

R&KM Quarterly Research Update

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2008 CATTLE INDUSTRY ANNUAL CONVENTION & TRADE SHOW

The 2007 Cattle Industry Annual Convention & Trade Show is just around the corner — February 6-9, 2008 in Reno, NV. Please make your plans now to attend Research & Knowledge Management committee meetings on Friday, February 8th. Meeting information and registration forms can be found online at www.beefusa.org.

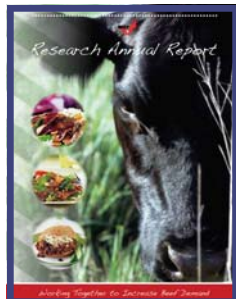
ISSUES FORUM

Beef Quality: Driving Consumer Demand – On Thursday, February 7th, there will be an Issues Forum session at Annual Convention on the importance of beef quality and palatability in the demand picture. Beef quality is a multi-faceted demand driver that is impacted at every level of production, processing and preparation. Join your peers to hear how quality plays a role in beef demand and what technologies are being used to impact and measure this important trait in beef. Learn more about the latest technologies that measure beef tenderness and quality, as well as those being used to enhance lean muscle growth.

NUTRITION RESEARCH ROUNDTABLE

Please join us in Reno at 12:30 pm on Thursday, February 7, to hear leading researchers in the scientific and medical community, along with beef industry leaders, share science, explore needs and discover opportunities for future beef industry nutrition research.

NEW MATERIALS RELEASED IN RENO



Multiple new checkoff-funded materials will be introduced and distributed at Annual Convention in Reno. These include the brand new research annual report titled *Working Together to Increase Beef Demand*, a colorful booklet highlighting ongoing research program activities and a CD showcasing important R&KM publications and current project descriptions. Also rolled out at Convention will be new product enhancement executive summaries covering *Dry Aging of Beef* and *Post-Harvest Practices for Enhancing Beef Tenderness*, as well as 5 new product enhancement fact sheets and the latest *Beef Industry Safety Summit* executive summary. Look for these great new materials in Reno.

RESEARCH PLANNING MEETINGS FOR PRODUCT ENHANCEMENT AND BEEF SAFETY PROGRAMS

As the checkoff-funded research program initiates projects and educational programs for the 2008 fiscal year, they also begin the planning process for 2009. Recently, the Product Enhancement and Safety Research programs convened meetings to scan the industry and assess the implementation of recent results. Participants at the Product Enhancement meeting discussed future information needs to enhance the value proposition of beef in the marketplace while those at the Safety Research meeting discussed information needs to maintain and enhance beef safety. Representatives from all points in the beef supply chain were present to provide an assessment of their industry sector including production, processing, retail, foodservice and international markets.

As the Research & Knowledge Management programs strive to address their goal of “building demand and optimizing the business climate for beef through research and dissemination programs which serve as the foundation for sustaining beef industry success,” these planning meetings play an important role in providing committees with critical information as they plan for the 2009 fiscal year at this Annual Convention.

BEEF SAFETY RESEARCH

Cooperating for Food Safety Symposium Report

On October 31, 2007, a diverse group of food industry executives and consumer food safety advocates came together for a symposium to discuss not only the progress made to ensure the safety of the food supply, but also the need for a continued dedicated effort to improve food safety. James “Bo” Reagan, Vice President of Research & Knowledge Management and the Chairman of the Beef Industry Food Safety Council (BIFSCo), was an invited speaker to the symposium to discuss the beef industry’s past, current and future efforts to improve safety. The industry Best Practice documents produced through BIFSCo garnered great support. The invitation for future cooperative efforts in consumer education was well received by industry and consumer food safety advocate groups alike. Future discussions are planned in early 2008.



For more information contact:



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Public Meeting on non-O157 E. coli

The public health significance of non-O157 shiga toxin-producing *Escherichia coli* (STEC) was the topic discussed at a meeting co-sponsored by the U.S. Department of Agriculture's Food Safety and Inspection Service, the Food and Drug Administration's Center for Food Safety and Applied Nutrition, and the Centers for Disease Control and Prevention. USDA officials expressed an interest in gathering information concerning detection methods, prevalence of the organisms and public health concerns. This forum was designed to collect information on these pathogens in a proactive manner.

Industry data collected through projects funded by The Beef Checkoff demonstrate that while non-O157 STEC do occur in cattle and beef, the occurrence of serotypes most commonly linked to human illness is rare. Research also shows that interventions currently in place within processing facilities are effective against non-O157 STECS.

