

Curriculum Vitae
Bradley J. Johnson, Ph.D.

Texas Tech University
Department of Animal and Food Sciences
P. O. Box 42141
Lubbock, TX 79409
T: 806.742.2805 ext 244
F: 806.742.4003
e-mail: bradley.johnson@ttu.edu

Personal Data

Birthdate: November 16, 1967
Birthplace: Milbank, SD
Marital Status: Married, Jolene R. Johnson
Children: Kaitlin, 5/09/97; Nathan, 4/30/99; Evan, 9/04/02

Education

South Dakota State University	1986-1990	B.S.	Animal Science
University of Minnesota	1991-1994	M.S.	Animal Science
University of Minnesota	1994-1997	Ph.D.	Animal Science

- Masters Thesis: *The effect of combined trenbolone acetate and estradiol implants on growth, carcass composition, and biochemical parameters of feedlot cattle.* Advisors: William R. Dayton, Ph.D. and Jay C. Meiske, Ph.D.
- Ph.D. Thesis: *Regulation of muscle cell growth and differentiation in pigs and cattle by insulin-like growth factor binding proteins (IGFBPs) and anabolic steroids.* Advisor: William R. Dayton, Ph.D.

Professional Experience

Professor/Gordon W. Davis Regent's Chair in Meat Science and Muscle Biology *June 1, 2008*
Department of Animal and Food Sciences, Texas Tech University

- Muscle Growth and Development and Meat Quality

Associate Professor *June 11, 2005-May 31, 2008*
Department of Animal Sciences and Industry, Kansas State University

- Research, 70%; Teaching, 30%/Twelve-month, tenured
- Growth and Development with Emphasis in Nutrition

Graduate Faculty *February 7, 2001- present*
Department of Animal Sciences and Industry, Kansas State University

Assistant Professor *October 1, 2000 – June 10, 2005*
Department of Animal Sciences and Industry, Kansas State University

- Research, 70%; Teaching, 30%/Twelve-month, tenure-track
- Growth and Development with Emphasis in Nutrition

Graduate Faculty *May 11, 1999*
Department of Animal and Range Sciences, South Dakota State University

Assistant Professor *August 1, 1997 – October 27, 2000*
Department of Animal and Range Sciences, South Dakota State University

- Extension Ruminant Nutrition and Beef Feedlot Specialist
- Extension, 70%; Research, 30%/Twelve-month, tenure-track

Graduate Research Assistant *January 1991 – August 1997*
Department of Animal Science, University of Minnesota

Teaching Activities

1994 – 1995	Animal Science 1-120, Livestock and Meat Evaluation (Univ. of MN)
2001 – Present	Animal Sciences and Industry 318, Fundamentals of Nutrition
2002 – Present	Animal Sciences and Industry 902, Topics in Animal Growth
2001 – Present	Undergraduate Advisement (23 ASI students, currently)

Graduate Advisory Committees

Chaired – M.S.

1999 – 2001	Monica S. Eibs, Animal and Range Science (SDSU)
1999 – 2001	Nancy K. Grathwohl, Animal and Range Science (SDSU)
2001 – 2003	Jessica D. Dunn, Animal Sciences and Industry
2002 – 2004	Erin K. Sissom, Animal Sciences and Industry
2004 – 2006	Sara J. Winterholler, Animal Sciences and Industry
2004 – 2006	Amber E. Brazle, Animal Sciences and Industry (co-advising)
2004 – 2006	Brian L. Davis, Animal Sciences and Industry (co-advising)
2004 – 2007	Garrett L. Parsons, Animal Sciences and Industry
2006 – Present	Tim Baxa, Animal Sciences and Industry
2007-Present	Lauren Luque, Animal Sciences and Industry

Chaired – Ph.D.

2001 – 2003	Ann T. Waylan, Animal Sciences and Industry
2003 – 2006	Kelly R. Lawrence, Animal Sciences and Industry (co-advising)
2004 – Present	Erin K. Sissom, Animal Sciences and Industry
2005 – Present	William F. Miller, Animal Sciences and Industry
2007 – Present	Sandi L. Parr, Animal Sciences and Industry

Member

2001 – 2003	Grady Bishop, Animal Sciences and Industry
2001 – 2006	Tom Burkey, Animal Sciences and Industry
2001 – 2003	Kimberly Candler, Animal Sciences and Industry
2001 – 2006	Mofleh Awawdeh, Animal Sciences and Industry
2002 – 2004	Eman Ali Elwakeel, Animal Sciences and Industry
2001 – 2004	Elissa Good, Animal Sciences and Industry
2002 – 2005	Marc Epp, Animal Sciences and Industry
2002 – 2005	Sean Montgomery, Animal Sciences and Industry
2003 – 2007	Rajashekar Rachakatla, Anatomy and Physiology
2003 – 2006	Guillermo F. Schroeder, Animal Sciences and Industry
2004 – 2006	Jayne Bock, Food Science
2005 – 2006	Linda K. Yarrow, Human Nutrition (outside Chair)
2004 – 2007	Aaron M. Arnett, Animal Sciences and Industry
2004 – 2007	Dillon K. Walker, Animal Sciences and Industry
2005 – 2007	Ryan McMillan, Agricultural Economics
2006 – Present	Justin O. Wallace, Animal Sciences and Industry
2007 – Present	Derek W. Brake, Animal Sciences and Industry
2007 – Present	Callie E. Walker, Animal Sciences and Industry

Postdoctoral Research Associates

2002-2003	J. Patrick Kayser, Animal Sciences and Industry
2006-present	Ki Yong Chung, Animal Sciences and Industry

Consulting

- NCBA/GET-IT Team-Growth Promotants and Modern Beef Production Feb. 2007 to present
- Intervet, Inc.-Growth Enhancement Technologies Oct. 2004 to present

