

# Results and Recommendations from the 2011 National Beef Quality Audit



The first National Beef Quality Audit (NBQA) was conducted in 1991, and it has been repeated every five years since. The audits are funded with beef checkoff dollars and are based on a set of three core principles:

- 1) An industry-wide scorecard gives direction to decision-makers across the beef industry in order to improve the quality and the value of the U.S. beef supply;
- 2) Identifying and correcting quality shortfalls and nonconformance will lead to greater profitability through improved demand; and
- 3) Only that which is measured can be effectively managed.

Since the first NBQA, each subsequent audit has incorporated updated approaches to obtain a more meaningful and robust set of results. The 2011 NBQA was no different. In order to increase the functionality of the data generated and to develop a dynamic roadmap to improve beef quality, three phases of data collection and a strategy development workshop were conducted.

**Phase I:** Face-to-face interviews were conducted over 11 months with feeders, packers, retailers, foodservice operators and allied industry/government employees who defined and ranked seven quality categories (how and where cattle were raised; lean, fat and bone; weight and size; cattle genetics; visual characteristics; food safety; and eating satisfaction).

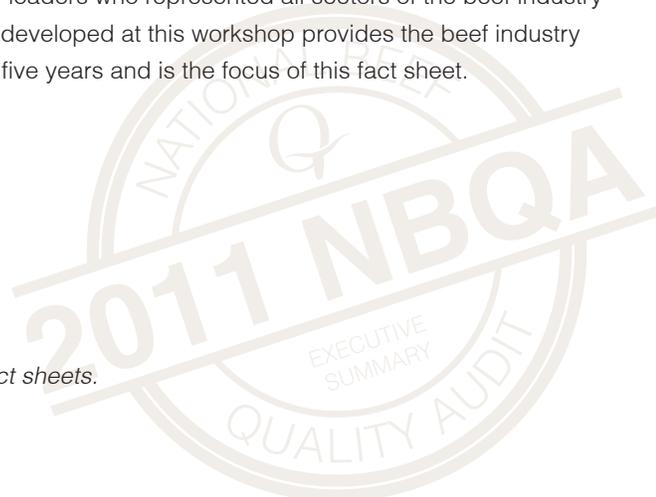
**Phase II:** Research teams surveyed 18,000 carcasses on the harvest floor from eight beef processing plants, determined quality and yield grade from 9,000 chilled carcasses from 28 beef processing plants and compared instrument grading results with USDA grader information on 2.4 million carcasses from 17 plants.

**Phase III:** A survey to determine the adoption of Beef Quality Assurance (BQA) management principles utilizing both online and written questions resulted in 3,755 responses from seedstock operators, commercial cow-calf producers, backgrounders, stocker/yearling operators, feedlot producers and dairymen.

**Strategy Workshop:** After results were collected and summarized by researchers, a workshop was held to discuss the implications of the research for the U.S. beef industry. Forty-one industry leaders who represented all sectors of the beef industry participated. The strategy developed at this workshop provides the beef industry with a blueprint for the next five years and is the focus of this fact sheet.



*First in a series of NBQA fact sheets.*





**Table 1. Comparison of the Quality Challenges Ranked by Priority for Each of the National Beef Quality Audits**

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

## Results of the Audit

Table 1 lists the top six quality challenges ranked by priority for each of the audits. The top three concerns identified by the 1991 audit were the amount of external fat, seam fat and overall beef palatability. Over the next three audits (1995, 2000 and 2005), the identified challenges were overall

uniformity, tenderness and carcass weights. However, different challenges surfaced in the 2005 audit: traceability of cattle, segmentation in the industry, and market signals. The 2011 audit clearly defined and ranked the current challenges and emphasized consumer concerns and the necessity for feedback signals up and down the beef chain. The top three challenges were food safety, eating satisfaction and how and where the cattle were raised.

When the audit researchers interviewed people from the different pre-harvest segments of the beef industry about how they intentionally influenced beef “quality”, the answers varied to some degree depending on the sector. Overall, animal handling, preventative health programs and nutritional management were the top three responses (Table 2). These priority rankings provide insights into areas that require future educational attention.

These would include genetics, documentation of production practices, meeting standards for BQA and reducing nonconformance in carcasses.

nonconformance in carcasses.

