

Curriculum Vitae

Jason Kinchloe Apple

Department of Animal Science &
Veterinary Technology
700 University Blvd., MSC 228
Kingsville, TX 78363
Work: (361) 593-3376
Email: Jason.Apple@tamuk.edu

4329 Lake Apache Dr.
Corpus Christ, TX 78413
Cell: (479) 601-1189

Education

- 1990 to 1994 Ph.D., Meat Science, Department of Animal Sciences and Industry, Kansas State University, Manhattan
- Dissertation title: “*Effects of physical or emotional stressors on endocrine and blood metabolite status, muscle glycogen metabolism, and the incidence of the dark-cutting condition in the longissimus muscle of sheep*”
 - Major Professor: Dr. Michael E. Dikeman
- 1987 to 1989 M.S., Meat Science, Department of Animal Sciences and Industry, Kansas State University, Manhattan
- Thesis title: “*Effects of Finaplix®[®], Synovex-S®[®] and Ralgro®[®] implants, singularly or in combinations, on performance, carcass traits and longissimus palatability of Holstein steers*”
 - Major Professor: Dr. Michael E. Dikeman
- 1984 to 1987 B.S., Animal Science, Department of Animal Science, Oklahoma State University, Stillwater
- 1983 to 1984 Cameron University, Lawton, OK

Work Experience

- 2019 to *present* **Chair & Professor** (50% administration/50% teaching), Animal Science and Veterinary Technology Department, Texas A&M University-Kingsville, Kingsville
- 2007 to 2019 **Professor** (70% research/20% teaching/10% service), Department of Animal Science, University of Arkansas, Fayetteville
- 2001 to 2007 **Associate Professor** (70% research/20% teaching/10% service), Department of Animal Science, University of Arkansas, Fayetteville
- 1995 to 2001 **Assistant Professor** (70% research/20% teaching/10% service), Department of Animal Sciences, University of Arkansas, Fayetteville

- 1993 to 1995 **Lecturer** (80% teaching/20% extension), Department of Veterinary and Animal Sciences, University of Massachusetts, Amherst
- 1987 to 1993 **Graduate Research Assistant**, Department of Animal Sciences and Industry, Kansas State University, Manhattan

Honors and Activities

- 2021 to *present* Chair, Animal Science Advisory Council, Department of Animal Science and Veterinary Technology, Texas A&M University-Kingsville
- 2020 to 2021 Co-Chair, American Meat Science Association Education Foundation Mentorship for Michael E. Dikeman Mentorship committee
- 2021 to 2022 Texas Academic Leaders Academy (Cohort #4)
- 2021 to 2022 Texas A&M University-Kingsville President's Leadership Academy
- 2018 University of Arkansas Bumper's College of Agricultural, Food and Life Sciences Outstanding Honors Faculty Mentor Award
- 2017 Invited Ph.D. Committee member for O. P. Soladoye, Department of Food and Bioproduct Sciences, University of Saskatchewan, Saskatoon
- 2017 National Pork Board Color Revision Committee
- 2015 to *present* American Humane Association, Heartland Advisory Committee
- 2015 to 2016 Midwest Section President, American Society of Animal Science
- President-elect, 2014 to 2015
 - Past-President, 2016 to 2017
- 2016 American Society of Animal Science Strategic Planning Committee
- 2012 & 2013 University of Arkansas Residents' Interhall Congress Outstanding Faculty nominee
- 2011 to 2013 Animal Production Associate Editor, Journal of Animal Science
- 2011 to 2012 Section Editor, Encyclopedia of Meat Science, 2nd edition
- 2011 President, University of Arkansas Gamma Sigma Delta Honor Fraternity
- 2009 Reciprocal Meats Conference Host Committee Chairman
- 2009 University of Arkansas Gamma Sigma Delta Outstanding Research Award
- 2008 American Society of Animal Science Meat Research Award
- 2008 Northwest Arkansas Cattlemen's Association Man of the Year
- 2007 to 2009 Senior Advisor to American Meat Science Association Student Board of Directors
- 2005 to 2007 Board of Directions of the American Meat Science Association
- 2003 to 2005 Animal Products Division Editor, Journal of Animal Science
- 2004 National Pork Board Innovation in Swine Research Award, Southern Section, American Society of Animal Science
- 2002 American Meat Science Association Achievement Award
- 2002 Southern Section Outstanding Young Scientist in Research Award, American Society of Animal Science
- 2001 to 2003 Meat Science Section Editor, Journal of Animal Science
- 2001 & 2002 Beef Empire Days Carcass Contest Judge
- 1999 to 2001 Journal of Animal Science Editorial Board
- 1997 University of Arkansas Inter-Fraternity Outstanding Faculty Advisor