- Orion Ethanol (aka Wildcat Bioenergy and SNB Associates) Pratt KS August 2004 to present
- SAF Agri – Biosaf and Mannan Research. Winnipeg and Calgary Canada, April 2003
- SAF Agri – Mannan Research. Guadalarja, Mexico, November 2002
- VetLife/Ivy Labs, Implant and Ractopamine Interactions, February 2002
- LeSaffre Development (France) EU Additive Registration for Beef Cattle, August 2001
- SAF Agri – Beef Cattle Receiving Diets. Queretaro, Mexico; November, 2000
- Elanco Canada, Implant/Protein Requirements, Alberta, CA; October 1998
- College Livestock Feed Conference Board Meeting,
Nutrient Management for Beef Feedlots, Ft. Mitchell, KY; September, 1998
- Ralco Mix, Receiving Cattle Management, Marshall, MN; August, 1998
- Land O Lakes BPS/BEC Training Meeting, Sioux City, IA; July 1998
- SAF Products, Minneapolis, MN, Ruminant Nutrition Topics; 1996
- Cargill Inc., Molasses Liquid Products Division, Minneapolis, MN; 1991-1992
Invited Seminar Speaker: Western Regional Training Conference
Protein Nutrition for Beef Cattle Reno, NV, June 1992
Invited Seminar Speaker: Technical Applications Conference for Zip Feeds
Protein Nutrition for Beef Cattle Watertown, SD/Sioux Falls, SD; October 1992
- GFI America, Minneapolis, MN; Lean Beef Production Topics; 1991-1992

Membership in Professional Societies and Scientific Activities

- 2003- American Society for Nutritional Sciences
- 2001 - KS Representative, NC-131
Molecular mechanisms regulating skeletal muscle growth and differentiation.
- 1997 - Plains Nutrition Council
- 1998 - University of Minnesota Alumni Association
- 1990 - South Dakota State University Alumni Association
- 1990 - American Society of Animal Science
- 1990 - Phi Kappa Phi
- 1990 - Gamma Sigma Delta

Awards and Honors

- 2007 11th Edition of *Who's Who Among American Teachers & Educators*
- 2007 Kansas State University, College of Agriculture 2007 Excellence in Graduate Teaching Award
- 2000 South Dakota Cooperative Extension Service
Specialist Association Merit Award
- 1995 University of Minnesota Graduate Fellowship Award
- 1994 University of Minnesota Graduate Fellowship Award
- 1993 University of Minnesota Graduate Fellowship Award
- 1992 University of Minnesota Outstanding Masters Student Award
- 1991 University of Minnesota Graduate Fellowship Award
- 1990 Graduated with High Honors from South Dakota State University
- 1990 Gamma Sigma Delta, Honor Society of Agriculture
- 1990 Phi Kappa Phi
- 1990 American Society of Animal Science Scholarship Award
- 1989 The National Dean's List 12th Ed. Vol. 2

1989	Zip Feed Mills Scholarship
1989	Dakota Feed Manufacturer's Scholarship
1989	Griffith Memorial Scholarship
1989	American Society of Animal Science Scholarship Award
1988	Zilverburg Scholarship
1988	Griffith Memorial Scholarship
1988	American Society of Animal Science Scholarship Award
1987	Harvest States Scholarship
1987	Dinkle Scholarship
1986	Cargill Scholarship
1986 – 1990	College Dean's List 8 consecutive semesters at SDSU

Ad Hoc Grant Reviewer, Manuscript Reviewer, and Regional Committees

- Midwest ASAS Growth and Development, Muscle Biology, and Meat Science Committee (2004-present)
- Midwest ASAS Academic Quadrathlon – Committee Chair 2001 – 2002
- Growth and Development, Muscle Biology, and Meat Science; Session Chair, Midwest ASAS, Des Moines, IA, March 16, 1999
- USDA-NRICGP: Animal Growth
- USDA-SBIR: Animal Production and Protection
- Journal of Agricultural and Food Chemistry
- Journal of Animal Science
- Journal of Swine Health and Production
- Canadian Journal of Animal Science
- NC-131, Molecular mechanisms regulating skeletal muscle growth and differentiation

Publications

Book Chapters and Invited Reviews

- Johnson, B. J.**, and K. Y. Chung. 2007. Alterations in the physiology of growth of cattle with growth-enhancing compounds. In: *Vet. Clin. Food Anim.* 23:321-332.
- Reinhardt, C. D., and **B. J. Johnson**. 2008. Growth Promotants for Beef Production - Anabolic Steroids: Performance responses and Mode of Action. *Current Veterinary Therapy*. D.U. Thomson, Ed. (in press).
- Anderson, P. T., and **B. J. Johnson**. 2004. Growth of meat animals: Metabolic modifiers. In: *Encyclopedia of Meat Sciences*. pp. 538-546.

