

Research • Education • Innovation



REI Program Update, January 2010

Research • Education • Innovation



Remarks from Industry Leaders

During a time when countless challenges face the beef industry, research, education and innovation programs assume a critical importance in the overall research, promotion and education efforts extended through The Beef Checkoff. All of us share the common goal of providing a safe, great-tasting and nutritious protein to the nation and the world, while, at the same time, we are confronted with an increasing number of obstacles. Consumers everywhere are questioning where their food is produced, what's in their food, what's not in their food, and, in the case of animal products, how the animals used to produce their food are raised. Some of these growing concerns are driven by inaccurate and sensational attacks from an activist community serving a self-promoting agenda. However, some concerns are legitimately raised by a population seeking to understand the relationship between the food we eat and the health of people, the immediate environment, and the planet.

American cattle producers provide safe, nutritious, and wholesome food to a world where more than one billion people do not have enough food to eat. During the current recession, one in seven Americans are insecure about whether or not they will have enough food for their families. For the well-being of our industry, as well as our continued efforts to feed the world, it is imperative that we provide answers to those who challenge the health and wholesomeness of our product. It is through research and education that we answer these challenges and provide thought leaders, as well as our industry partners, with the scientific evidence acquitting our product.

Coinciding with efforts to address these issues, the Research, Education & Innovation (REI) program tackles the challenge to provide Americans with beef products that meet the needs of an evolving society. From the results of product enhancement research, product innovation efforts and industry partnerships, new beef cuts and convenient beef products have been introduced in the marketplace during the last several years. This is an ongoing initiative as research continues to discover more opportunities to develop products that meet consumer needs. In addition, efforts of the Culinary Services team provides consumers with recipes that satisfy their taste, convenience and nutrition preferences.

The REI program is a holistic, interdependent initiative that integrates the individual disciplines and points towards a singular goal, "to make beef its very best." The Safety and Product Enhancement Research programs provide Producer Education and Beef Quality Assurance with the science-based information that underpins education programs for producers. Based in knowledge, these targeted programs are better able to unite producers around best practices that produce efficiency and profitability for our stakeholders.

At the same time, the Product Enhancement and Nutrition Research programs provide the knowledge to enhance the quality and acceptability of both new product and culinary efforts by the Beef Innovations Group. Together, the Research, Education and Innovation programs provide the foundation supporting all checkoff-funded communication and marketing efforts. Go to pages 8-9 to see the visual diagram that illustrates the complex interdependency of the REI programs and their relationship to marketing and communications.

This year's annual report summarizes some key accomplishments in REI programs during 2009. It is not intended to be a comprehensive review of all of the year's research studies, education efforts and innovation initiatives. However, we believe it is a snapshot illustrating the crucial significance and applicability of REI programs to the countless efforts undertaken, not only through other checkoff programs, but also by our key partners in the industry.

Again, we thank producer-volunteer leadership, state beef councils, researchers, industry partners and staff for their commitment to our programs. Through their united support, we will continue to develop the essential knowledge to protect and expand our industry in service to a global population.

Yours truly,

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Committee Structure

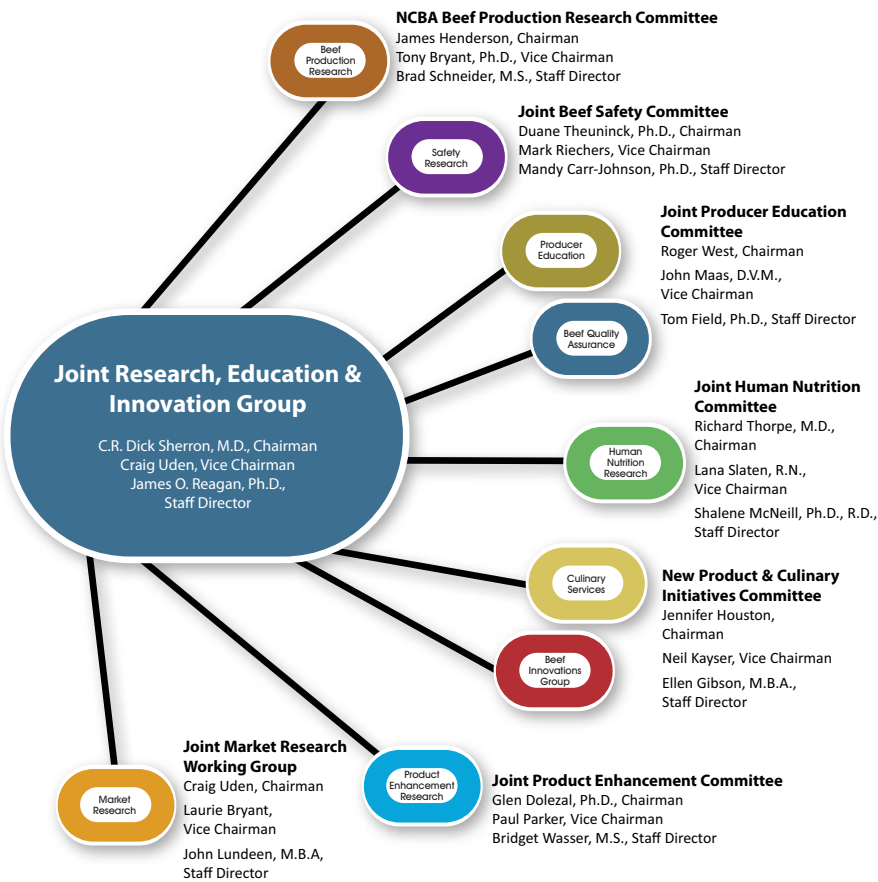
The Research, Education & Innovation Department (REI) is organized to align with the joint committees that make funding recommendations to the Beef Promotion and Operating Committee (BPOC) each year.