Peer-Reviewed Publications

94. Cauble, R. N., J. J. Ball, V. E. Zorn, T. M. Reyes, M. P. Wagoner, M. M. Coursen, B. D. Lambert, **J. K. Apple**, and J. T. Sawyer. 2022. Characteristics of pork ham muscles cooked to varying endpoint temperatures. *MDPI Foods* 10(12), 2963 (doi.org/10.3390/foods10122963).
93. Wang, Y., S. Shelby, **J. Apple**, K. Coffey, F. Pohlman, and Y. Huang. 2021. Effects of two dietary crude protein levels on finishing performance, meat quality, and gene expression of market lambs. *Anim. Sci. J.* 92:e13641.
92. Lucas, K. M., D. A. Koltjes, L. M. Meyer, J. D. Tucker, D. S. Hubbell, III, J. G. Powell, **J. K. Apple**, and J. E. Koltjes. 2021. Identification of breed differences in known and new fescue toxicosis associated phenotypes in Charolais- and Hereford-sired crossbred beef cows. *Animals* 11:2830.
91. Johnson, K. V., K. J. Jogan, and **J. K. Apple**. 2021. Affecting confidence and concern of undergraduate students and increasing volunteerism to support people with disabilities through an equine assisted therapies course. *J. Behav. Social Sci.* 7:291-297.
91. Freeland, G., N. Hettiarachchy, G. G. Atungulu, **J. Apple**, and S. Mukherjee. 2021. Strategies to combat antimicrobial resistance from farm to table. *Food Rev. Int.* (doi:10.1080/87559129.2021.1893744).
90. Wang, Y., K. Thakali, P. Morse, S. Shelby, J. Chen, **J. Apple**, and Y. Huang. 2021. Comparison of growth performance and meat quality traits of commercial cross-bred pigs versus Large Black pig breeds. *Animals*, vol. 11, article no. 200 (https://doi.org/10.3390/ani11010200).
89. Cauble, R., E. Greene, S. Orlowski, C. Walk, M. Bedford, **J. Apple**, M. T. Kidd, and S. Dridi. 2020. Research Note: Dietary phytase reduces broiler woody breast severity via potential modulation of breast muscle fatty acid profiles. *Poultry Sci.* 99:4009-4015.
88. Keys, C. A., **J. K. Apple**, J. W. S. Yancey, R. J. Stackhouse, and L. N. Mehall. 2020. Comparison of meat quality and health implications of branded and commodity beef. *Appl. Anim. Sci.* 36:135-144.
87. Wang, X., T. Tsai, F. Deng, X. Wei, J. Chai, J. Knapp, **J. Apple**, C. V. Maxwell, J. A. Lee, Y. Li, and J. Zhao. 2019. Longitudinal investigation of the swine gut microbiome from birth to market revealed stage and growth performance associated microbiome. *Microbiome* vol. 7, article no. 109.
86. Basinger, K. L., B. C. Shanks, **J. K. Apple**, J. D. Caldwell, J. W. S. Yancey, E. A. Backes, L. S. Wilbers, T. M. Johnson, and A. L. Bax. 2019. Application of tension to prerigor goat carcasses to improve cooked meat tenderness. *Meat Sci.* 147:1-5.
85. Hollenbeck, J. J., **J. K. Apple**, J. W. S. Yancey, T. M. Johnson, K. N. Kerns, and A. N. Young. 2019. Cooked color of precooked ground beef patties manufactured with mature bull trimmings. *Meat Sci.* 148:41-49.
84. Alexander, J. C., K. J. Rucker, D. L. Graham, J. D. Miller, and **J. K. Apple**. 2018. Perceptions of agricultural leadership academic programs of 1862 land-grant universities. *J. Agric. Educ.* 58:66-83