Peer-reviewed Manuscripts

- Chung, K. Y., and **B. J. Johnson**. 2008. Application of cellular mechanisms to growth and development of food-producing animals. *J. Anim. Sci.* 86(E. Suppl.):E226-E235.
- Kamanga-Sollo, E., M. E. White, M. R. Hathaway, K. Y. Chung, **B. J. Johnson**, and W. R. Dayton. 2008. Roles of IGF-I and the estrogen, androgen and IGF-I receptors in estradiol-17 β and trenbolone acetate-stimulated proliferation of cultured bovine satellite cells. *Dom. Anim. Endocrinol.* 35:88-97.
- Winterholler, S. J., G. L. Parsons, D. K. Walker, M. J. Quinn, J. S. Drouillard, and **B. J. Johnson**. 2008. Effect of feedlot management system on response to ractopamine-HCl in yearling steers. *J. Anim. Sci.* 86:2401-2414.
- Brown, K. R., R. D. Goodband, M. D. Tokach, S. S. Dritz, J. L. Nelssen, J. E. Minton, J. J. Higgins, X. Lin, J. Odle, J. C. Woodworth, and **B. J. Johnson**. 2008. Effects of feeding L-carnitine to gilts through day 70 of gestation on litter traits and the expression of insulin-like growth factor system components and L-carnitine concentration in foetal tissues. *J. Anim. Physiol. Anim. Nutr.* (In press, DOI: 10.1111/j.1439-0396.2007.00762.x)
- Kamanga-Sollo, E., M. E. White, K. Y. Chung, **B. J. Johnson**, and W. R. Dayton. 2008. Potential role of G-protein-coupled receptor 30 (GPR30) in estradiol-17 β -stimulated IGF-I mRNA expression in bovine satellite cell cultures. *Dom. Anim. Endocrinol.* (In press).
- Brazle, A. E., **B. J. Johnson**, S. K. Webel, T. J. Rathbun, and D. L. Davis. 2008. Omega-3 fatty acids in the gravid pig uterus as affected by maternal supplementation with omega-3 fatty acids. *J. Anim. Sci.* (accepted).
- Pampusch, M. S., M. E. White, M. R. Hathaway, T. J. Baxa, K. Y. Chung, S. L. Parr, **B. J. Johnson**, W. J. Weber, and W. R. Dayton. 2008. Effects of trenbolone acetate (TBA), estradiol (E2) and combined TBA/E2 implants on muscle IGF-I, IGF-I receptor, estrogen receptor- α and androgen receptor mRNA levels in feedlot steers. *J. Anim. Sci.* (In press, DOI:10.2527/jas.2008-1085).
- Winterholler, S. J., G. L. Parsons, C. D. Reinhardt, J. P. Hutcheson, W. T. Nichols, D. A. Yates, R. S. Swingle, and **B. J. Johnson**. 2007. Response to ractopamine-hydrogen chloride is similar in yearling steers across days on feed. *J. Anim. Sci.* 85:413-419.
- Brown, K. R., R. D. Goodband, M. D. Tokach, S. S. Dritz, J. L. Nelssen, J. E. Minton, J. J. Higgins, J. C. Woodworth, and **B. J. Johnson**. 2007. Growth characteristics, blood metabolites, and IGF system components in maternal tissues from gilts fed L-carnitine through day 70 of gestation. *J. Anim. Sci.* 85:1687-1694.
- Sissom, E. K., C. D. Reinhardt, J. P. Hutcheson, W. T. Nichols, D. A. Yates, R. S. Swingle, and **B. J. Johnson**. 2007. Response to ractopamine-HCl in heifers is altered by implant strategy across days on feed. *J. Anim. Sci.* 85:2125-2132.
- Fraser, J. N., B. L. Davis, K. A. Skjolaas, T. E. Burkey, S. S. Dritz, **B. J. Johnson**, and J. E. Minton. 2007. Effects of feeding *Salmonella enterica* serovar Typhimurium or serovar Choleraesuis to weaned pigs on growth performance and circulating insulin-like growth factor-I, tumor necrosis factor alpha, and interleukin-1 beta. *J. Anim. Sci.* 85:1161-1167.
- Walker, D. K., E. C. Titgemeyer, E. K. Sissom, K. R. Brown, J. J. Higgins, and **B. J. Johnson**. 2007. Effects of steroidal implantation and ractopamine-HCl on nitrogen retention, blood metabolites, and longissimus mRNA expression of IGF-I in Holstein steers. *J. Anim. Physiol. Anim. Nutr.* 91:439-447.