The REI committees implement projects on differing funding cycles. For example, because human clinical trials may take up to three years, Human Nutrition Research is funded on a 36-month cycle. In contrast, New Product and Culinary Initiatives and Producer Education projects, including BQA, are funded on 12-month cycles.

Research projects undergo a rigorous screening process involving a nine-step planning and implementation program beginning October 1. The Beef Industry Long Range Plan provides direction while expert panels in all research areas meet to assess research priorities and plans. Producer committees assess recommendations and state beef councils review plans and provide input. At the end of this process, Authorization Requests are presented to the joint research committees at summer conference. The final Authorization Requests are approved by the BPOC at its September meeting.

Once Authorization Requests are approved, Requests for Proposals (RFPs) are sent to a broad range of research scientists to solicit proposals which then go through another round of reviews in regards to potential impact. On average, only 20 percent of proposal dollars submitted each year receive funding. If specific research has been recommended by committees, targeted research may be solicited in lieu of RFPs.

Results from some recently completed projects initiated by the different joint committees are discussed in this report. All of the work was completed during FY 2009 though the projects may have spanned up to a three-year period.



Increasing beef demand is the ultimate goal of all checkoff-funded programs. The Beef Consumer Index, conducted biannually by the Market Research team since 2007, is an assessment of those demand drivers that impact consumer attitudes and behavior about beef relative to other meat proteins. The chart below is a ranking of what matters to consumers and how beef performs against these demand drivers.

Committees across program areas and strategies commit funding towards initiatives that have the potential to directly impact these demand drivers. The following pages in this report describe some of the REI program achievements in efforts “to make beef its very best.” In turn, these results influence consumers’ attitudes and behavior.

Importance		(Top 2 Box)					
Rank*	Consumer Perception	Beef's Performance—At Home					
	Beef is:	Jan-07	May-07	Feb-08	Jul-08	Mar-09	Jul-09
1	Great tasting	85%	82%	84%	85%	84%	87%
2	Extremely safe to eat	55%	60%	50%	57%	54%	63%
3	Good value for the money	60%	54%	62%	62%	62%	67%
4	Delivers good results consistently	n/a	n/a	n/a	73%	68%	75%
5	Feel good about eating	62%	63%	66%	70%	64%	71%
6	Balance of taste and nutrition	57%	65%	65%	71%	68%	73%

* In choosing a main dish for consumption at home

• Rounding out the top 12 most important characteristics are know how to prepare well, always tender, options are quick and easy to prepare, provides energy and fuel, food you crave, and great starting point for meal options.



Beef Production Research

Production-related research funding is not allowed through The Beef Checkoff under the conditions of the current law. As a result, the NCBA Beef Production Research Committee is a policy-only committee, though it centers on research. The committee does not fund research, but rather discusses it and recommends priorities to guide research through academia and the government.

National funding for beef production research is fairly scarce and could further decrease moving forward. This funding scarcity directly impacts all avenues of production research. The NCBA Beef Production Research Committee aims to reduce this impact by setting production research priorities to promote the most efficient use of limited dollars. A total of 22 specific research priorities fall under 5 broad categories.

1. Interactions between Nutrition, Genetics, Reproduction & Carcass Merit

- feeding strategies
- maintenance and feed efficiencies
- forage and range utilization/grazing systems
- genomics
- coordinated/integrated management systems

2. Profitability & Marketing

- age of animal, effects of stress, length of feeding programs, implants, cow condition and performance
- pre-harvest food safety
- unit cost of production
- economic indexes

3. Prevention & Early Detection of Sick Cattle

- foreign animal disease
- injection site lesions
- animal welfare, handling and stress management

4. Environmental Impact

- establishment of baseline data
- ground water, storm water and air quality
- nutrient management and utilization
- wetlands and riparian areas
- threatened, endangered and species of interest
- best management practices

5. Technology Transfer

- beef center of excellence
- management tools to enhance profitability and sustainability

This Committee also passes policy to make a difference. Subsequently approved by NCBA membership, the Committee has proposed multiple resolutions for specific purposes:

- to encourage and improve accessibility to production research information
- to promote increased awareness of the funding shortage for beef production research
- to promote the availability of beef checkoff dollars for production research if the Beef Promotion and Research Act and Order were to be opened during separate discussions to change the current checkoff assessment level
- to collaborate with other agriculture industry sectors to secure funding from USDA-CSREES for beef production research



If the last two quarters of 2008 were volatile, then 2009 can only be described as one of the most chaotic in U.S. history. Uncertainty in consumer spending, financial institutions, export markets coupled with the tsunami of regulatory initiatives brought forth by a new administration has created an even greater informational demand from cattle ranchers and farmers as they strive to cope with these unprecedented times.

Staff focus in 2009 was centered in two basic areas:

- Build and strengthen partnerships
- Identify emerging informational needs

Build and Strengthen Partnerships

Forging a relationship with the staff responsible for the *Cattlemen to Cattlemen* show aired on RFD-TV was a significant objective for 2009. The Producer Education team provided technical consulting relative to content, story development and editing. Our team also provided expertise as participants in *Cattlemen to Cattlemen* programming. These efforts have translated into the evolution of the show into a more educationally oriented venue.

