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State of the Beef Industry

Industry quality increases though opportunities remain for improvement.

by **Kasey Brown**, special projects editor

Much like the State of the Union address helps Americans keep a finger on the pulse of American policies, the National Beef Quality Audit (NBQA) monitors the pulse of the American beef industry. Started in late 1991 to begin to address a decline in per capita beef consumption, the massive research undertaking has served as a benchmark for all segments of the beef community every five years since then, explains Keith Belk, one of the original researchers who worked on NBQA and professor and holder of the Monfort Endowed Chair at Colorado State University.

Notable results from previous studies included many of the Beef Quality Assurance (BQA) focus points, like far fewer injection-site lesions and improved quality grades, which both resulted in industry value, says Dan Kniffen, chairman of the NBQA BQA advisory board and

extension beef cattle specialist and assistant professor of animal science at Pennsylvania State University (Penn State).

The 2016 audit has similarly impactful results, both in fields of increased, maintained or areas for improvement. There were three main sections to the 2016 audit: plant research involving live cattle, plant research involving carcasses, and face-to-face interviews with beef chain customers at the primary industry segments.



Live cattle at plants

The audit found many improvements in terms of welfare and value in live cattle. When arriving to plants, 97% of cattle earned a mobility score of 1, meaning the cattle walked easily and normally, even during hotter months. Bruising was more apparent,

but was less severe. Belk suggested this might be caused by large cattle bruising when they are entering or exiting the belly compartment of semi trailers, which were

designed for smaller cattle.

More cattle were received at the plant without brands. Hides are the highest-value byproducts at about \$120, Belk explains, and a side brand greatly reduces the amount of useable leather. He recommends branding on the hip.

The overall percentage of black-hided cattle went down from 2011 to 57.8%, but Kniffen explains that is because of the significant increase in Holstein cattle entering the beef market, which increased from only 5.5% in 2011 to 20.4% in 2016.

Conversely, reduced offal condemnations could improve value, particularly livers. More than 30% of livers harvested did not pass inspection and were condemned. Due to the increased emphasis by USDA Food Safety Inspection Service (FSIS) inspectors and consumer concerns about antimicrobial resistance, Kniffen wonders if this means cattle are treated less often with antibiotics, even when antibiotics might be necessary.

Carcass findings

One of the best aspects of this audit is the addition of 4.5 million carcasses that

were instrument graded. The data from instrument grading corroborated what the USDA graders determined, which adds a great deal of credibility to the assessment.

“This level of consistency has taken us since the late 1970s to accomplish,” Belk emphasizes.

Since 1995, carcass quality has improved (see Table 1). Belk says this is the first time that more than 70% of fed-cattle carcasses have graded either Choice or Prime. However, that comes at a price.

“Cattle are fatter and larger, which offsets our ability to produce higher-quality beef by reducing the value of composition. There is more fat versus muscle. We are improving the quality dramatically so they more than offset the negatives economically right now, but we need to keep an eye on it. We don’t need more Yield Grade 4s or 5s,” Belk notes.

More than 44% of carcasses weighed 900 pounds or more — a 20% increase from 2011. On a sustainability note, this was a positive by producing more beef with fewer cattle. However, on the retail side, many consumers don’t want larger ribeyes, and inconsistency in size is an issue, Belk admits.

Face-to-face

The top five quality challenges revealed from the face-to-face interviews were food safety, eating satisfaction, lean fat and bone, weight and size, how and where cattle were raised, and visual characteristics.

Branded-beef items increased in the market, which emphasizes the concern over the consistency of beef cut size. Many companies are willing to pay a premium for quality attributes, though the premium

Seedstock key points

Keith Belk, one of the original researchers who worked on the National Beef Quality Audit (NBQA) and professor and holder of the Monfort Endowed Chair at Colorado State University, says some of the biggest take-home points for seedstock cow-calf breeders is that while quality grade is increasing, so is yield grade (YG), and the industry doesn’t need more YG 4s or 5s. The average carcass weight is now 860 pounds (lb.), and retailers don’t know what to do with these large carcasses. Consistency is key.

“Angus breeders can influence that with their genetic tools,” he said.

Dan Kniffen, chairman of the NBQA Beef Quality Assurance (BQA) advisory board and extension beef cattle specialist and assistant professor of animal science at Pennsylvania State University, adds: “Nobody can change genetics once the bull goes out, so the seedstock sector holds industry adjustments in their hands.”

He added that getting carcass data to influence those genetic decisions is key, and there are even some extension programs that let you get carcass data without retaining ownership.

Bruising was found to be more prevalent, so Kniffen notes that all sectors need to review their handling and facilities. He offers that since cattle are getting bigger in general, it may be necessary to have larger equipment to prevent bruising.

The industry needs to step up in using animal identification, starting with cow-calf producers. While there’s not much economic incentive at the cow-calf level right now, there is incredible value in animal ID because our global trade partners want traceability of every aspect of raising cattle, and a large portion of an animal’s value comes from export prices. Both Belk and Kniffen urge cow-calf producers to think of the good of the industry as a whole.

“The idea is you’re making more product more acceptable to a greater number of potential consumers. The only way we can do that is with some identification,” says Belk.

Mobility is increasing industry-wide, and Belk noted that the American Angus Association’s emphasis on feet and legs sends a signal to the industry that mobility is important.

amount was lower than in 2011. Taste and tenderness continue to differentiate beef among other protein sources, Belk adds.

Retailers did say that marketing and lack of process transparency between sectors was the greatest industry weakness.

As a whole, the industry continues to improve in quality and is regaining many of its lost opportunities (see Table 2). There is still room to improve, like

with liver condemnations and bruising, and importantly, conveying the positive attributes of the industry to the consuming public. BQA management practices both help improve management and provide confidence for the consumer.

The state of the beef industry deserves a round of applause before getting back to work.



Table 1: Means for USDA carcass grade traits

Traits	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
Hot carcass weight, lb.	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

Note: 600=Select⁰⁰, 700=Choice⁰⁰, and 800=Prime⁰⁰ (USDA, 2016).

Table 2: Lost opportunities in quality issues for NBQA audits (using 2016 prices)

	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