- Elwakeel, E. A., E. C. Titgemeyer, **B. J. Johnson**, C. K. Armendariz, and J. E. Shirley. 2007. Fibrolytic enzymes to increase nutritive value of dairy feedstuffs. *J. Dairy Sci.* 90:5226-5236.
- Arnett, A. M., M. E. Dikeman, C. W. Spaeth, **B. J. Johnson**, and B. Hildabrand. 2007. Effects of Vitamin A supplementation in young lambs on performance, serum lipid, and longissimus muscle lipid composition. *J. Anim. Sci.* 85:3062-3071.
- Sissom, E. K., C. D. Reinhardt, and **B. J. Johnson**. 2006. Melengestrol acetate alters carcass composition in feedlot heifers through changes in muscle cell proliferation. *J. Anim. Sci.* 84:2950-2958.
- Johnson, B. J.**, S. S. Dritz, K. A. Skjolaas-Wilson, T. E. Burkey, and J. E. Minton. 2005. Interactive responses in gut immunity, and systemic and local changes in the IGF system in nursery pigs in response to *Salmonella enterica* serovar Typhimurium. *J. Anim. Sci.* 83 (E. Suppl.) E48-E56.
- Waylan, A. T., J. P. Kayser, D. P. Gnad, J. J. Higgins, J. D. Starkey, E. K. Sissom, J. C. Woodworth, and **B. J. Johnson**. 2005. Effects of L-carnitine on fetal growth and the IGF system in pigs. *J. Anim. Sci.* 83:1824-1831.
- Hollis, L. C., J. F. Smith, **B. J. Johnson**, S. Kapil, and D. A. Mosier. 2005. A comparison of serological responses when modified-live Infectious Bovine Rhinotracheitis virus vaccine and *Mannheimia haemolytica* bacterin-toxoid are administered with needle-free versus conventional needle-based injection in yearling feedlot steers. *Bovine Practitioner* 39:106-109.
- Hollis, L. C., J. F. Smith, **B. J. Johnson**, S. Kapil, and D. A. Mosier. 2005. A comparison of serological responses when modified-live Infectious Bovine Rhinotracheitis virus vaccine, *Mannheimia haemolytica* bacterin-toxoid and *Leptospira Pomona* bacterin are administered with needle-free versus conventional needle-based injection in Holstein dairy calves. *Bovine Practitioner* 39:110-114.
- Burkey T. E., S. S. Dritz, J. C. Nietfeld, **B. J. Johnson**, and J. E. Minton. 2004. Effect of dietary mannanoligosaccharide and sodium chlorate on growth performance, acute phase response and bacterial shedding of weaned pigs challenged with *Salmonella enterica* Serotype typhimurium. *J. Anim. Sci.* 82:397-404.
- Waylan, A. T., J. D. Dunn, **B. J. Johnson**, J. P. Kayser, and E. K. Sissom. 2004. Effect of flax supplementation and growth promotants on lipoprotein lipase and glycogenin messenger RNA concentrations in satellite cells and finishing cattle. *J. Anim. Sci.* 82:1868-1875.
- Johnson, B. J.**, M.E. White, M.R. Hathaway, and W.R. Dayton. 2003. Effect of differentiation on levels of insulin-like growth factor binding protein mRNAs in cultured porcine embryonic myogenic cells. *Dom. Anim. Endocrinol.* 24:81-93.
- White, M. E., **B.J. Johnson**, M.R. Hathaway, and W.R. Dayton. 2003. Growth factor mRNA levels in muscle and liver of steroid-implanted and nonimplanted steers. *J. Anim. Sci.* 81:965-972.
- Pampusch, M. S., **B. J. Johnson**, M. E. White, M. R. Hathaway, J. D. Dunn, A. T. Waylan, and W. R. Dayton. 2003. Time course of changes in growth factor mRNA levels in muscle of steroid-implanted and non-implanted steers. *J. Anim. Sci.* 81:2733-2740.
- Dunn, J. D., **B. J. Johnson**, J. P. Kayser, A. T. Waylan, E. K. Sissom, and J. S. Drouillard. 2003. Effects of flax supplementation and a combined trenbolone acetate and estradiol implant on circulating insulin-like growth factor-I (IGF-I) and muscle IGF-I messenger RNA levels in beef cattle. *J. Anim. Sci.* 81:3028-3034.
- Johnson, B. J.**, M. E. White, M. R. Hathaway, and W. R. Dayton. 1999. Decreased steady-state insulin-like growth factor binding protein-3 (IGFBP-3) mRNA level is associated with differentiation of cultured porcine myogenic cells. *J. Cell. Physiol.* 179:237-243.
- Yang, F., **B. J. Johnson**, M. E. White, M. R. Hathaway, and W. R. Dayton. 1999. Effect of insulin-like growth factor (IGF)-I and Des (1-3) IGF-I on the level of IGF binding protein-3 and IGF binding protein-3 mRNA in cultured porcine embryonic muscle cells. *J. Cell. Physiol.* 178:227-234.
- Johnson, B. J.**, N. Halstead, M. E. White, M. R. Hathaway, A. DiCostanzo, and W. R. Dayton. 1998. Activation state of muscle satellite cells isolated from steers implanted with a combined trenbolone acetate and estradiol implant. *J. Anim. Sci.* 76:2779-2786.
- Johnson, B. J.**, M. E. White, M. R. Hathaway, C. J. Christians, and W. R. Dayton. 1998. Effect of a combined trenbolone acetate and estradiol implant on steady-state IGF-1 mRNA concentrations in the liver of wethers and in the longissimus muscle of steers. *J. Anim. Sci.* 76:491-497.

- Johnson, B. J.**, M. R. Hathaway, P. T. Anderson, J. C. Meiske, and W. R. Dayton. 1996. Stimulation of circulating insulin-like growth factor-1 (IGF-1) and insulin-like growth factor binding proteins (IGFBP) due to administration of a combined trenbolone acetate and estradiol implant in feedlot cattle. *J. Anim. Sci.* 74:372-379.
- Johnson, B. J.**, P. T. Anderson, J. C. Meiske, and W. R. Dayton. 1996. Effect of a combined trenbolone acetate and estradiol implant on feedlot performance, carcass characteristics, and carcass composition of feedlot steers. *J. Anim. Sci.* 74:363-371.
- Frey, R. S., **B. J. Johnson**, M. R. Hathaway, and W. R. Dayton. 1995. Growth factor responsiveness of primary satellite cell cultures from steers implanted with trenbolone acetate and estradiol-17. *Basic and Applied Myology* 5:71-80.