The Producer Education team also invested significant energy in providing support to the dynamic efforts of the Washington, DC team by providing technical expertise, data and information to DC staff. We provided Beef 101 presentations for congressional staffers, as well as served on working groups and task forces. Our primary areas of involvement included animal well-being, environment, animal health and production practices.

The partnership with Pfizer Animal Health in delivering Cattlemen's College to both national and state audiences has a long history of providing cutting-edge information and production solutions. The 2009 Cattlemen's College focused on successful cattle marketing, improved grazing and rangeland management, enhanced animal-handling protocols and value-added strategies. More than 30 states also delivered Cattlemen's College programming appropriate to the unique needs of regional audiences.

In response to member interest in expanding the educational offering of the Annual Cattle Industry Convention and NCBA Trade Show, we entered into a partnership with land-grant universities and agribusinesses to offer the Applied Reproductive Management Strategies in Beef Cattle Workshop in 2010.

Producer Education team members also presented at more than 40-plus conferences sponsored by state affiliates, breed affiliates, national agricultural organizations, scientific societies and veterinary organizations.

Identify Emerging Informational Needs

Planning and forecasting efforts in the past year yielded the following focus areas for future efforts by the Producer Education team:

- Enhancing the quality and value of beef to build overall consumer demand
- Improving the profitability and longevity of beef cattle enterprises
- Building producer awareness and expertise in critical policy arenas such as animal well-being, environmental enhancement, macroeconomic trend analysis, market access and engagement in the political and policy process
- Developing and enhancing business management and organizational leadership skills

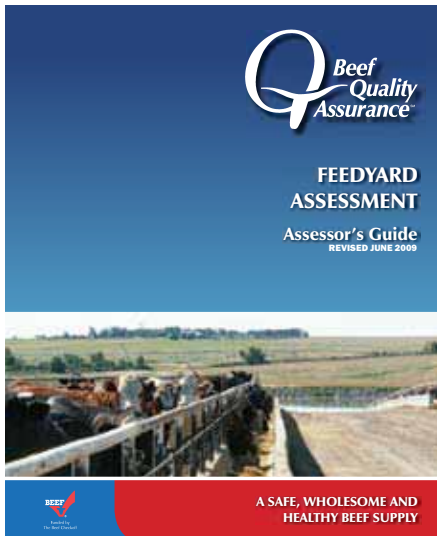
A critical step in being able to deliver high-quality educational experiences and technical information to cattle producers will be the ability of the Producer Education team to create strategies that generate sufficient cash flow to support, sustain and grow program efforts.



The Beef Quality Assurance program is a national program with strong state coordination that provides guidelines for beef cattle production. The program raises consumer confidence through offering proper management techniques and a commitment to quality within every segment of the beef industry. Producers have embraced BQA because it is the right thing to do – but they have also gained through increased profitability. As an educating program, BQA helps producers identify management processes that can be improved.

National BQA Standards for Producer Certification

Illustrating the strength of the national/state BQA partnership, BQA coordinators in almost every state have completed the course work and signed agreements to fulfill their requirements to be a state with ability to nationally certify their producers in BQA. This is an exciting step to better serve our customers and provide our beef producers with the tools they need to compete in the changing consumer-driven marketplace. The BQA program continues to work to enhance its programs and provide proactive innovative solutions for all parties in the beef industry.



The BQA Feedyard Assessment

To further promote total quality management principles at the production level, the Beef Quality Assurance program has created the BQA *Feedyard Assessment* with the help and input of many beef industry partners. The BQA *Feedyard Assessment* is an on-site educational tool for assessing and benchmarking key indicators of animal care and well-being as well as general feedyard conditions. The *Feedyard Assessment* focuses on three main areas – 1) Animals, 2) Records and Standard Operating Procedures (SOPs), and 3) Facilities and Equipment. It can be utilized as a self-assessment or conducted by a third-party assessor. The real key, regardless of who conducts the assessment, is that the assessment be repeated on a periodic basis so that comparisons can be made, trends observed, and management actions taken to maximize animal care and well-being and feedyard efficiency.

Dairy BQA Auction Market Report

Market dairy cows represent an important part of the total beef supply, and according to the most recent U.S. Department of Agriculture (USDA) survey data, over 95 percent of market dairy cows go directly to harvest, and represent about 6 to 8 percent of the beef produced in the United States annually. Recently, researchers in Idaho and California completed a research project, on behalf of The Beef Checkoff, to categorize baseline numbers related to the quality of dairy market cows and bulls being sold in auction markets. The results of this beef checkoff-funded study provide dairy producers with meaningful information to help optimize the value of their market dairy cows and bulls with the ultimate goal of improving the quality and consistency of market animals sourced from dairy operations.



Product enhancement research has historically included the study of beef quality, muscle traits and characterization, muscle tenderness and yield, flavor and palatability, carcass trait genomics and new technologies. This has been achieved through evaluation of the impact of pre- and post-harvest factors on beef product quality. The overall goal of this research is to improve beef quality, consistency, value and demand.

Pre-Harvest Beef Quality Research

Nine checkoff-funded pre-harvest beef quality research projects from FY 2008 were recently completed. These projects covered topics including feeding, novel feedstuffs, growth enhancement technologies, animal health, genomics and animal stress with the goal of determining how these factors impact end-product quality.

One successful pre-harvest project was titled "Using Crude Glycerol as a Pre-Harvest Carcass Influencer to Enhance Marbling and Meat Quality." In two experiments conducted where glycerol inclusion was compared to a no-glycerol control diet, carcass marbling was improved at a 10% dietary glycerol level. Meat color, tenderness and pH were not affected by glycerol consumption and 10% crude glycerol increased the omega-3 to omega-6 ratio.