83. Ball, J. J., E. B. Kegley, P. A. Beck, **J. K. Apple**, D. R. Cox, and J. G. Powell. 2018. CASE STUDY: Effect of injectable castration regimen on beef bull calves. *Prof. Anim. Sci.* 34:218-222.
82. **Apple, J. K.**, C. V. Maxwell, B. E. Bass, J. W. S. Yancey, R. L. Payne, and J. Thomson. 2017. Effects of reducing dietary CP levels and replacement with crystalline AA on growth performance, carcass composition, and fresh pork quality of finishing pigs fed ractopamine hydrochloride. *J. Anim. Sci.* 95:4971-4985.
81. Caldwell, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and J. Hawley. 2017. Bloom development of the beef *semimembranosus* and *triceps brachii* as influenced by wet-aging. *Meat Muscle Biol.* 1:61-70. doi:10.22175/mmb2017.04.0024
80. Moon, C. T., J. W. S. Yancey, **J. K. Apple**, J. J. Hollenbeck, T. M. Johnson, and A. R. Winters. 2016. Quality characteristics of fresh and cooked ground beef can be improved by the incorporation of lean finely-textured beef (LFTB). *J. Food Qual.* 39:465-475.
79. Stackhouse, R. J., **J. K. Apple**, J. W. S. Yancey, C. A. Keys, T. M. Johnson, and L. N. Mehall. 2016. Post-rigor citric acid enhancement can alter cooked color, but not fresh color, of dark-cutting beef. *J. Anim. Sci.* 94:1738-1754.
78. Yancey, J. W. S., **J. K. Apple**, and M. D. Wharton. 2016. Cookery method and endpoint temperature can affect the Warner-Bratzler shear force, cooking loss, and internal cooked color of beef semimembranosus and infraspinatus steaks. *J. Anim. Sci.* 94:4434-4446.
77. **Apple, J. K.**, J. B. Machete, R. J. Stackhouse, T. M. Johnson, C. A. Keys, and J. W. S. Yancey. 2014. Color stability and tenderness variations within the *gluteus medius* from beef top sirloin butts. *Meat Sci.* 96:56-64.
76. Basinger, K. L., C. L. Thomas, B. C. Shanks, J. D. Caldwell, **J. K. Apple**, S. Ahuja, E. A. Backes, and J. J. Hollenbeck. 2014. Consumer evaluation and shear force of retail domestic grain-finished, imported New Zealand grass-finished, and Missouri-produced grass-finished lamb racks. *Sheep Goat Res. J.* 29:24-27.
75. Williamson, J. A., R. R. Reuter, **J. K. Apple**, C. B. Stewart, H. C. Gray, and P. A. Beck. 2014. Growth-promoting implants and nutrient restriction before feeding: Effect on finishing performance, carcass composition, carcass quality, and consumer acceptability of beef. *Prof. Anim. Sci.* 30:485-496.
74. Browne, N. A., **J. K. Apple**, B. E. Bass, C. V. Maxwell, J. W. S. Yancey, T. M. Johnson, and D. L. Galloway. 2013. Phase-feeding dietary fat to growing-finishing pigs fed dried distillers' grains with soluble: I. Growth performance, pork carcass characteristics, and fatty acid composition of subcutaneous fat depots. *J. Anim. Sci.* 91:1493-1508.
73. Browne, N. A., **J. K. Apple**, C. V. Maxwell, J. W. S. Yancey, T. M. Johnson, D. L. Galloway, and B. E. Bass. 2013. Phase-feeding dietary fat to growing-finishing pigs fed dried distillers' grains with soluble: II. Fresh belly and bacon quality characteristics. *J. Anim. Sci.* 91:1509-1521.
72. Kuttappan, V.A., G. R. Huff, W. E. Huff, B. M. Hargis, **J. K. Apple**, C. Coon and C.M. Owens. 2013. Comparison of hematologic and serologic profiles of broiler birds with normal (NORM) and severe (SEV) degrees of white striping in breast fillets. *Poultry Sci.* 92:339-345.