Abstracts of Presentations at International, National, and Regional Conferences

- Johnson, B. J.** 2007. Application of cellular mechanisms to growth and development of food producing animals. *J. Anim. Sci.* 85 (Suppl. 1):638.
- Sissom, E. K., D. A. Yates, J. L. Montgomery, W. T. Nichols, M. N. Streeter, J. P. Hutcheson, and **B. J. Johnson**. Effect of zilpaterol on cultured bovine satellite cells. *J. Anim. Sci.* 85 (Suppl. 1):295.
- Brazle, A. E., T. Rathbun, **B. J. Johnson**, and D. Davis. 2007. Omega-3 fatty acid supplementation and the IGF system in early pregnancy in pigs. *J. Anim. Sci.* 85 (Suppl. 1):88.
- Harborth, K. W., T. T. Marston, J. A. Unruh, and **B. J. Johnson**. 2007. Effects of ractopamine HCl and steroid implants on feedlot performance and carcass characteristics of cull beef cows. *J. Anim. Sci.* 85 (Suppl. 1):547.
- Harborth, K. W., T. T. Marston, J. A. Unruh, and **B. J. Johnson**. 2007. Effect of age on feedlot performance and carcass characteristics of cull beef cows. *J. Anim. Sci.* 85 (Suppl. 1):547.
- Miller, W. F., **B. J. Johnson**, E. C. Titgemeyer, J. F. Smith, J. E. Shirley, and T. G. Nagaraja. 2007. Effect of cane molasses on ruminal absorptive capacity of dairy cows during the periparturient period. *J. Anim. Sci.* 85 (Suppl. 2):88.
- Wallace, J. O., W. F. Miller, C. D. Reinhardt, and **B. J. Johnson**. 2007. Adaptation of feedlot cattle by limit-feeding a high-concentrate diet may alter nutrient absorption. *J. Anim. Sci.* 85 (Suppl. 2):80.
- Parsons, G. L., K. A. Harborth, M. J. Quinn, T. T. Marston, J. S. Drouillard, and **B. J. Johnson**. 2007. Effects of combined trenbolone acetate and estradiol implant and/or ractopamine-HCl administration on circulating insulin-like growth factor-I and skeletal muscle gene expression in cull cows. Proc. Plains Nutrition Spring Conference. Pub. AREC 07-20. Texas A & M Research and Extension Center, Amarillo. Page 104.
- Wallace, J. O., W. F. Miller, C. D. Reinhardt, and **B. J. Johnson**. 2007. Limit-feeding a high-concentrate diet may alter nutrient absorption. Proc. Plains Nutrition Spring Conference. Pub. AREC 07-20. Texas A & M Research and Extension Center, Amarillo. Page 110.
- Winterholler, S. J., A. S. Webb, G. L. Parsons, D. K. Walker, M. J. Quinn, J. S. Drouillard, and **B. J. Johnson**. 2007. Effects of combined trenbolone acetate and estradiol implant and/or ractopamine-HCl administration versus natural beef production in finishing steers. Proc. Plains Nutrition Spring Conference. Pub. AREC 07-20. Texas A & M Research and Extension Center, Amarillo. Page 113.
- Arnett, A., M. Dikeman, C. Spaeth, **B. J. Johnson**, and B. Hildabrand. 2006. Effects of vitamin A supplementation in young lambs on performance, serum lipid, and carcass adipose tissue attributes. *J. Anim. Sci.* 84 (Suppl. 2):111.
- Brazle, A.E., **B. J. Johnson**, E. C. Titgemeyer, S. K. Webel, and D. L. Davis. 2006. Fatty acid composition of the pig conceptus and endometrium in response to maternal omega-3 fatty acid supplementation. *J. Anim. Sci.* 84 (Suppl. 2):66.
- Brown, K. R., R. D. Goodband, M.D. Tokach, S.S. Dritz, J.L. Nelssen, J. E. Minton, D. M. Grieger, J. C. Woodworth, and **B. J. Johnson**. 2006. Effects of L-carnitine on gestation length on growth factor messenger RNA (mRNA) expression in maternal tissues. *J. Anim. Sci.* 84 (Suppl. 2):50.
- Brown, K. R., R. D. Goodband, M. D. Tokach, S. S. Dritz, J. L. Nelssen, J. E. Minton, J. C. Woodworth, and **B. J. Johnson**. 2006. Influence of L-carnitine on gilt and fetal growth characteristics at three gestation lengths. *J. Anim. Sci.* 84 (Suppl 2):74

- Brown, K. R., R. D. Goodband, M. D. Tokach, S. S. Dritz, J. L. Nelssen, J. E. Minton, J. C. Woodworth, and **B. J. Johnson**. 2006. Maternal supplementation of L-carnitine alters the maternal and fetal IGF axis in swine. *FASEB J.* 20(4):266.6(Abstr.) p. A425.
- Hildabrand, B. M., T. E. Burkey, K. A. Skjolaas, S. S. Dritz, **B. J. Johnson**, and J. E. Minton. 2006. Growth performance of nursery pigs fed BIOSAF yeast alone or in combination with in-feed antimicrobial. *J. Anim. Sci.* 84 (Suppl. 2):77.
- Hildabrand, B. M., T. E. Burkey, K. A. Skjolaas, S. S. Dritz, **B. J. Johnson**, and J. E. Minton. 2006. Growth performance of nursery pigs fed BIOSAF in combination with in-feed antimicrobials. *J. Anim. Sci.* 84 (Suppl. 2):77.
- Xi, L., K. R. Brown, J. C. Woodworth, **B. J. Johnson**, and J. Odle. 2006. Effects of maternal dietary L-carnitine status as measured by tissue carnitine accumulation and kinetics of carnitine palmitoyltransferase in fetal pigs. *FASEB J.* 20(4):131.2(Abstr.) p. A170.
- Parsons, G. L., S. J. Winterholler, C. D. Reinhardt, J. P. Hutcheson, D. A. Yates, W. T. Nichols, and **B. J. Johnson**. 2006. Effect of Optaflexx and days on feed on muscle gene expression in calf-fed steers. *J. Anim. Sci.* 84 (Suppl. 1):420.
- Reinhardt, C. D., G. L. Parsons, **B. J. Johnson**, J. P. Hutcheson, and W. T. Nichols. 2006. Effects of ractopamine and days on feed on performance and carcass traits of calf-fed steers. *J. Anim. Sci.* 84 (Suppl. 1):419
- Winterholler, S. J., G. L. Parsons, J. P. Hutcheson, D. A. Yates, W. T. Nichols, R. S. Swingle, and **B. J. Johnson**. 2006. Effect of optaflexx and days on feed on feedlot performance, carcass characteristics, and skeletal muscle gene expression in yearling steer. *J. Anim. Sci.* 84 (Suppl. 1):420.
- Harboth, K.W., S. Hutchison, G. L. Parsons, T. T. Marston, J. A. Unruh, **B. J. Johnson**, and L. C. Hollis. 2006. Effects of Optaflexx and Revalor-200 on Feedlot Performance and Carcass Characteristics of Cull Cows. *Proc. Plains Nutrition Spring Conference.* Pub. AREC 04-06. Texas A&M Research and Extension Center, Amarillo. Page 118.
- Parsons, G. L., S. J. Winterholler, C. D. Reinhardt, J. P. Hutcheson, D. A. Yates, W. T. Nichols, and **B. J. Johnson**. 2006. Effect of Optaflexx and Days on Feed on Feedlot Performance, Carcass Characteristics, and Muscle Gene Expression in Calf-Fed Steers. *Proc. Plains Nutrition Spring Conference.* Pub. AREC 04-06. Texas A&M Research and Extension Center, Amarillo. Page 124.
- Walker, D. K., E. C. Titgemeyer, E. K. Sissom, K. R. Brown, J. J. Higgins, and **B. J. Johnson**. 2006. Effects of Implanting with Revalor-S and Feeding Optaflexx on Nitrogen Retention, Blood Metabolites, and Longissimus mRNA Expression in Holstein Steers. *Proc. Plains Nutrition Spring Conference.* Pub. AREC 04-06. Texas A&M Research and Extension Center, Amarillo. Page 133.
- Winterholler, S. J., G. L. Parsons, J. P. Hutcheson, D. A. Yates, W. T. Nichols, R. S. Swingle, and **B. J. Johnson**. 2006. Effect of Optaflexx and Days on Feed on Feedlot Performance, Carcass Characteristics, and Skeletal Muscle Gene Expression in Yearling Steers. *Proc. Plains Nutrition Spring Conference.* Pub. AREC 04-06. Texas A&M Research and Extension Center, Amarillo. Page 135.
- Walker, D. K., E. C. Titgemeyer, **B. J. Johnson** and J. J. Higgins. 2005. Effects of ractopamine and steroidal implantation on nitrogen retention and blood metabolites in holstein steers. *J. Anim. Sci.* 83 (Suppl. 1):114.
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- Anderson, P. T., **B. J. Johnson**, D. P. O'Connor, and M. T. Lewis. 1992. The effects of inconsistent feed intake on feedlot performance of steers. Minnesota Agr. Exp. Sta. Beef Cattle Report B-390:34.
- Anderson, P. T., and **B. J. Johnson**. 1991. Protein requirements of high performance feedlot cattle. Proc. 52nd Minnesota Nutr. Conf., pp. 117-138.
- Johnson, B. J.**, P. A. Momont, and R. J. Pruitt. 1989. Effect of methionine, leucine and isovaleric acid on in vitro digestibility of corn stover. S.D. Agr. Exp. Sta. Beef Report CATTLE 89-10:34-36.
- Momont, P. A., R. J. Pruitt, **B. J. Johnson**, and P. S. Johnson. 1989. Effects of amino acid and branched-chain volatile fatty acid additions on in vitro fermentation of dormant range grasses. S.D. Agr. Exp. Sta. Beef Report CATTLE 89-8:23-29.