Post-Harvest Beef Quality Research

Eight checkoff-funded post-harvest beef quality research projects from FY 2008 were recently completed. These projects covered topics including round muscle characterization and utilization, steak size and consumer preference, palatability interventions and instrument grading with the goal of determining how these factors influence eating quality.

One successful post-harvest project was titled "Mapping of Intramuscular and Muscle Fiber Orientation of Muscles in the Beef Round." According to tenderness ratings and muscle fiber orientation, many of the muscles of the beef round can be merchandized as single-muscle steaks or medallions. This information will be used moving forward as checkoff programs develop a value-added strategy for the round.

Knowledge Dissemination

Brief summaries are posted online for each of the FY 2008 checkoff-funded pre- and post-harvest projects referenced above. Readers can review these project summaries for an overview of the outcome of each project.

New technical publications completed

A new checkoff-funded fact sheet titled *Beef Shelf-Life* covers shelf-life expectations for various beef packaging types. Another fact sheet titled *Slice Shear Force* documents a method for evaluating cooked beef tenderness. A new white paper titled *Preserving Beef Quality with Natural Antioxidants* serves as a literature

review of research related to the use of natural antioxidants in beef enhancement solutions. In addition, a new white paper titled *Round Muscle Profiling and Tenderness Markers in Beef* summarizes research on the unique properties and potential uses for round muscles. Moreover, the *Guide to Identifying Meat Cuts* was revamped this year with checkoff funding to include an updated list of beef cut descriptions and photos. This guide is used by retailers and by others to learn more about each cut and how to best prepare it.

Cutout Calculator enhanced

The checkoff-funded online tool called the Beef Cutout Calculator has become a valuable resource for users to determine ideal cutout strategies and predicted yields. The tool was enhanced this year and the changes made have vastly improved the accuracy and usefulness of the system. The Calculator is available online as a featured Web site on the home page of www.beefresearch.org.

Research highlighted in popular press

Articles in *The New York Times*, *The Denver Post* and *BEEF Magazine* this year discussed the benefits of checkoff-funded muscle-profiling research and the new cuts from the beef chuck that were a direct result of this research. This work was also featured in a segment on *NCBA's Cattlemen to Cattlemen* TV show and on Colorado Public Radio's *Morning Edition* and *All Things Considered*.

The dissemination items mentioned are available for download in the Product Enhancement section of www.beefresearch.org, or for purchase through Customer Service at 800-368-3138.



Instrument Grading Becomes a Reality

After three decades of carcass-grading research and data collection, instrument grading finally arrived during 2009. Over the past 10 years, beef producers have devoted more than \$2.5 million in checkoff funds toward instrument-grading research, while packers are investing hundreds of thousands of dollars in the necessary equipment. The resulting benefits are improved consistency and uniformity across plants, and a more true reflection of cattle value.

Beef Safety Research

Conducts pre-harvest and post-harvest safety research to provide tools, technologies and best practices through the Beef Industry Food Safety Council (BIFSCo) for industry-wide implementation to improve the safety of beef.

Product Enhancement Research

Conducts pre-harvest and post-harvest research to develop the technology and best practices that will enhance the beef eating experience for the consumer.

Information disseminated through **Producer Education**, **Beef Quality Assurance**, NCBA's Communications, Foodservice and Retail programs, BIFSCo, **Beef Innovations Group (BIG)**, State Beef Councils, Trade Media, Product Council, Allied Industry Council.



Beef Production Research Committee

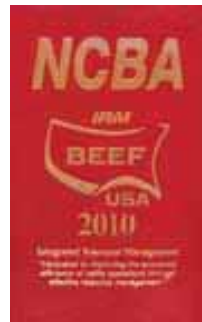
A policy-only committee that discusses and prioritizes research to guide academia and the government.



Producer Education and Beef Quality Assurance

Builds unity among producers around best practices that create efficiency and profitability.

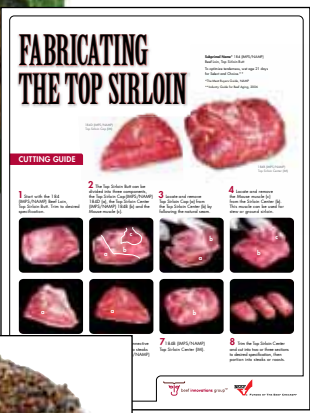
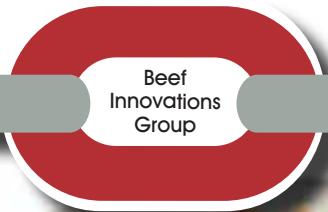
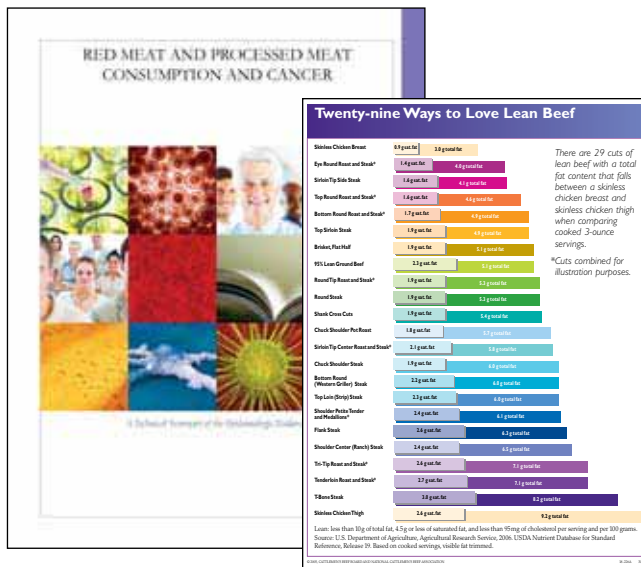
Translates results of **Beef Safety** and **Product Enhancement Research** to transfer knowledge and technology to the cattle producer.



