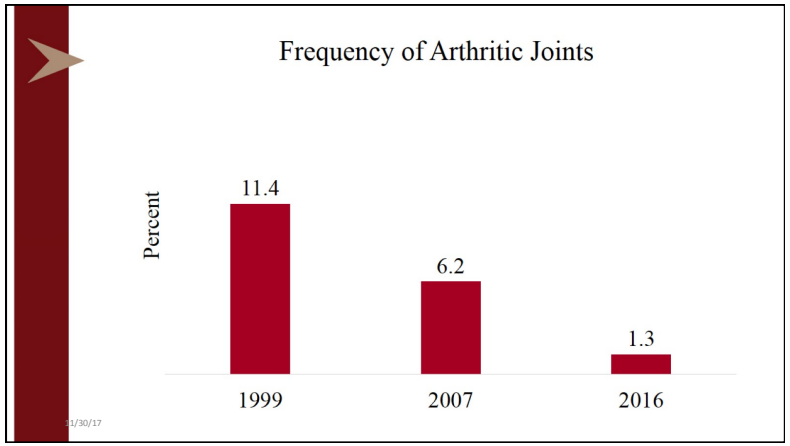
NAVIGATING PATHWAYS to SUCCESS

Cooler Assessments

11/30/17


Beef Cow Carcasses
Percent
32.0
18.7
31.5
33.9
25.3
30.9
8.3
11.8
2.9
4.7
1
2
3
4
5
Muscle Score
2007
2016
Dairy Cow Carcasses
Percent
53.0
35.2
36.8
54.5
9.4
9.2
0.8
0.0
0.0
0.1
1
2
3
4
5
Muscle Score
2007
2016


Beef Cow Carcasses
Percent
15.9
16.2
24.1
30.5
21.3
19.6
16.6
13.5
12.7
11.2
9.4
8.9
1
2
3
4
5
6
Fat Color Score
2007
2016
1
2
3
4
5
6
Dairy Cow Carcasses
Percent
34.8
22.2
28.0
45.5
15.0
20.1
9.2
7.9
8.3
2.9
4.7
1.4
1
2
3
4
5
6
Fat Color Score
2007
2016


Frequency of Arthritic Joints
Percent
11.4
6.2
1.3
1999
2007
2016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to SUCCESS
Strategy
Workshop
BEEF
Funded by the Beef Checkoff.

Objectives

- Review results of Phase I and II and discuss implications for the US beef industry
- Develop strategies that provide a producer focused beef industry blueprint for the next five years


11/30/17

Categories for Focused Improvement

- Food Safety and Animal Health
- Eating Quality and Reduction of Variety
- Optimizing Value and Eliminating Waste




11/30/17

Target Consensus for 2016

Quality Grade
Prime – 5%
Upper 2/3 Choice – 35%
Low Choice – 35%
Select – 25%

Yield Grade
YG 1 – 10%
YG 2 – 45%
YG 3 – 40%
YG 4 – 5%

Weight
600-800 lb – 20%
801-900 lb – 30%
901-1000 lb – 50%

11/30/17

Lost Opportunities for Steers and Heifers

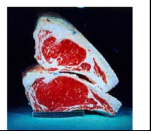
	2016	2011	2005	2000	1995	1991
Quality Grade	-$15.75	-$30.44	-$26.62	-$29.66	-$33.23	-$33.14
Yield Grade	-$12.91	-$5.93	-$15.60	-$15.53	-$10.20	-$22.19
Carcass Weight	-$10.88	-$6.41	-$4.46	-$3.44	-$5.68	-$4.52
Hide/branding	-$0.84	-$1.95	-$1.90	-$2.39	-$2.67	-$2.43
Offal	-$8.68	-$2.57	-$2.63	-$2.82	-$1.59	-$0.99
Total	**-$49.06**	**-$47.30**	**-$51.21**	**-$53.84**	**-$53.37**	**-$63.27**

11/30/17

Categories for Focused Improvement for Cows & Bulls

- Timeliness 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



Lost Opportunities for Cows and Bulls

	2016	1999	1994
Whole cattle/carcass condemnations	$-6.82	$-4.11	$-11.99
Head, Tongue, Heart and Liver Condemnations	$-2.56	$-1.90	$-1.75
Hide Defects (Brands and Latent Defects)	$-7.47	$-6.27	$-6.92
Arthritic Joints	$-1.89	$-9.72	---
Bruises	$-3.41	$-2.24	$-3.91
Injection-site lesions (rounds only in 2016)	$-0.10	$-1.46	$-0.66
Yellow colored external fat	$-12.47	$-6.48	$-2.27
Dark Cutters	$-1.35	$-1.41	$-0.06
Inadequate Muscling	$-31.59	$-18.70	$-14.43
Excess External Fat	$-55.11	$-10.17	$-17.74
Total	$-122.77	$-62.46	$-59.73

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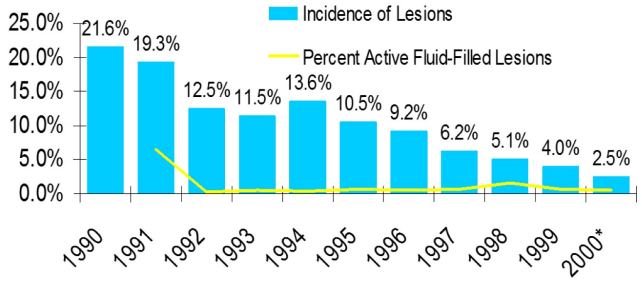
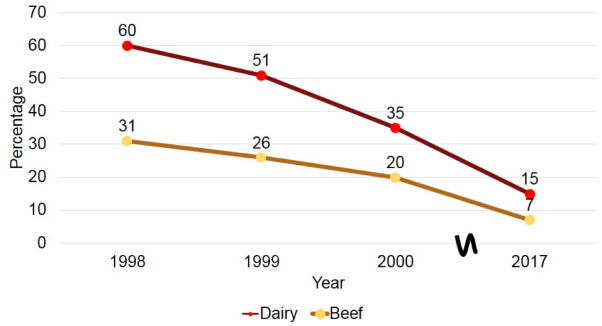
Injection-Site Lesion Audits

Steer and Heifer Top Sirloin Butts

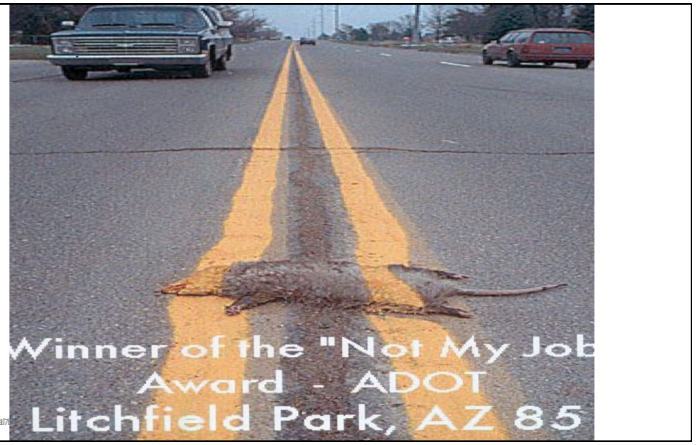


11/30/17

Percentage of cow and bull rounds with an injection-site lesion (7 plants-200/plant)



$1 to Prevent Defect
$10 to Fix Defect at Manufacturing
$100 to Fix Defect for Customer



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Thank you!
Questions?

For more information visit www.bqa.org