71. Yancey, J. W. S., **J. K. Apple**, E. B. Kegley, and R. G. Godbee. 2013. Effects of *Morinda citrifolia* (noni) pulp on growth performance and stress responses of growing cattle. *Prof. Anim. Sci.* 29:420-425.
70. Barham, B., P. Beck, **J. Apple**, W. Whitworth, M. Miller, and S. Gadberry. 2012. Effect of age entering feedlot and implant regimen on beef cattle performance, carcass characteristics, and sensory evaluation. *Prof. Anim. Sci.* 28:20-31.
69. Beck, P., B. Barham, **J. Apple**, W. Whitworth, M. Miller, and S. Gadberry. 2012. Effect of age entering feedlot and implant regimen on finishing system profitability. *Prof. Anim. Sci.* 28:32-40.
68. Gadberry, M. S., P. A. Beck, S. A. Gunter, B. L. Barham, W. Whitworth, and **J. K. Apple**. 2012. Effect of corn and soybean hull based creep feed and backgrounding diets on life-long performance and carcass traits of calves from pasture and rangeland conditions. *Prof. Anim. Sci.* 28:507-512.
67. Kuttappan, V. A., V. B. Brewer, **J. K. Apple**, P. W. Waldroup, and C. M. Owens. 2012. Influence of growth rate on the occurrence of white striping in broiler breast fillets. *Poultry Sci.* 91:2677-2685.
66. Potter, B. D., C. M. Owens, M. F. Slavik, H. L. Goodwin, **J. K. Apple**, and J. M. Marcy. 2012. Impact of performance-based sanitation systems on microbiological characteristics of poultry processing equipment and carcasses as compared to traditional sanitation systems. *J. Appl. Poultry Res.* 21:669-678.
65. Tapp, W. T., J. W. S. Yancey, **J. K. Apple**, and R. G. Godbee. 2012. Noni puree (*Morinda citrifolia*) mixed in beef patties enhanced color stability. *Meat Sci.* 91:131-136.
64. **Apple, J. K.**, J. T. Sawyer, C. V. Maxwell, J. W. S. Yancey, J. W. Frank, J. C. Woodworth, and R. E. Musser. 2011. Effects of L-carnitine supplementation on quality characteristics of fresh pork bellies from pigs fed three levels of corn oil. *J. Anim. Sci.* 89:2878-2891.
63. **Apple, J. K.**, J. T. Sawyer, J. –F. Meullenet, J. W. S. Yancey, and M. D. Wharton. 2011. Lactic acid enhancement can improve the fresh and cooked color of dark-cutting beef. *J. Anim. Sci.* 88:4207-4220.
62. Tapp, W. N., J. W. S. Yancey, and **J. K. Apple**. 2011. How is the instrumental color of meat measured? *Meat Sci.* 89:1-5.
61. Trusell, K. A., **J. K. Apple**, J. W. S. Yancey, T. M. Johnson, D. L. Galloway, and R. J. Stackhouse. 2011. Compositional and instrumental firmness variations within fresh pork bellies. *Meat Sci.* 88:472-480.
60. Yancey, J. W. S., M. D. Wharton, and **J. K. Apple**. 2011. Cookery method and end-point temperature can affect the Warner-Bratzler shear force, cooking loss, and internal color of beef *Longissimus* steaks. *Meat Sci.* 88:1-7.
59. Yancey, J. W. S., **J. K. Apple**, J. –F. Meullenet, and J. T. Sawyer. 2010. Consumer responses of tenderness and overall impression can be predicted by visible and near-infrared spectroscopy, Meullenet-Owens razor shear, and Warner-Bratzler shear force. *Meat Sci.* 85:487-492.
58. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, S. Hutchison, and C. R. Hamilton. 2009. Interactive effects of dietary fat source and slaughter weight in growing-finishing swine: I. Growth performance and longissimus muscle fatty acid composition. *J. Anim. Sci.* 87:1407-1422.

57. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, C. R. Hamilton, and J. W. S. Yancey. 2009. Interactive effects of dietary fat source and slaughter weight in growing-finishing swine: II. Fatty acid composition of subcutaneous fat. *J. Anim. Sci.* 87:1423-1440.
56. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, C. R. Hamilton, and J. W. S. Yancey. 2009. Interactive effects of dietary fat source and slaughter weight in growing-finishing swine: III. Carcass and fatty acid compositions. *J. Anim. Sci.* 87:1441-1454.
55. Bajwa, S. G., J. Kandaswamy, and **J. K. Apple**. 2009. Spectroscopic evaluation of the nutrient value of ground beef patties. *J. Food Engr.* 92:454-460.
54. Lee, M. S., S. L. Krumpelman, **J. K. Apple**, J. W. S. Yancey, E. B. Kegley, M. G. Johnson, M. M. Brashears, and T. P. Stephens. 2009. *In vitro* and *in vivo* investigations of antimicrobial treatments to reduce *Escherichia coli* O157:H7 in cattle manure. *Prof. Anim. Sci.* 25:49-59.
53. Sawyer, J. T., **J. K. Apple**, Z. B. Johnson, R. T. Baublits, and J. W. S. Yancey. 2009. Fresh and cooked color of dark-cutting beef can be altered by post-rigor enhancement with lactic acid. *Meat Sci.* 83:263-270.
52. Sawyer, J. T., J. C. Brooks, **J. K. Apple**, and G. Q. Fitch. 2009. Effects of solution enhancement on palatability and shelf-life characteristics of lamb retail cuts. *J. Muscle Foods* 20:352-366.
51. **Apple, J. K.**, C. V. Maxwell, B. R. Kutz, L. K. Rakes, J. T. Sawyer, Z. B. Johnson, T. A. Armstrong, S. N. Carr, and P. D. Matzat. 2008. Interactive effect of ractopamine and dietary fat source on pork quality characteristics of fresh pork chops during simulated retail display. *J. Anim. Sci.* 86:2711-2722.
50. Bajwa, S. C., J. Kandaswamy, and **J. K. Apple**. 2008. The effect of scanning angle on measured reflectance and tenderness prediction in beef *longissimus thoracis* steaks. *Trans. ASABE* 51:351-357.
49. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and Z. B. Johnson. 2008. Influence of vacuum-aging period on bloom development of the beef *gluteus medius* from top sirloin butts. *Meat Sci.* 80:592-598.
48. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and Z. B. Johnson. 2008. Influence of wet-aging on bloom development in the *longissimus thoracis*. *Meat Sci.* 80:703-707.
47. Lee, M. S., J. W. S. Yancey, **J. K. Apple**, J. T. Sawyer, and R. T. Baublits. 2008. Within-muscle variation in color and pH of beef *semimembranosus*. *J. Muscle Foods* 19:62-73.
46. Sawyer, J. T., **J. K. Apple**, and Z. B. Johnson. 2008. The impact of acidic marination concentration and sodium chloride on sensory and instrumental color characteristics of dark-cutting beef. *Meat Sci.* 79:317-325.
45. **Apple, J. K.** 2007. Effects of nutritional modifications on the water-holding capacity of fresh pork: a review. *J. Anim. Breed. Genet.* 124(Suppl. 1):43-58.
44. **Apple, J. K.**, C. V. Maxwell, J. T. Sawyer, B. R. Kutz, L. K. Rakes, M. E. Davis, Z. B. Johnson, and T. A. Armstrong. 2007. Interactive effect of ractopamine and dietary fat source on quality characteristics of fresh pork bellies. *J. Anim. Sci.* 85:2682-2690.
43. **Apple, J. K.**, P. J. Rincker, F. K. McKeith, T. A. Armstrong, S. N. Carr, and P. D. Matzat. 2007. Review: meta-analysis of the ractopamine response in finishing swine. *Prof. Anim. Sci.* 23:179-196.