Human Nutrition Research

Provides scientific evidence to demonstrate the nutritional benefits of beef in the human diet.

Disseminates information through nutrition societies, health professional organizations, **BIG, Culinary Services**, NCBA's influencer and nutrition public relations program, retail and foodservice channels, State Beef Councils, Trade Media, Product Council, Allied Industry Council.



Beef Innovations Group

Inspires beef product innovation and facilitates success by bringing insight, ideas, science and tools to industry influencers and stakeholders. Makes use and disseminates knowledge gained through **Product Enhancement Research**, **Human Nutrition Research** and **Culinary Services**.



Culinary Services

Through creative recipes, disseminates knowledge gained by all research programs. Supports product innovation and photography development. Disseminates through all checkoff communications and marketing programs and State Beef Councils.



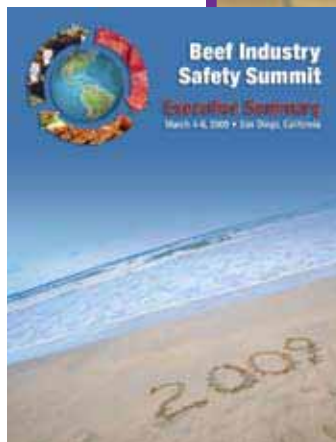
An integrated system from live animal to retail case, focused on producing safe beef products, is the goal of the U.S beef industry. Beef safety research, funded by The Beef Checkoff, has been an essential element in developing the systems in place today. Building on the foundation of knowledge already in place, during 2009 the Beef Safety Research Program managed multiple research projects, dissemination and outreach efforts as well as the activities of the Beef Industry Food Safety Council (BIFSCo).

Significant Research Contributions

Cattle hides were inoculated at slaughter with fluorescent nonpathogenic bacteria as surrogates for *E. coli* O157:H7 and *Salmonella*, to identify the impact of the post-harvest processing environment on pathogen contamination. Cross-contamination did occur from the inoculated hide to the carcass, and to subsequent carcasses, as well as from hides or carcasses to the plant environment, personnel garments and equipment. For all carcasses sampled, the pathogen surrogates were reduced to below detectable levels following the in-plant antimicrobial intervention.

The extent to which exposure to hot water would result in degradation to the outer membrane of *E. coli* O157:H7 and ultimately influence L-lactic acid inhibition of the pathogen was evaluated. Results provide increased validation to use hot water and organic acid interventions applied to beef carcasses to inactivate *E. coli* O157:H7. The enhancement of organic acid efficacy by use of increasing water temperature demonstrates the need for consistent control and validation of intervention parameters to control carcass-contaminating pathogens by processors.

An understanding of intervention application as well as technology needs is essential in developing effective research and knowledge dissemination programs. Therefore, the intent of the third project was to survey establishments that harvest beef, produce non-intact beef products and produce ground beef. The purpose was to determine the types of pathogen interventions being applied, methods used to validate these interventions, frequency of validation, types and frequency of pathogen testing conducted, sampling procedures and protocols for pathogen testing, use and knowledge of Industry Best Practices, as well as to identify key food safety needs or issues. The survey results can be used to support actions being taken in establishments that slaughter, fabricate, produce intact steaks and roasts, marinate/enhance products, needle- or blade-tenderize products, or produce ground beef. The results identify areas where additional information can be developed and educational activities utilized to strengthen existing food safety programs. Overall, the results provide a much better understanding of the current beef safety programs being utilized throughout the industry.



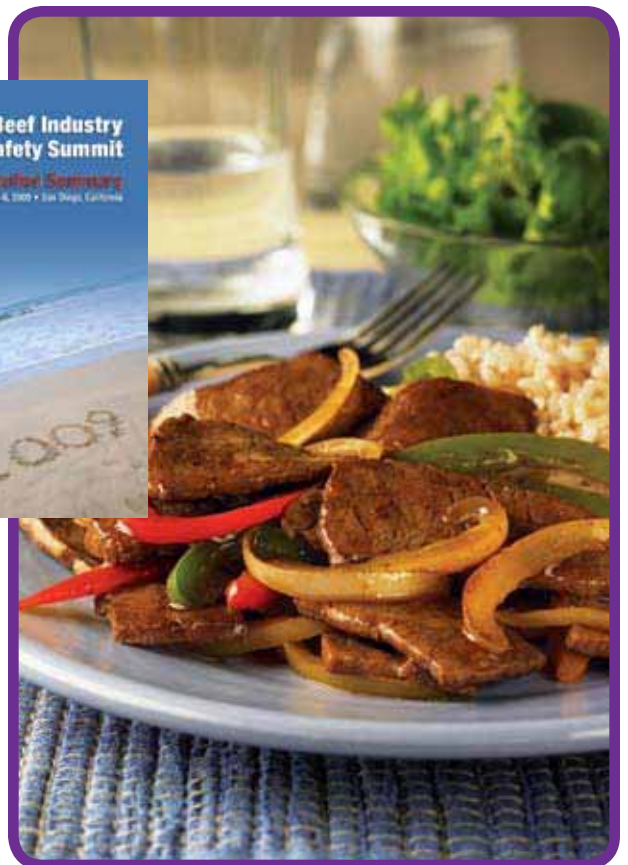
Dissemination and Outreach

Beef Safety Research program initiatives were the focus of multiple checkoff-funded presentations delivered to diverse audiences throughout the year. Audiences represented retail, foodservice, USDA, academia and processors.