Invited Presentations

Effect of Cane Molasses on Absorptive Capacity of Rumen Papillae in Dairy Cows During the Dry Periods and Early Lactation. AFIA Liquid Feed Symposium. Scottsdale AZ, Sept. 5, 2007.

Application of Cellular Mechanisms to Growth and Development of Food Producing Animals. 2007 ADSA/PSA/AMPA/ASAS Joint Meeting. San Antonio TX, July 11, 2007.

Economics and management of beef cattle growth implants: Production efficiency and carcass merit. Fort Dodge Animal Health Elite Cattle Feeders Conference. Colorado Springs CO, June 29, 2007.

Current trends in satellite cell research. Reciprocal Meat Conference. Brookings SD, June 18, 2007.

Growth promotant product training: Food Safety Education Network. NCBA. Chicago IL, June 11, 2007.

Current trends in satellite cell research. NCCC-206 Feedlot Committee 2007 Annual Meeting and Regional Station Research Update. Manhattan KS, June 6, 2007.

Growth enhancement technologies for beef cattle: Mode of action. NCBA/GET IT Think Tank. Denver CO, May 21-22, 2007.

Cellular aspects of intramuscular adipogenesis: Competition for cells between muscle and marbling. Plains Nutrition Spring Conference, San Antonio TX, March 29, 2007.

Review of Zilpaterol in vitro muscle research. Intervet Muscle and Adipose Meeting. San Antonio TX, March 28, 2007.

Zilpaterol HCl: Potential mode of action in cattle. Intervet Nutritionist Advisory Meeting. San Antonio TX, March 27, 2007.

Growth enhancement technologies for beef cattle: Mode of action. NCBA/GET IT Think Tank. Dallas TX. Feb. 28, 2007.

Marbling development: Understanding the biology at the cellular level. NCBA Adipogenesis Workgroup. Stillwater OK, Dec. 11, 2006.

Cellular mechanisms regulating skeletal muscle growth in cattle. Diagnostic Medicine and Pathobiology Seminar. Manhattan KS, Nov. 30, 2006.

Marbling development: Understanding the biology at the cellular level. Cargill Meat Solutions. Wichita KS, Sept. 26, 2006.

Potential mode of action of ractopamine. Elanco Animal Health. Indianapolis IN, June 12, 2006.

Marbling development: Understanding the biology at the cellular level. Certified Angus Beef Think Tank. Des Moines IA, March 21, 2006.

Pattern of expression of genes in the IGF system during gestation in pigs. Billy N. Day Appreciation Club Symposium, Des Moines IA, March 21, 2006.

Future technologies for enhancing beef cattle growth. 93rd Annual Cattlemen's Day, Manhattan KS, March 3, 2006.

Influence of management techniques on feedlot performance and carcass composition. LOL Beef Cattle Shortcourse, Manhattan KS, July 20, 2005.

Mode of action of steroidal implants and β -adrenergic agonists in beef cattle. Intervet Technical Consultant Training Meeting, Lubbock TX, May 24-25, 2005.

Bovine growth and development: Composition of growth and mechanisms regulating growth. Dairy Calves and Heifers: Integrating biology and management, Syracuse, NY, January 25, 2005.

Growth of nursery pigs fed diets supplemented with live yeast at different dosages with or without antibiotics. VI International Seminar "Applied Microbiology in Animal Nutrition" Veracruz, Mexico, November, 2004

Interactive responses in gut immunity, and systemic and local changes in the IGF system in nursery pigs in response to *Salmonella enterica* serovar Typhimurium. 2004 Joint Annual Meeting (ASAS), St. Louis, MO, July 29, 2004.

