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# **Published Research Findings**

**Beef Safety Research  
Product Enhancement  
Research  
Nutrition Research**

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**RESEARCH ANNUAL REPORT**  
**PEER-REVIEWED BEEF SAFETY RESEARCH PUBLICATIONS**

Anderson, R.C., N. Ramlachan, H. Gutierrez-Banuelos, G. Carstens, W. Majak, R. McDiarmid, T. Callaway, R. Harvey, S. Horrocks, T. Edrington, D. Nisbet. Gastrointestinal Metabolism and Plasma Concentrations of the Methane-Inhibitor, Nitroethane, in Fed Steers. <i>J. Animal. Sci.</i> 84 (Suppl. 1): 128; 2006.
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Brashears, M.M., G.H. Loneragan, S. Dahl. Controlling Microbial Contamination on the Farm: An Overview. <i>Raw Material Safety</i> . 2006 (in progress).
Brashears, M.M., A. Amezquita, D. Jaroni. Lactic Acid Bacteria and their Uses in Animal Feeding to Improve Food Safety. <i>Food and Nutrition Reviews</i> . 2006 (in progress).
Callaway, T.R., T.S. Edrington, A.D. Brabban, J.E. Keen, R.C. Anderson, M.L. Rossman, M. Engler, K.J. Genovese, B.L. Gwartney, J.O. Reagan, T.L. Poole, R.B. Harvey, E.M. Kutter, D.J. Nisbet. Fecal Prevalence of anti- <i>Escherichia coli</i> O157:H7 Bacteriophage in Feedlot Cattle in the Southern Plains Region of the United States. <i>Foodborne Path. Dis.</i> 3: (Accepted May 17, 2006).
Callaway, T.R., T.S. Edrington, A.D. Brabban, E.S. Kutter, R.C. Anderson, D.J. Nisbet. Isolation and Use of Bacteriophage to Reduce <i>E. coli</i> O157:H7 Populations in Ruminants. <i>Procs. Inter. Conf. Persp. Bacteriophage PreP. T'Bilisi, Rep.of Georgia.</i> 72-83; 2005.
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Cardone, F., P. Brown, R. Meyer, M. Pocchiari. Inactivation of Transmissible Spongiform Encephalopathy Agents in Food Products by Ultra High Pressure-Temperature Treatment. <i>Biochimica et Biophysica Acta - Proteins and Proteomics</i> , 1764: 558-562; 2006.
Childs, K.D., C.A. Simpson, W. Warren-Serna, G. Bellinger, B. Centrella, R. A. Bowling, J. Ruby, J. Stefanek, D.J. Vote, T. Choat, J.A. Scanga, J.N. Sofos, G.C. Smith, K.E. Belk. Molecular Characterization of <i>Escherichia coli</i> O157:H7 Hide Contamination Routes: Feedlot to Harvest. <i>J. Food Prot.</i> 69:1240-1247; 2006.
Davis, M.A., D.H. Rice, H. Sheng, D.D. Hancock, T.E. Besser, R. Cobbold, C.J. Hovde. Comparison of Rectoanal Junction Mucosal Swab and Fecal Culture for Detection of <i>Escherichia coli</i> O157:H7 in Dairy Heifers. <i>Appl. Environ. Microbiol.</i> 72:3766-3770. 2006.
Elam, N.A., J.F. Gleghorn, J.D. Rivera, M.L. Galyean, P.J. Defoor, M.M. Brashears, S.M. Younts-Dahl. Effects of Live Cultures of <i>Lactobacillus acidophilus</i> (Strains NP45 and NP51) and <i>Propionibacterium freudenreichii</i> on Performance, Carcass and Intestinal Characteristics, and <i>Escherichia coli</i> O157:H7 Shedding of Finishing Beef Steers. <i>J Anim Sci.</i> 81:2686-2698.
Gutierrez-Banuelos, H., L.J. Slay, G.E. Carstens, N. Ramlachan, S. Horrocks, T.R. Callaway, T.S. Edrington, R.C. Anderson, D.J. Nisbet. Effects of Nitroethane on Methane Production and Fermentation Balance in Fed Steers. <i>J. Anim. Sci.</i> 84 (Suppl. 1):239; 2006.
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Heller, C., J. Scanga, J.N. Sofos, K.E. Belk, W. Warren-Serna, G. Bellinger, R.T. Bacon, M. Rossman, G.C. Smith. Decontamination of Beef Subprimal Cuts Intended for Blade-Tenderization or Moisture-Enhancement. <i>J. Food Protection</i> . 2006 (in press).
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**RESEARCH ANNUAL REPORT**  
**PEER-REVIEWED BEEF SAFETY RESEARCH PUBLICATIONS**

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McCuddin, Z.P., S.A. Carlson, M.A. Rasmussen, S.K. Franklin. Klebsiella to Salmonella Gene Transfer within Rumen Protozoa: Implications for Antibiotic Resistance and Rumen Defaunation. Vet. Microbiol. 114:275; 2006.
Pedersen, J.A., C.J. Johnson, X. Ma, P.T. Schramm, D. McKenzie, J.M. Aiken. Potential Role of Soil in the Transmission of Prion Diseases. Abstracts Papers Amer. Chem. Soc., 232, 76-GEOC, Part 2, 10-14. September 2006.
Rovira, P.J., J.A. Scanga, T. Grandin, K.L. Hossner, R.S. Yemm, K.E. Belk, J.D. Tatum, J.N. Sofos, G.C. Smith. Identification of Humane Cattle Stunning Systems that Minimize the Likelihood of Central Nervous System Tissue Entering the Circulatory System. Journal of Food Prot. (submitted).
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Simpson, C.A., Ransom, J.R., J.A. Scanga, K.E. Belk, J.N. Sofos, G.C. Smith. Changes in Microbiological Populations on Beef Carcass Surfaces Exposed to Air-or Spray-Chilling and Characterization of Hot Box Practices. Food Prot Trends 26(4):226-235. 2006.
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**RESEARCH ANNUAL REPORT**  
**PEER-REVIEWED PRODUCT ENHANCEMENT RESEARCH PUBLICATIONS**