Using a best-worst scaling to rank specified quality categories (Table 3), respondents in the post-harvest segments ranked food safety, eating satisfaction and how and where the cattle were raised as the most important.

It is apparent from these results that industry segments closer to the consumer (packer to the retailer) place greater importance on issues related to food safety and eating satisfaction than characteristics related to carcass weight and size, lean, fat and bone percentages and animal genetics. When evaluating how cattle feeders responded, how and where cattle were raised, weight and size of the live animal and genetics were more important than the quality categories identified by processors and retailers.

**Table 2. Ranking of How Beef Producers Intentionally Influenced “Quality”**

Method	Overall	Seedstock	Cow-calf	Backgrounder	Stocker	Feelot	Dairy
Animal Handling	<b>92.9</b>	94.7	92.7	95.9	97.0	93.0	81.3
Preventative Health	<b>89.1</b>	94.2	88.4	93.8	92.2	85.9	81.3
Nutritional Program	<b>85.3</b>	92.1	83.9	90.7	87.9	90.3	72.7
Best Management Practices	<b>84.0</b>	90.2	82.3	92.8	86.7	85.9	74.1
Genetics	<b>78.7</b>	98.9	82.9	63.9	48.8	48.7	47.5
Documentation	<b>66.2</b>	79.3	64.9	68.0	59.5	64.4	51.1
BQA Protocol	<b>55.7</b>	63.4	53.0	65.0	55.8	68.1	28.1
Market Targets	<b>50.1</b>	61.3	47.8	61.9	55.2	58.1	19.4
I don't influence	<b>3.6</b>	1.3	3.7	3.1	4.9	2.4	11.5

**Table 3. Ranking of “Quality” Categories by Sectors of the Beef Production Segments**

Category	Overall	Feeders	Packers	Foodservice/Distributors and Further Processors	Retailers	Gov. & Allied Industries
Food Safety	28	11	35	42	39	25
Eating Satisfaction	20	9	20	24	29	24
How and Where Cattle Were Raised	13	22	12	10	10	9
Weight and Size	11	19	7	7	5	10
Lean, Fat and Bone	11	15	13	10	5	9
Genetics	9	15	7	1	3	14
Visual Characteristics	8	9	6	7	10	9

When asked what the top weaknesses of the beef industry were, the participants listed industry fragmentation and not effectively telling the beef story (Table 4). Food safety issues and variability in the product were also identified as barriers.

**Table 4. Three Top Weaknesses of the U.S. Beef Industry: Responses by Different Segments**

Retailers	Foodservice	Packers	Gov. % Allied Feeders	Industries
Not telling our story	Cost	Variability in product	Not telling our story	Too fragmented
International Market Concerns	Marketing	Food safety perception	Consumer	Not telling our story to improve image
Food Safety	Too Fragmented	Too Fragmented/Not transparent (tie)	Too Fragmented	Lack of Education

What does nonconformance (not meeting the ideal targets for quality) cost the beef industry? An estimate of the lost economic opportunities for not meeting quality targets is presented in Table 5. The Audit determined that more than forty dollars per head were not realized, primarily because of not meeting targets for both quality and yield grades. However, this is approximately \$12/head better than the 2005 audit.

**Table 5. What are the Estimated “Lost Opportunities” for Nonconformance with Ideal Targets for Quality?**

Source of Loss	Average Amount Lost, \$/head
Quality Grade	-\$25.25
Yield Grade	-\$5.77
Carcass Weight	-\$6.75
Hide/Branding	-\$0.74
Offal	-\$5.15
<b>Total Nonconformance Loss</b>	<b>-\$43.66</b>

## Identified Barriers to Continued Improvement

The Strategy Workshop participants, with the help of the audit researchers, collectively identified the following barriers to continued progress for the beef industry.