Effect of L-carnitine on porcine embryonic myoblast proliferation and the IGF-system. Carnitine Conference EB 2004, Washington D.C., April 17, 2004.

β -Adrenergic agonists: Efficacy and potential mode of action in cattle. Proc. Plains Nutrition Spring Conference, San Antonio, TX, April 16, 2004.

In vitro adhesive effect of *Saccharomyces cerevisiae* on *E. coli* and Biosaf in beef receiving diets. Canadian Nutritional Feed Additives Seminar April, 2003

In vitro adhesive effect of *Saccharomyces cerevisiae* on *E. coli* and Performance of piglets inoculated with *Salmonella typhimurium* and supplemented with Saf Mannan
V International Seminar “Applied Microbiology in Animal Nutrition” November, 2002

Growth-Promoting Implants for Beef Cattle.
SAVMA National Convention, Ames, IA, March, 2001

Beef Cattle Receiving Diets
IV International Seminar “Applied Microbiology in Animal Nutrition” November, 2000

Use of alternative corn hybrids in feedlot diets.
Minnesota Cattle Feeder Days, December 1998

Safety Concerns with Growth-Promoting Implants in Beef Cattle.
National NEAFCS Convention, Rapid City, SD, October 1998

Implant/Protein Requirements.
Elanco Canada, Alberta, CA, September/October 1998

Nutrient Management in the Beef Feedlot.
College Livestock Feed Conference Board Meeting, Ft. Mitchell, KY, September 1998

Receiving Cattle Management.
Ralco Mix Inc., Marshall, MN, August 1998

Nutrient Management in the Beef Feedlot.
Land O Lakes BPS/BEC Training Meeting, Sioux City, IA, July 1998

Tailoring feedlot nutrition and management programs to cattle type and marketing strategy.
Minnesota Cattle Feeder Days, December 1997

Value-Based Marketing Seminar
Hubbard Feeds, Sleepy Eye, MN, October 1997

Value-Added Marketing
Land O Lakes Feed, Oacoma, SD, September 1997

Proposed mechanisms of trenbolone acetate in beef cattle.
NCR-185 Annual Meetings, Minneapolis, MN, June 16, 1995

Matching protein nutrition with cattle type.
Minnesota Cattle Feeder Days, Waseca, MN December 11, 1991

Extramural Support

Steroid receptor regulation in response to anabolic growth promotants
Bradley J. Johnson
Intervet Inc.-\$136,690; Funded August 2008

Effects of zilpaterol HCl on cultured bovine muscle cells
Bradley J. Johnson
Intervet Inc.-\$15,000; Funded July 2007

Conversion of muscle-derived cells from beef cattle to adipocytes in a cell culture model

Bradley J. Johnson
Kansas Beef Council- \$30,000; Funded January 2007

Effects of ractopamine-HCl on protein synthesis and degradation in finishing cattle
Evan C. Titgemeyer and Bradley J. Johnson
Elanco Animal Health (T4V200611)-\$90,000; Funded Jan. 2007

Establishing K-State as the knowledge source for steroid waste management from beef feedlots
J. Ernest Minton, Bradley J. Johnson, Joel DeRouchey, and J. Scott Smith
KSRE Mini-Grant- \$39,800; Funded May 2007

Do rumen microbes alter milk and body composition in cattle through FIAF?
Barry Bradford and Bradley J. Johnson
KSRE Mini-Grant- \$35,000; Funded May 2007

Effect of cane molasses on absorptive capacity of rumen papillae in dairy cows in early and late lactation
Bradley J. Johnson
American Feed Industry Association- \$10,000; Funded May 2006

Defining the mechanisms of steroid-enhanced muscle growth in steers: Individual roles of trenbolone acetate, estradiol and IGF-I
Bradley J. Johnson, Michael E. White, William R. Dayton, and Marcia R. Hathaway
USDA NRICGP-\$399,978; Funded January 2006

Interaction of *Salmonella enterica* with the porcine gut mucosa.
J. Ernest Minton, Bradley J. Johnson, Steven S. Dritz, and Frank Blecha
USDA Animal Health – 1433 - \$95,281; Funded (2004)

Effect of L-carnitine on porcine embryonic muscle growth and differentiation.
Bradley J. Johnson and Kelly R. Lawrence
Lonza Inc. - \$136,000; Funded (2004)

Growth performance of weaned pigs fed diets containing yeasts, and binding of pathogenic bacteria by yeast *in vitro*.
J. Ernest Minton, Bradley J. Johnson, and Steven S. Dritz
LeSaffre Feed Additives - \$8,000; Funded (2004)

Fertilium and early pregnancy and fetal development in swine.
Duane L. Davis and Bradley J. Johnson
United Feeds Inc.- \$5,000; Funded (2004)

Animal health funds to purchase a fluorescent, inverted microscope for muscle growth research.
Bradley J. Johnson
USDA Animal Health – 1433 - \$7,055; Funded (2003)

Animal health funds to purchase a microgrinder to enhance umbilical cord stem cell studies.
Duane L. Davis, David Grieger, Bradley J. Johnson, and Deryl Troyer
USDA Animal Health – 1433 - \$4,925; Funded (2003)

Effect of yeast (Procreatin-7) and fibrolytic enzymes (FP800) on lactational performance of dairy cows.
Evan C. Titgemeyer, Bradley J. Johnson, and John Shirley

LeSaffre Feed Additives - \$25,000; Funded (2003)

Flaxseed as a component of finishing cattle diets.
James S. Drouillard and Bradley J. Johnson
North Dakota Oilseed Council - \$22,895; Funded (2003)

Effect of L-carnitine on porcine embryonic myoblast proliferation and differentiation.
Bradley J. Johnson
Lonza Inc. - \$9,894; Funded (2002)