BIFSCo Update

Planning continues for the 2008 Beef Industry Safety Summit which is scheduled for March 5-7 in Dallas, TX. The program will include research presentations that will shed new light on pathogen prevalence throughout the beef chain and give attendees new information to utilize as they discuss ways to enhance industry safety programs. Attendees will also have the opportunity to discuss emerging safety threats and develop programs to address these threats so that public health is not threatened. Work is also underway to develop a training video to demonstrate N60 trim sampling. Footage was shot at a processing plant recently and that video footage will be put into final format for use in the training video.



2008 Request for Proposals Update

The Request for Proposals (RFP) to address the 2008 safety research priorities outlined by the Joint Industry Beef Safety Committee closed December 3, 2007. A total of 59 projects were submitted for consideration. The proposals are currently under technical review by an expert panel. A summary will be presented to the Joint Industry Beef Safety Committee at the 2008 Cattle Industry Annual Convention & Trade Show held in Reno, NV, February 6-9, 2008.

PRODUCT ENHANCEMENT RESEARCH

Summer Conference Preview

The Joint Product Enhancement Research Committee will meet in Reno on February 8th to work their way through a full agenda. The meeting will include a presentation of the FY 2009 research priority recommendations from the recent industry planning meeting, as well as multiple research updates. The agenda makes room for updates on instrumentation and grading/market claims from the USDA Agricultural Marketing Service and an update on USDA Agricultural Research Station activities.

Instrumentation Planning Meeting #3 a Success

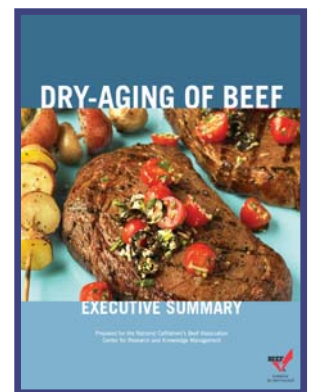
The ability to assess beef yield and quality consistency is something that the beef industry has been striving to accomplish for several years. The checkoff has invested in vision technologies that can predict carcass yield, quality and tenderness and plans to continue that investment through to application. The National Beef Industry Assessment Plan III planning meeting was held in Denver on August 21 and 22. This meeting brought together industry representatives from all industry sectors to develop research and implementation strategies for beef instrumentation technologies over the next five years. A meeting summary highlighting these discussions is under review and will be released shortly for posting on www.beefresearch.org.

Get Your Facts Here

Five new fact sheets extend checkoff-funded product enhancement research findings and provide critical information about beef packaging, marination and enhancement, cooked beef color changes, ranking beef muscles for tenderness, and enzymes that improve beef tenderness. Visit <http://www.beefresearch.org/FactSheets.aspx> to view these and other checkoff-funded fact sheets.

Dry Aging Summary Available Online

Aging is perhaps the best tool the beef industry has for controlling tenderness post-harvest. There are two forms of beef aging – traditional wet aging that occurs within a vacuum bag and non-traditional dry aging that occurs outside of a vacuum bag. The checkoff-funded *Industry Guide to Beef Aging* was released last year to provide users with optimum wet aging parameters for 17 beef muscles according to USDA grade classification. This year, the checkoff was able to complete a companion dry aging guide that explains some of the art behind the science of this process for those interested in differentiating the beef they sell. View this summary online now at <http://www.beefresearch.org/executivesummaries.aspx> and look for a copy in Reno.



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At the Printer— Post-Harvest Practices for Enhancing Beef Tenderness



Tenderness is a primary determinant of eating satisfaction among U.S. beef consumers, equal to that of flavor. A new checkoff-funded publication titled *Pre-Harvest Practices for Enhancing Beef Tenderness* lists and describes 15 potential post-harvest practices for maximizing beef tenderness. Visit <http://www.beefresearch.org/executivesummaries.aspx> to

view these and other checkoff-funded executive summaries online and look for a copy in Reno.

2008 Request for Proposals Update

The Request for Proposals (RFP) to address the 2008 product enhancement research priorities outlined by the Joint Product Enhancement Committee was issued in October with proposals received on December 3, 2007. A total of 42 projects were submitted for consideration. These proposals are currently under technical review by an expert industry panel. An update will be presented to the Joint Product Enhancement Committee on Friday, February 8th and their annual meeting in Reno, NV.