BIFSCo Initiatives Diversify and Grow

The Beef Industry Food Safety Council continues to serve as a catalyst to industry collaboration focused on enhancing beef safety systems. During the annual Beef Industry Safety Summit more than 170 participants discussed emerging safety issues, explored solutions to safety challenges and developed industry-wide, science-based strategies to help each sector reduce foodborne pathogen incidence.

Several Best Practice documents have been updated and are available for use at www.bifsc.org. Another valuable resource recently developed is the *Antimicrobial Interventions: Reference Document* which summarizes all information on technologies and interventions available for beef processing companies. This resource can be used to support the use of the technologies as part of a HACCP system as well as a reference document to update the industry on the most recently published information. All documents can be accessed on the redesigned bifsc.org Web site.



Human Nutrition Research, as a foundation for the overall checkoff-funded nutrition programs, provides scientific evidence to demonstrate the nutritional benefits of beef in the human diet. With the upcoming release of the 2010 *Dietary Guidelines for Americans* and the continued emphasis on plant-based, reduced saturated fat diets; checkoff-funded human nutrition research projects provide the scientific support for beef's role in a healthful diet.

Correcting Misperceptions about Beef

In response to mounting attention to the suggested relationship between meat and cancer, NCBA, through The Beef Checkoff, commissioned a team of leading independent scientific experts to examine the totality of the evidence on the subject. After reviewing more than 500 scientific studies, these leading epidemiologists found no evidence that red meat causes cancer. Several manuscripts of these critical findings have been accepted for publication in leading scientific and nutrition journals or are undergoing review.

In addition, over the past year, seven beef checkoff-funded research projects have been successful in demonstrating the benefits of beef's protein in optimal health such as weight management, muscle maintenance, bone health and blood sugar control in diabetics. Results from two of the recently completed research studies have also shown that lean beef intake improves diet quality and nutrient intake, and in the context of a heart-healthy diet, effectively lowers LDL cholesterol (bad cholesterol).

Making the Case for Higher Protein Needs

Nutrition researchers, funded by the Beef Checkoff, conducted fourteen presentations on beef-related research findings within the scientific community, ensuring beneficial beef nutrition knowledge is being publicized. In addition, a recent checkoff-funded meeting brought together lead protein scientists to discuss the need to address the misperception that Americans are over-consuming protein, and leverage the scientific data on the importance of beef's diverse protein benefits in the American diet.

2010 Dietary Guidelines Advisory Committee Update

The nutrition scientists serving on the 2010 Dietary Guidelines Advisory Committee (DGAC) are currently reviewing the published science and developing technical recommendations that will comprise the 2010 *Dietary Guidelines for Americans*. Through the Beef Checkoff, the nutrition research program is participating in this process by preparing scientific evidence to educate and inform the DGAC about the important role beef plays in a healthy diet. To date, nine sets of scientific comments have been submitted explaining the excellent nutrient package beef provides, the leanness of today's beef and the scientific

evidence to demonstrate beef intake is not associated with heart disease. The scientific comments have also clarified beef's contribution to the total saturated fat in the American diet and beef's sustainability/environmental impact. To review public comments submitted to the committee, visit www.dietaryguidelines.gov.

USDA Nutrient Database Improvement

The USDA National Nutrient Database for Standard Reference (SR) is the authoritative source for nutrient data and provides the nutrition information for nutrition labels, research, and diet assessment. The SR contains the nutrient profiles of thousands of foods including over 500 beef cuts. Previous checkoff-funded research found nutrient data for many cuts are outdated and do not represent the beef currently available in the retail case. Therefore, the checkoff-funded Nutrient Database Initiative (NDI) was established to generate the most accurate beef nutrient composition data for publication in the SR. In the past year, NDI is responsible for evaluation of Vitamin D in beef and incorporation of this data into the most current release of the SR. Additionally, this initiative has led to the first release of the USDA Nutrient Data Set for Retail Beef Cuts, which is a user-friendly tool developed to aid retailers in incorporating nutrition labels on fresh beef. Within the next year, new or updated nutrient composition data for 14 beef retail cuts will be published in SR. Access to Release 22 of the USDA National Nutrient Database for Standard Reference can be found at www.ars.usda.gov.

The Nutrient-Rich Foods Index

The Beef Checkoff is a founding member of the Nutrient Rich Foods Coalition, which is a partnership that brings together leading scientific researchers, health professionals, communications experts and commodity organizations to answer the 2005 *Dietary Guidelines for Americans* Committee's call to action to develop a scientifically valid, consumer-relevant definition of nutrient density. The research, conducted by the Coalition and funded in part by the Beef Checkoff, established and validated the Nutrient-Rich Foods Index, a total diet system that encourages consumers to include nutrient-rich beef into their healthful eating plans. A study in the August edition of the *Journal of Nutrition* outlines the scientific approach taken to develop the Index and can be viewed at www.beefresearch.org.