Effect of L-carnitine on porcine embryonic muscle growth and development.
Bradley J. Johnson
Lonza Inc. - \$60,000; Funded (2002)

The effect of a Salmonella typhimurium disease challenge on porcine muscle growth.
Bradley J. Johnson, J. Ernest Minton, Steven S. Dritz, and Jerome Nietfeld
USDA Animal Health – 1433 - \$16,000; Funded (2002)

Can dietary mannanoligosaccharides and sodium chlorate alter the pathobiology and bacterial shedding of Salmonella typhimurium-infected pigs.
J. Ernest Minton, Bradley J. Johnson, Steven S. Dritz, and Jerome Nietfeld
USDA Animal Health – 1433 - \$16,000; Funded (2002)

Lactic acid-producing bacteria as feed additives in swine diets.
J. Ernest Minton, Steven S. Dritz, Bradley J. Johnson, and Joel DeRouche
Chr Hansen Biosystems - \$18,000; Funded (2002)

In vitro evaluation of enzyme treatment of soybean hulls to increase their nutritive value.
Evan Titgemeyer and Bradley J. Johnson
SAF Agri - \$10,500; Funded (2002)

Effect of melengestrol acetate (MGA) on cultured bovine muscle satellite cell proliferation and differentiation.
Bradley J. Johnson and James S. Drouillard
Pharmacia Animal Health - \$17,600; Funded (2001)

The role of polyunsaturated fatty acids on proliferation and differentiation of cultured muscle cells.
Bradley J. Johnson
Bioserve Space Technologies - \$10,000; Funded (2001)

Flaxseed as a component of finishing cattle diets.
James S. Drouillard and Bradley J. Johnson
N.D. Oilseed Commission - \$105,080 + 24 Ton Flax; Funded (2001)

The effects of P7, fed during the receiving period, on subsequent carcass characteristics.
Bradley J. Johnson and James S. Drouillard
SAF Agri - \$22,000; Funded (2001)

Growth and immunomodulatory effects of dietary mannanoligosaccharides (SAF Mannan) in Salmonella-infected pigs.
Bradley J. Johnson, J. Ernest Minton, and Steven S. Dritz
SAF Agri - \$8,000; Funded (2001)

The effect of a Salmonella typhimurium disease challenge on porcine muscle growth.

Bradley J. Johnson, J. Ernest Minton, Steven S. Dritz, and Jerome Nietfeld

USDA Animal Health – 1433 - \$15,000; Funded (2001)

Can dietary mannanoligosaccharides and sodium chlorate alter the pathobiology and bacterial shedding of Salmonella typhimurium-infected pigs.

J. Ernest Minton, Bradley J. Johnson, Steven S. Dritz, and Jerome Nietfeld

USDA Animal Health – 1433 - \$15,000; Funded (2001)

Ascorbic acid supplementation: Effects on glycogen metabolism and carcass yield in beef cattle.

James S. Drouillard and Bradley J. Johnson

Roche Vitamins - \$32,000; Funded (2001)

Elucidation of factors predisposing steers to buller steer syndrome.

Dale A. Blasi and Bradley J. Johnson

Kansas Feeding Companies (Irsik & Doll, Pratt Co. Feeders et al.) - \$30,000; Funded (2001)

Tumor necrosis factor – α : Implications for glucose regulation and health in growing and finishing cattle.

James S. Drouillard and Bradley J. Johnson

USDA Animal Health – 1433 - \$8,000; Funded (2001)

Assessment of blood constituents among feedlot heifers fed finishing rations with and without melengestrol acetate.

James S. Drouillard and Bradley J. Johnson

Pharmacia Animal Health - \$36,960; Funded (2001)

Protection of micro-ingredient feedstuffs from microbial degradation with biodegradable coatings.

James S. Drouillard, Tom Herald, and Bradley J. Johnson

APUF - \$10,000; Funded (2001)

Application of Digestive Enzyme to Improve Soybean Hull Utilization in Cattle.

Evan Titgemeyer, James S. Drouillard, and Bradley J. Johnson

SAF Agri - \$6,500; Funded (2001)

Health and management factors affecting beef value.

S. W. Fausti, B. J. Johnson and W. B. Epperson.

USDA-NRICGP-Seed Grant 80.3 \$50,000 Funded (8/1/99)

Utilization of waxy endosperm corn in beef feedlot diets.

B. J. Johnson.

South Dakota Corn Utilization Council \$45,000 Funded (4/5/99)

Producing and feeding high-oil corn for integrated crop and livestock enterprises.

B. J. Johnson and R. Berg, Jr.

South Dakota Corn Utilization Council \$14,000 Funded (4/5/99)

Effects of calving time and weaning time on feedlot performance and carcass characteristics.

R. J. Pruitt and B. J. Johnson.

South Dakota Corn Utilization Council \$5800 Funded (4/5/99)

Evaluation of carcass tenderness and quality grade in a sample of South Dakota cattle.

B. J. Johnson.

South Dakota Beef Industry Council \$8928 Funded (3/4/99)

Effect of high oil corn fed during a 165-d feeding period on beef quality and fatty acid composition.

B. J. Johnson.

Optimum Quality Grains \$14,655 Gift Funded (8/15/99)

The effects of Biosaf on feedlot performance during the receiving period.

B. J. Johnson.

Saf Agri \$4500 Gift Funded (12/15/99)

High oil corn in crop/livestock enterprises.

B. J. Johnson and R. Berg, Jr.

South Dakota Corn Utilization Council \$22,000 Funded (4/9/98)

The effects of Biosaf on feedlot performance during the receiving period.

B. J. Johnson.

SAF Products \$3520 Gift Funded (12/10/98)

Investigation of serologic titer related to vaccination and previous management.

W. B. Epperson, B. J. Johnson, D. Zalesky, and J. Walker.

Fort Dodge Animal Health. \$4,860 Funded (11/15/98)