HUMAN NUTRITION RESEARCH

Nutrient Rich Foods Index

Nutrient density is a long-standing dietary principle and is a cornerstone of the 2005 Dietary Guidelines for Americans and *MyPyramid*. In 2005, the Dietary Guidelines Advisory Committee (DGAC), after a comprehensive review of the current literature on diet and health, called for more research in developing a scientifically valid definition for nutrient density that could be useful on the food label and in determining what criteria are necessary for foods to meet this definition. The Beef Checkoff has played a significant role in addressing the DGAC's call-to-action on nutrient density as part of the Nutrient Rich Foods Coalition, a partnership that brings together leading scientific researchers, communications experts and agricultural commodities.

Beef Checkoff-funded research developed the Nutrient Rich Foods (NRF) Index, which has been validated against other measures of a healthy diet. The NRF Index is a useful way of focusing consumer attention on the total nutritional package of a food. Beef products score high on the NRF Index given the number of nutrients it contains. The next phase of this research will determine how to apply and use the NRF Index with consumers.

Cancer Update

Understanding relationships between diet and chronic disease is challenging. Because of the multitudes of causes and risk factors associated with cancer, the task becomes even more complex for this disease. Therefore, recently a team of expert epidemiologists conducted a research *Assessment of Red Meat and Cancer Risk* on behalf of the Beef Checkoff to provide a comprehensive, objective summary and evaluation.

The independent scientific review of existing epidemiological research found no conclusive evidence of a causal relationship between red meat and any of the cancers studied (breast, prostate, kidney, pancreatic, stomach and colorectal). Collectively, most exposure-disease associations (total meat, red meat, processed meat, animal fat, animal protein, cooking methods, doneness of meat, heterocyclic amines, nitrosamines, polycyclic aromatic hydrocarbons, dietary patterns and genetics) that were evaluated in the *Assessment of Red Meat and Cancer Risk* report did not appear to play an important role in the development for any of the types of cancer. However, of these 72 relationships assessed, there were a couple patterns of weak associations that require further research. The patterns of associations were between red and processed meat and colorectal cancer in men, and processed meat and stomach cancer. The assessment concluded these associations were weak, inconsistent and most were not statistically significant. Therefore, *Assessment of Red Meat and Cancer Risk* concluded that further research is needed because of the inconsistencies and limitations in interpreting the data.

Diet as it relates to chronic diseases like cancer is an ever-expanding area of research. Discoveries of new methods, such as efficient ways of genotyping large populations, and refinements of existing methods, such as determining diet using visual stimuli and biomarkers, will continue to enhance current approaches to studying diet and cancer. Thus, future publication of additional studies should facilitate a more complete interpretation of the relationship between diet and cancer. It is important to continually monitor and update the collection of studies and to re-evaluate whether the patterns of associations are modified or if they remain unchanged by additional research. Understanding of potential casual associations will become clearer as research becomes more sophisticated.

MARKET RESEARCH

National Meat Case Study Informs Retailers

The National Meat Case Study (last conducted in 2004) was recently completed, with funding provided by both the The Beef Checkoff and the National Pork Producers Council. Nationally, it looked at more than 123,000 packages in 121 retail stores in 48 key metro markets across 34 states, with data provided on case allocation, type of claims being made, branding, and the status of nutritional labeling. The study gives us a valuable look at how beef

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is being merchandised versus other proteins in the meat case. Some interesting trends identified in the study include:

- The percentage of whole muscle beef packages with on-pack nutrition labels increased 50% (from 16% to 24%) from 2004 to 2007.
- Both whole muscle beef and ground beef saw a significant increase in the number of packages that were store-branded (a brand developed by the store chain):
 - ◇ from 15% in 2004 to 31% in 2007 for whole-muscle beef
 - ◇ from 7% in 2004 to 21% in 2007 for ground beef.

Study findings also help retailers evaluate new trends and compare their meat case to the national averages.

To read more about the evolving trends in the meat case, go to [Today's Retail Meat Case](#).