During FY 2009, the Market Research team completed 40 projects providing direction for the nutrition, safety, and product strategy teams and strategic support for issues management. Market Research also produced seven project snapshots, available on www.beefresearch.org, providing an overview of consumer attitudes and preferences regarding specific beef industry topics.

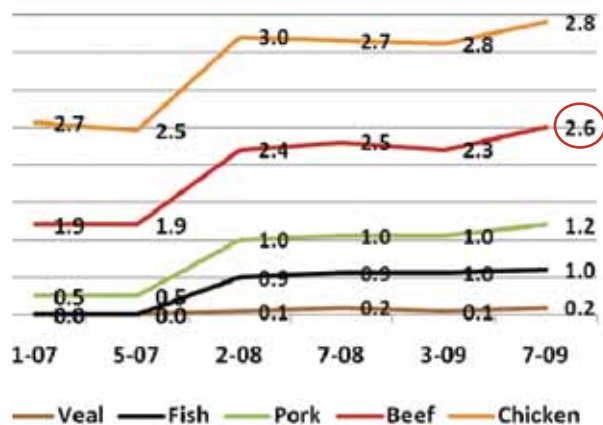
Significant checkoff-funded projects completed by the Market Research team in FY 2009 include the ongoing update of the Consumer Beef Index, support for the Beef Innovation Group's round initiative, and a consumer survey to determine the popularity of beef on the grill.

Consumer Beef Index

The Consumer Beef Index is a biannual study launched in 2007 to track consumer attitudes against an evolving list of demand drivers. This survey helps all of the operational teams to more quickly adapt communication strategies to shifts in consumer perceptions about beef. The July 2009 Index showed promising upswings in various consumer perception measures including scores for taste, balance of taste and nutrition, value for the money and safe-to-eat. Not only is beef showing improved performance against these measures, but these measures are also increasing in importance to the consumer. See page 3 of this report to compare the July 2009 scores with previous waves of the Index.

The average number of weekly servings showed positive trends in this wave of the Index versus the early spring wave which witnessed some softness in beef usage.

Average Number of Weekly Servings



Changes in Beef Consumption

The July 2009 wave of the Index asked participants to describe how the recent recession is affecting their purchases of beef at supermarkets and at restaurants. Between 10 percent and 25 percent of consumers are trading down on beef purchases both at home and at restaurants. In part, this explains the weakness in high-end steak pricing. Though consumers are eating beef as often as they were before the recession, they are economizing on their beef purchases. For example,

- 24 percent are purchasing fewer steak meals and more hamburgers when eating out
- 20 percent are buying less expensive cuts than previously for home use
- 17 percent are buying less steak and more ground beef than previously for home use
- 10 percent are buying the same cuts of beef but serving smaller portions at home

Popularity of Beef on the Grill

Though consumers may have changed their food purchasing behaviors, an independent, national survey conducted in May 2009 found that three out of four (74%) U.S. beef lovers said their families planned to cook out more on the grill in the summer of 2009 than in previous years. And, despite the recession, nearly half (47%) of these consumers said there were certain foods they would not give up regardless of price. Of this 47 percent, 64 percent said they would not give up beef in their backyard barbecue.

American consumers are interested in creative cooking. When asked what kind of information would help them with grilling, 64 percent mentioned creative ways to use the grill to prepare food, followed by new recipes (59%) and ideas about new foods to grill (56%).

The Round Initiative

To both determine and increase interest in the new round cuts being developed by the Beef Innovations Group (BIG), research was conducted in Texas, Denver, Minneapolis and Atlanta to identify the most popular cut names, determine the sensory reaction of foodservice chefs and consumers to the new cuts, and assess responses from a trained taste panel. Further work was conducted to finalize name choices. The chefs evaluated the new products for appearance, aroma, taste, tenderness, texture, mouthfeel and menuability. The consumer sensory panel employed 50-plus consumers to test ten cuts, eight new cuts from the round and two controls, the Petite Tender and Skirt Steak. The steaks were evaluated for flavor, dryness, tenderness and overall liking. The trained sensory panel assessed two of the cuts, the Gastrocnemius and the Pectineus, against controls for meat and flavor attributes.



The Beef Innovations Group inspires beef product innovation and facilitates success by bringing information, insight, ideas, science and tools to industry influencers and stakeholders. During FY 2009, the Beef Innovations Group (BIG) and the Beef Demonstration Center (BDC) achieved exceptional results for the beef industry.

New Beef Convenience Products

As a result of checkoff work, new products are currently in distribution – Philly Steak Eggrolls and Marinade on Demand. The steak eggrolls are selling in HEB stores in Texas and the Marinade on Demand (distributed by Schwan's) has sold over 500,000 units with a retail value of \$5 million.

New Product Development Work on the Round

Two new cuts from the round have been developed (Merlot and Braison cuts) and new applications/cutting methods with customer potential have been developed for two existing round cuts (Western Griller and Western Tip).

New Industry Partnerships

During this fiscal year, the BIG program, through the checkoff, developed three new partnerships (Amy Foods, AyrKing, and Rastelli Foods) and strengthened four others, resulting in new products being launched by Schwan's, Chicago Meat Authority, Cryovac, and American Foods Group.

Product Commercialization of the Chuck Roll and Round

Twenty-five on-site chuck roll presentations to industry stakeholders were completed this year. The BIG team is currently aware of new chuck roll cuts being processed by six packers/processors; there most likely are others. In addition, fifteen industry (retail, foodservice and packer/processor) presentations on the round have been conducted to share information and receive feedback on technical work.