42. **Apple, J. K.**, W. J. Roberts, C. V. Maxwell, Jr., L. K. Rakes, K. G. Friesen, and T. M. Fakler. 2007. Influence of dietary inclusion level of manganese on pork quality during retail display. *Meat Sci.* 75:640-647.
41. **Apple, J. K.**, W. A. Wallis-Phelps, C. V. Maxwell, L. K. Rakes, J. T. Sawyer, S. Hutchison, and T. M. Fakler. 2007. Effect of supplemental iron on finishing swine performance, carcass characteristics, and pork quality during retail display. *J. Anim. Sci.* 85:737-745.
40. Burke, J. M., and **J. K. Apple**. 2007. Growth performance and carcass traits of forage-fed hair sheep wethers. *Small Ruminant Res.* 67:264-270.
39. Sawyer, J. T., R. T. Baublits, **J. K. Apple**, J. –F. Meullenet, Z. B. Johnson, and T. K. Alpers. 2007. Lateral and longitudinal characterization of color stability, instrumental tenderness, and sensory characteristics in the beef *semimembranosus*. *Meat Sci.* 75:575-584.
38. Sawyer, J. T., A. W. Tittor, **J. K. Apple**, J. B. Morgan, C. V. Maxwell, L. K. Rakes, and T. M. Fakler. 2007. Effects of supplemental manganese on performance of growing-finishing pigs and pork quality during retail display. *J. Anim. Sci.* 85:1046-1053, 1610.
37. Wistuba, T. J., E. B. Kegley, **J. K. Apple**, and D. C. Rule. 2007. Feeding feedlot steers fish oil alters the fatty acid composition of adipose and muscle tissue. *Meat Sci.* 77:196-203.
36. **Apple, J. K.**, E. B. Kegley, D. L. Galloway, T. J. Wistuba, L. K. Rakes, and J. W. S. Yancey. 2006. Treadmill exercise is not an effective methodology for producing the dark cutting condition in young cattle. *J. Anim. Sci.* 84:3079-3088.
35. Burke, J. M., C. F. Rosenkrans, R. W. Rorie, C. Golden, and **J. K. Apple**. 2006. Reproductive responses of ram lambs under short-term exposure to endophyte-infected tall fescue seed. *Small Ruminant Res.* 66:121-128.
34. Davis, M. E., S. C. Sears, **J. K. Apple**, C. V. Maxwell, and Z. B. Johnson. 2006. Effect of weaning age and commingling after the nursery phase of pigs in a wean-to-finish facility on growth and humoral and behavioral indicators of well-being. *J. Anim. Sci.* 84:743-756.
33. Hutchison, S., E. B. Kegley, **J. K. Apple**, T. J. Wistuba, M. E. Dikeman, and D. C. Rule. 2006. Effects of adding poultry fat in the finishing diets of steers on performance, carcass characteristics, sensory traits, and fatty acid profiles. *J. Anim. Sci.* 84:2426-2435.
32. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2006. Influence of fish oil in finishing diets on growth performance, carcass characteristics, and sensory evaluation of cattle. *J. Anim. Sci.* 84:902-909.
31. **Apple, J. K.**, W. J. Roberts, C. V. Maxwell, Jr., C. B. Boger, K. G. Friesen, L. K. Rakes, and T. M. Fakler. 2005. Influence of dietary manganese source and supplementation level on pork quality during retail display. *J. Muscle Foods* 16:207-222.
30. **Apple, J. K.**, E. B. Kegley, D. L. Galloway, T. J. Wistuba, and L. K. Rakes. 2005. Duration of restraint and isolation stress as a model to study the dark-cutting condition in cattle. *J. Anim. Sci.* 83:1202-1214.
29. **Apple, J. K.**, E. B. Kegley, C. V. Maxwell, Jr., L. K. Rakes, D. Galloway, and T. J. Wistuba. 2005. Effects of dietary magnesium and short-duration transportation on

- stress response, postmortem muscle metabolism, and meat quality of finishing swine. *J. Anim. Sci.* 83:1633-1645.
28. Kandaswamy, J., S. G. Bajwa, and **J. K. Apple**. 2005. Ability of near-infrared spectroscopy to predict fat, cholesterol and caloric content of fresh and cooked ground beef. *Proc. Sensors Industry Conf.*, Paper no. 5022.
 27. Wistuba, T. J., E. B. Kegley, **J. K. Apple**, M. E. Davis. 2005. Influence of fish oil supplementation on growth, immune system characteristics and carcass traits of cattle. *J. Anim. Sci.* 83:1097-1101.
 26. **Apple, J. K.**, C. V. Maxwell, D. C. Brown, K. G. Friesen, R. E. Musser, Z. B. Johnson, and T. A. Armstrong. 2004. Effects of dietary lysine and energy density on performance and carcass characteristics of finishing pigs fed ractopamine. *J. Anim. Sci.* 82:3277-3287.
 25. **Apple, J. K.**, W. J. Roberts, C. V. Maxwell, C. B. Boger, T. M. Fakler, K. G. Friesen, and Z. B. Johnson. 2004. Effect of supplemental manganese on performance and carcass characteristics of growing-finishing swine. *J. Anim. Sci.* 82:3267-3276.
 24. **Apple, J. K.**, C. B. Boger, D. C. Brown, C. V. Maxwell, K. G. Friesen, W. J. Roberts, and Z. B. Johnson. 2003. Effect of feather meal on live animal performance and carcass quality and composition of growing-finishing swine. *J. Anim. Sci.* 81:172-181.
 23. Burke, J. M., **J. K. Apple**, W. J. Roberts, C. B. Boger, and E. B. Kegley. 2003. Effect of breed-type on performance and carcass traits of intensively managed hair sheep. *Meat Sci.* 63:309-315.
 22. **Apple, J. K.**, C. V. Maxwell, M. R. Stivarius, L. K. Rakes, and Z. B. Johnson. 2002. Effects of dietary magnesium and halothane genotype on performance and carcass traits of growing-finishing swine. *Livest. Prod. Sci.* 76:103-113.
 21. **Apple, J. K.**, M. R. Stivarius, J. D. Reiman, L. K. Rakes, and C. V. Maxwell. 2002. Halothane-genotype and duration of refrigerated storage effects on the quality of vacuum-packaged pork loins. *J. Muscle Foods* 13:103-122.
 20. Davis, J. R., **J. K. Apple**, D. H. Hellwig, E. B. Kegley, and F. W. Pohlman. 2002. The effects of feeding broiler litter on microbial contamination of beef carcasses. *Bioresource Technol.* 84:191-196.
 19. Stivarius, M. R., F. W. Pohlman, K. S. McElyea, and **J. K. Apple**. 2002. Microbial, instrumental color and sensory color and odor characteristics of ground beef produced from beef trimmings treated with ozone or chlorine dioxide. *Meat Sci.* 60:299-305.
 18. Stivarius, M. R., F. W. Pohlman, K. S. McElyea, and **J. K. Apple**. 2002. The effects of acetic acid, gluconic acid and trisodium citrate treatment of beef trimmings on microbial, color and odor characteristics of ground beef through simulated retail display. *Meat Sci.* 60:245-252.
 17. **Apple, J. K.**, J. R. Davis, L. K. Rakes, C. V. Maxwell, M. R. Stivarius, and F. W. Pohlman. 2001. Effects of dietary magnesium and duration of refrigerated storage on the quality of vacuum-packaged, boneless pork loins. *Meat Sci.* 57:43-53.
 16. **Apple, J. K.**, H. B. Watson, K. P. Coffey, and E. B. Kegley. 2000. Comparison of different magnesium sources on lamb muscle quality. *Meat Sci.* 55:443-449.