Beitz, D.C. Use of 25-Hydroxyvitamin D <sub>3</sub> and Dietary Calcium to Improve Tenderness of Beef from the Round of Beef Cows. <i>Journal of Animal Science</i> (submitted).
Beitz, D.C. Use of 25-Hydroxyvitamin D <sub>3</sub> and Vitamin E to Improve Tenderness of Beef from the <i>longissimus dorsi</i> of Heifers. <i>Journal of Animal Science</i> (submitted).
Bourg, B., L.O. Tedeschi, G.E. Carstens, P.A. Lancaster, D.G. Fox. Meta Analysis of CVDS Model Predictions of Feed Intake and Efficiency in Growing and Finishing Cattle. <i>Plains Nutrition Council Abstracts</i> . Pp. 108. 2006.
Bourg, B., L.O. Tedeschi, G.E. Carstens, E.G. Brown, D.G. Fox. Evaluation of a Mathematical Model to Estimate Total Feed Required for Pen-Fed Santa Gertrudis Steers and Heifers based on Performance and Diet Composition. <i>J. Anim. Sci.</i> 84(Suppl. 1):145. 2006.
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Brown, E.G., L.O. Tedeschi, G.E. Carstens, P.A. Lancaster, D.G. Fox, T.D.A. Forbes, R.D. Randel, T.H. Welsh, F.M. Rouquette. Meta Analysis of Residual Feed Intake with and without Adjustment for Carcass Composition in Growing and Finishing Calves. <i>J. Anim. Sci</i> 88(Suppl. 2):39 2006.
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Carnagey, K.M., S.M. Loneragan, E.J. Huff-Loneragan, R.L. Horst, A.H. Trenkle, D.C. Beitz. Effect of 25-Hydroxyvitamin D <sub>3</sub> and Dietary Calcium on Protein Degradation in Beef Muscles. <i>FASEB J.</i> , 20:A131.5. 2006.
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King, D.A., T.L. Wheeler, S.D. Shackelford, M. Koohmaraie. Contribution of Postmortem Proteolysis and Sarcomere Length to Variation in Beef Gluteus Medius and Triceps Brachii Tenderness. <i>Proc. Recip. Meat Conf.</i> 59:(Abstract #17359). 2006.
Martin, J., B. Williams. Effects of Beef Muscle Type, with or without Enhancement on Pre-Cooked Value-Added Roast Beef. <i>Southern Sct. Am. Soc. Anim. Sci. Abstract</i> 59 pgs 19-20. 2006.
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Moss, D., C. Calkins. Off-Flavor Mitigation in Fed and Non-Fed Cow Meat through Manipulation of Bitter Taste Receptors. <i>Proceedings, MW Section, American Society of Animal Sciences</i> . March 20-22, 2006.
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**RESEARCH ANNUAL REPORT**  
**PEER-REVIEWED PRODUCT ENHANCEMENT RESEARCH PUBLICATIONS**

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Seyfert, M., M.C. Hunt, R.A. Mancini, K.A. Hachmeister, D.H. Kropf, J.A. Unruh. Accelerated Chilling, High- and Ultra-Low Oxygen Modified Atmosphere Packaging, and Injection Enhancement Affect Color and Color Stability of Beef Round Muscles. Meat Sci. 68:209-219. 2004.

Seyfert, M., M.C. Hunt, R.A. Mancini, K.A. Hachmeister, D.H. Kropf, J.A. Unruh, T.M. Loughin. Beef Knuckle Hot Boning and Modified Atmosphere Packaging Influence Properties of Injection-Enhanced Beef Round Muscles. J. Anim. Sci. 83:686-693. 2005.

Spronk, J., D. Wulf, D. Knudsen, R. Maddock. Using Serum Chemistry Profiles to Predict Beef Tenderness for the Purpose of On-Line Instrument Grading. Proc. International Congr. Meat Sci. Technology. Baltimore, MA. 2005.

Xia, J., E.P. Berg, J.W. Lee, G. Yao. Beef Muscle Characterization using Optical Scattering and Absorption Coefficients. Meat Science. 2006 (in press).

Xia, J., A. Weaver, D. Gerrard, G. Yao. Heating Induced Optical Property Changes in Beef Muscles. 2006 (submitted).

**RESEARCH ANNUAL REPORT**  
**PEER-REVIEWED NUTRITION RESEARCH PUBLICATIONS**

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Etcheverry, P., G. Castrens, E. Brown, K.M. Hawthorne, L. Liang, Z. Chen, I.J. Griffin. The Production of Stable-Isotopically Labeled Bovine Heme and its use to Measure Heme Iron Absorption in Children. Am J Clin Nutr 2006 (accepted).
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Mahon, A.K., L.K. Stewart, B.K. McFarlin, H.B. Iglan, R.D. Mattes, R.M. Lyle, R.V. Considine, W.W. Campbell. Protein Intake during Energy Restriction: Effects on Body Composition and Markers of Metabolic and Cardiovascular Health in Postmenopausal Women. J Am Coll Nutr (in press).
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**RESEARCH ANNUAL REPORT**  
**PEER-REVIEWED NUTRITION RESEARCH PUBLICATIONS**

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