Sharing Knowledge and Information

The BIG team members led and/or participated in 116 industry meetings. The BIG Web site, www.beefinnovationsgroup.com increased file downloads by 13% and unique visitors and hits by 5% compared to the previous year. New cutting guides showing how to add more value to the Top Sirloin and Ribeye have been added. A chuck roll cutting video, Sierra Cut and alternative Denver Cut marketing, and culinary materials were also added this year. The BIG e-newsletter, which is published three times a year, was distributed to over 300 industry contacts (a 25% increase over FY 2008).

Beef Demonstration Center (BDC)

In a total of 87 meetings, the BDC presented 15 new beef recipes developed by the culinary services team to over 3,324 people this fiscal year.

New Beef Product Development

The New Products Team within BIG has a goal of introducing 20 value-added products into the marketplace by year-end 2010. With the introduction of the five chuck roll cuts, eight expected new round cuts (four in 2009 and four in 2010) and seven new convenience items (two in 2009 and five in 2010), we will achieve this goal. The checkoff-funded new product work in 2009 influenced an additional twelve new product launches by industry during 2009.

The new chuck roll cuts, like the shoulder clod cuts, are adding value to the beef industry every day. CattleFax data indicate these cuts represent an additional \$1.4 billion for industry each year. In the future, when the new round cuts are selling in the market, the industry can expect an additional \$.5 billion dollars as a return on the checkoff investment (source: Cattle Fax).

As more new products enter the marketplace, convenience items will make their mark for beef. More manufacturers will look to beef for new products because the checkoff innovation process proves that beef is an excellent investment providing value to consumers that other proteins cannot match.



Working on New Products

The Culinary Services team enjoyed a busy year in FY 2009 completing the applied cookery work with the chuck roll. Between 250 and 300 tests were necessary to realize this objective. Recipes were developed for Denver Cut, Country-Style Ribs, America's Beef Roast, Delmonico Steak and the Sierra Cut. The team also managed the photography production, which will add the sizzle to the chuck roll marketing program.

It was exciting to witness how the consumer media embraced the chuck roll. The Denver Cut was sampled at the International Association of Culinary Professionals annual meeting and at the consumer media symposium during the National Beef Cook-off. Country-Style Ribs were also sampled at the symposium. This acceptance can be attributed to the effort exerted by the team during the launch of the shoulder clod. The industry's appreciation of the checkoff new product programs leads to media buy-in.

Also during FY 2009, the team began exploring the new round cuts. Of particular interest is the digital flexor, which has huge potential in the independent sector of the foodservice industry.

Working with Other Checkoff-Funded Programs

In addition to work with the New Product team, Culinary Services has developed recipes for Retail, Food Communications, Veal, Advertising, Foodservice, Nutrition and the State Beef Councils. In total, the team developed between 65 and 70 new recipes, which equates to over 300 tests this fiscal year.

When not working in the kitchen, the team is busy attending conferences and trade shows in either a lead or support role. In total, Culinary Services participated in over 65 meetings, promoting, presenting and serving beef to thousands of food influencers.

Support to States, Other Organizations and Industry

Culinary Services' support to state beef councils continued with a passion in FY 2009. The team supported 13 major state events, collaborated with the Texas Beef Council to develop recipes for the Hispanic Web Site www.lecarnederes.com, and provided daily support by answering questions and supplying recipes and photographs.

The team continues to support checkoff industry partners such as USMEF and ANCW. As FY 2009 was an "on-year" for the National Beef Cook-off, the entire Culinary Services team lent a helping hand in ensuring the success of this event. (See winning recipe below.)

Leveraging Media Dollars

Culinary Services had a great year promoting beef through the media at little or no cost. Information was distributed through articles in major newspapers and trade publications as well as broadcasts on radio and TV. The team produced "how-to" videos for the Beef it's What's for Dinner Web site to engage consumers in cooking more beef.



Sonoma Steaks with Vegetables Bocconcini

Total Recipe Time: 30 minutes

Marinade Time: 15 minutes to 2 hours

- 2 boneless beef top loin (strip) steaks, cut 3/4 inch thick (about 8 ounces each)
- 1 container (9 to 16 ounces) herb-marinated small fresh mozzarella balls (bocconcini)
- 3 tablespoons balsamic vinegar
- 1 medium zucchini, cut diagonally into 1/4-inch thick slices
- 1 large yellow bell pepper, cut into 3/4-inch wide strips
- 1 cup small red grape tomatoes

1. Drain bocconcini, reserving and combining 1/3 cup marinade and vinegar in small bowl; toss zucchini and bell pepper with 2 tablespoons marinade mixture, refrigerating until ready to use. Place beef steaks and remaining marinade mixture in food-safe plastic bag,

closing bag securely; marinate in refrigerator 15 minutes to 2 hours.

2. Remove steaks and vegetables from marinade, discarding marinade. Place steaks on one half of grid over medium, ash-covered coals; place vegetables in grill basket on other half of grid. Grill steaks, uncovered, 10 to 12 minutes (over medium heat on preheated gas grill, covered, 7 to 10 minutes) for medium rare (145°F) to medium (160°F) doneness, turning occasionally. Grill vegetables 10 to 13 minutes or until crisp-tender, stirring occasionally, adding tomatoes during last 2 minutes of grilling.
3. Combine grilled vegetables and bocconcini in large bowl, tossing gently to combine, and carve steaks into slices, seasoning with salt, as desired. Serve beef with vegetable mixture.

Makes 4 servings.



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Beef Quality Assurance
www.bqa.org



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