Consumption Patterns for In-Home Beef

For almost 20 years, The Beef Checkoff has tracked in-home beef consumption trends in order to better understand the beef-eating patterns of Americans. This research is valuable to our industry partners but also serves as important learnings supporting checkoff-funded messages and programs. Key findings from the 2007 report include:

- In-home per capita beef consumption increased 6% since 2004 (71.3 annual in-home fresh beef eatings per capita vs. 67.5 in 2004) driven by:
 - Increased number of users as opposed to more frequent use by users
 - Increased consumption at the dinner meal.
- More than 80% of individuals consume fresh beef in-home an average of 1.7 times per week.
 - More than 80% of fresh beef eaten at home is at dinner. In-home lunch accounts for 14% of eatings (individual servings).
- Families over-index for beef consumption.
 - Individuals in any household with kids consume 12.4 more eatings of beef on average annually.
 - Low/mid income traditional families consume 25% of all beef eatings.

RESEARCH ANNUAL REPORT

The past 10 years of checkoff-funded research, as well as results from several 2005 studies, are highlighted in the current research annual report, *Creating Opportunity with Knowledge*, produced by the NCBA Center for Research & Knowledge Management. A new report, *Working Together to Increase Beef Demand*, will be released in Reno and covers the most recent research results from areas of Beef Safety, Product Enhancement, Human Nutrition and Market Research. For a copy, visit www.beefresearch.org or call 303-694-0305.

- Nearly 60% of in-home per capita beef eatings are ground beef.
- Beef consumption as measured by eatings has been on a recent upswing for 6- to 12-year olds and teen boys.
 - Chicken consumption continues to increase among children of all ages.

UPCOMING MEETINGS & EVENTS

January 15, 2008
International Livestock Congress-USA
Denver, CO

February 6-9, 2008
2008 Cattle Industry Annual Convention & Trade Show
Reno, NV

Human Nutrition Research Roundtable

Thursday, February 7, 12:30-6:00 pm

Joint Market Research Working Group Lunch Meeting

Thursday, February 7, 1:00-3:00 pm

Joint Beef Safety Committee

Friday, February 8, 11:30 am-3:30 pm

Joint Human Nutrition Research Committee

Friday, February 8, 11:30 am-3:30 pm

Joint Product Enhancement Committee

Friday, February 8, 11:30 am-4:00 pm

March 5-7, 2008
2008 Beef Industry Safety Summit
Dallas, TX

March 26-29, 2008
NCBA Spring Legislative Conference
Washington D.C.

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BEEF PRODUCTION RESEARCH COMMITTEE

Summer Conference Preview

The NCBA Beef Production Research Committee Annual Convention meeting will be held Friday, February 8th in Reno, NV. Meeting attendees are promised presentations on the use of growth enhancement technologies and on natural beef production. Attendees will also hear updates on the 2007 Farm Bill Research Title and a new risk analysis tool on www.beefbasis.com. Join the committee to hear important information on these topics and help foster the future of beef production research.

~not funded by The Beef Checkoff

EVER WONDER WHY?

What is the origin of the barbecue?

The word "barbecue" comes from the Spanish word *barbacoa*, meaning "frame of sticks." The Spanish used this word to describe the Haitian Indians' method of grilling and smoking their meat outdoors on wooden racks over open fires. Settlers of the Spanish Southwest took up barbecuing on ranches in Texas, New Mexico, Arizona, and California. It was the Spaniards who introduced zesty sauces of tomato and chili pepper to barbecuing that are prevalent today.

Source: Why Does Popcorn Pop?, by Don Voorhees. Published by MJF Books, Copyright © 1995.

Committee Leader Profile -



Barry Dunn, Ph.D.

Barry Dunn, Ph.D., is Chairman of the NCBA Beef Production Research Committee. Barry's family began ranching and raising cattle in South Dakota in the 1880's. Educated at South Dakota State University, Barry received his B.S. in 1975 and a M.S. in Animal Science in 1977. After two years managing a cow-calf research herd for NDSU at the Carrington Research and Extension Center, Barry returned to manage his family's ranch near Mission, South Dakota. Barry returned to academia in 1997 and received his Ph.D. in Animal Science in 2000. His dissertation focused on the profitability of the cow-calf enterprise. Barry was the Range Livestock Production Specialist at SDSU for 4 years. He is currently the Executive Director and Endowed Chair of the King Ranch Institute for Ranch Management at Texas A&M University-Kingsville.

All Research & Knowledge Management dissemination materials are available on the Web at www.beefresearch.org and will soon be available on a Research & Knowledge Management CD to be released at Annual Convention in Reno.

This issue of Quarterly Research Update is also available on the Web at www.beefresearch.org.

For more information, contact:
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