- **Disparate market signals.** The industry must balance the needs of all industry segments and create a system that transmits information and facilitates data flow by communicating the proper signals throughout the beef supply chain.
- **Lack of trust between industry segments.** A transparent and accurate information-sharing system between segments would help increase trust and build a more sustainable beef industry.
- **Differing definitions of “quality” and value.** This communication barrier among segments must be resolved.
- **Inadequate recordkeeping.** Utilizing BQA and proper recordkeeping must become more consistent through the entire supply chain. Instead of promoting “guidelines,” it is time to establish production standards.
- **Disconnect with the dairy industry.** Because dairy animals supply a significant portion of the beef marketed, communicating the importance of BQA to the dairy segment is crucial, either through veterinarians, managers, milk cooperatives or directly.
- **Non-conforming cattle.** The industry must eliminate nonconformance and provide better market signals that evoke responses leading to better selection, production practices and post-harvest fabrication.
- **Safety challenges.** Research and implementation efforts must continue to address emerging pathogen issues such as *Salmonella* and *E. coli*.
- **Uninformed consumers.** Finally, we need to do a much better job of telling the consumer how we raise beef under a variety of production practices and different environments and why we do it this way.

## What are the specific recommendations to reduce barriers and improve beef profitability?

After several days of presentations, debate and rigorous discussion of the results, the participants listed the following as priorities for implementation:

- A transparent system of information-sharing regarding animals and products among chain segments is crucial to building trust and providing assurances to every customer along the chain, including the consumer.

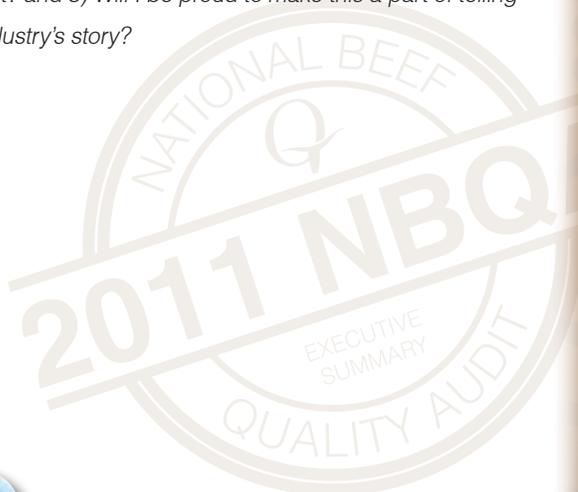
- Develop and implement an effective animal identification-sharing system
- Develop effective full supply-chain safety interventions
- Increase the focus on pathogenic strains of *E. coli* and *Salmonella*
- Implement BQA and demonstrate conformance through written records
- Encourage dairy BQA engagement by working together with veterinarians, milk cooperatives and managers
- Document the economic value and market recognition of BQA programs
- Develop strategies for management and determination of the impact of growth-promoting technologies (e.g. beta-agonists)
- Increase funding to improve eating satisfaction
- Use genetics to optimize cutability and palatability

As an industry, we must do a much better job of telling the beef story. We have terrific examples of successes including implementation of BQA programs, animal welfare, stewardship, low-stress handling, food safety and enhancing flavor and tenderness. We must, however, be an authentic, honest and transparent industry, because that is what the consumer demands of us.

Members of the strategy team are all leaders in the beef industry who are seriously committed to continuously improving quality. Some of their memorable quotes from the strategy session were:

- *“Calves should not be part of a ‘witness protection program.’ When the rest of the world and our competitors are identifying their animals, why can’t we?”* Cattle Feeder
- *“It doesn’t matter what our weights or yield grades are if we don’t have a consumer who will buy our products.”* Cow-calf Producer
- *“Cutability is industry-oriented. Palatability is consumer-oriented. We need to be more focused on palatability.”* Cow-calf Producer
- *“We need to keep our image and connect it with our science.”* Cow-calf Producer
- *“If we don’t have feedback signals or don’t use them, then how can we be successful?”*- Cattle Feeder
- *“We say that we do things “more right than wrong”, but we don’t have a written protocol. We want and need the education of BQA.”* - Cattle Feeder

Tom Field, the former executive director of producer education for NCBA, a contractor to the Beef Checkoff Program, challenged beef producers to step up and have the courage to continuously improve beef eating satisfaction through total quality management. Beef producers all along the production chain must ask, and then answer, three questions about their production practices: 1) *Will this decision affect eating satisfaction?* 2) *Does this decision improve product integrity and customer trust?* and 3) *Will I be proud to make this a part of telling the beef industry’s story?*



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