15. **Apple, J. K.**, C. V. Maxwell, B. deRodas, H. B. Watson, and Z. B. Johnson. 2000. Effect of magnesium mica on performance and carcass quality of growing-finishing swine. *J. Anim. Sci.* 78:2135-2143.
14. **Apple, J. K.** 1999. Influence of body condition scores on live and carcass value of cull beef cows. *J. Anim. Sci.* 77:2610-2620.
13. **Apple, J. K.**, J. C. Davis, and J. Stephenson. 1999. Influence of body condition scores on by-product yields and value from cull beef cows. *J. Anim. Sci.* 77:2670-2679.
12. **Apple, J. K.**, J. C. Davis, J. Stephenson, J. E. Hankins, J. R. Davis, and S. L. Beaty. 1999. Influence of body condition scores on carcass characteristics and subprimal yields from cull beef cows. *J. Anim. Sci.* 77:2660-2669.
11. **Apple, J. K.**, L. K. Rakes, and H. B. Watson. 1999. Cooking and shearing methodology effects on Warner-Bratzler shear force values in pork. *J. Muscle Foods* 10:269-277.
10. Beaty, S. L., **J. K. Apple**, L. K. Rakes, and D. L. Kreider. 1999. Early postmortem skeletal alterations effect on sarcomere length, myofibrillar fragmentation, and muscle tenderness of beef from light-weight, Brangus heifers. *J. Muscle Foods* 10:67-78.
9. Tarn, C. Y., C. F. Rosenkrans, Jr., **J. K. Apple**, and J. D. Kirby. 1998. Effects of 6-*N*-propyl-2-thiouracil on growth, hormonal profiles, carcass and reproductive traits of boars. *Anim. Reprod. Sci.* 50:81-94.
8. **Apple, J. K.**, M. E. Dikeman, J. E. Minton, R. M. McMurphy, M. R. Fedde, D. E. Leith, and J. A. Unruh. 1995. Effects of restraint and isolation stress and epidural blockade on endocrine and blood metabolite status, muscle glycogen metabolism, and incidence of the dark-cutting longissimus muscle of sheep. *J. Anim. Sci.* 73:2295-2307.
7. Minton, J. E., **J. K. Apple**, K. M. Parsons, and F. Blecha. 1995. Stressor-associated concentrations of plasma cortisol cannot account for reduced lymphocyte function and changes in serum enzymes in lambs exposed to restraint and isolation stress. *J. Anim. Sci.* 73:812-817.
6. **Apple, J. K.**, K. M. Parsons, J. E. Minton, M. E. Dikeman, and D. E. Leith. 1994. Influence of treadmill exercise on pituitary-adrenal secretions, other blood constituents, and meat quality of sheep. *J. Anim. Sci.* 72:1306-1314.
5. **Apple, J. K.**, J. E. Minton, K. M. Parsons, and J. A. Unruh. 1993. Influence of repeated restraint and isolation stress and electrolyte administration on pituitary-adrenal secretions, electrolytes and other blood constituents of sheep. *J. Anim. Sci.* 71:71-77.
4. **Apple, J. K.**, J. A. Unruh, J. E. Minton, and J. B. Bartlett. 1993. Influence of repeated restraint and isolation stress and electrolyte administration on carcass quality and muscle electrolyte content of sheep. *Meat Sci.* 35:191-203.
3. **Apple, J. K.**, and J. V. Craig. 1992. The influence of pen size on toy preference of growing pigs. *Appl. Anim. Behav. Sci.* 35:149-155.
2. **Apple, J. K.**, M. E. Dikeman, L. V. Cundiff, and J. W. Wise. 1991. Determining retail product and trimmable fat yields within 1 hour postmortem. *J. Anim. Sci.* 69:4845-4857.
1. **Apple, J. K.**, M. E. Dikeman, D. D. Simms, and G. Kuhl. 1991. Effects of synthetic hormone implants, singularly or in combinations, on performance, carcass traits, and longissimus muscle palatability of Holstein steers. *J. Anim. Sci.* 69:4437-4448.

Book Chapters

7. **Apple, J. K.** 2021. Chapter 17. Nutrition and pork quality. Pages *XXX – XXX* in: Sustainable Swine Nutrition, 2nd Edition (L. Chiba, Ed.), John Wiley & Sons, Hoboken, NJ.
6. **Apple, J. K.** 2013. Chapter 17. Nutrition and pork quality. Pages 413 – 429 in: Sustainable Swine Nutrition (L. Chiba, Ed.), John Wiley & Sons, Hoboken, NJ.
5. **Apple, J. K.**, and J. W. S. Yancey. 2013. Chapter 7. Water-holding capacity of meat. Pages 119 – 146 in: The Science of Meat Quality (C. Kerth, Ed.), John Wiley & Sons, Hoboken, NJ.
4. Bajwa, S. G., and **J. K. Apple**. 2011. Non-linear modeling of quality of cooked ground beef patties with visible-NIR spectroscopy. Pages 35–56 in: New Topics in Food Engineering (M. A. Comeau, Ed), Nova Science Publishers, Inc. Hauppauge, NY.
3. **Apple, J. K.** 2010. Nutritional effects on pork quality. Pages 288-300 in: National Swine Nutrition Guide (D. J. Meisinger, Ed.), U. S. Pork Center of Excellence, Ames, IA.
2. Owens, C. M., and **J. K. Apple**. 2010. Pale, soft and exudative poultry meat. Pages 515-531 in: Handbook of Poultry Science and Technology: Volume I: Primary Processing (I. Guerrero-Legarreta and Y. H. Hui, Ed.), John Wiley & Sons, Hoboken, NJ.
1. Tatum, J. D., **J. K. Apple**, H. G. Dolezal, D. M. Stiffler, and J. A. Unruh. 2001. Chapter 2. Beef Evaluation. In: Meat Evaluation Handbook, American Meat Science Association, Savoy, IL.

Scientific Abstracts

180. Lichtenwalter, C. A., E. B. Kegley, K. M. Chapman, and **J. K. Apple**. 2021. Effect of the prospect of transport on naive and experienced captive tiger behavior and fecal cortisol. *Am. Behav. Soc. (in press)*.
179. **Apple, J. K.** 2021. Can regionalized livestock production and meat packing meet the food needs of today's consumer? *J. Anim. Sci.* 99(Suppl. 4):(*in press*).
178. Abbott, G., K. Jogan, E. L. Oberhaus, **J. Apple**, and C. Rosenkrans, Jr. 2020. Comparing stress indicators of horses used for therapy in riding activities and groundwork activities. *J. Anim. Sci.* 98(Suppl. 2):36-37.
177. Abbott, G., K. Jogan, E. L. Oberhaus, **J. Apple**, and C. Rosendrants. 2020. Comparing stress indicators of horses used for therapy in riding and groundwork activities. *J. Anim. Sci.* 98(Suppl. 2):83.
176. Wang, Y., K. Thakali, S. Shelby, **J. Apple**, and Y. Huang. 2019. Comparison of the meat quality traits of crossbred pigs and the Large Black pigs. *J. Anim. Sci.* 97(Suppl. 3):241-242.
175. Shelby, S., K. Thakali, Y. Wang, **J. Apple**, and Y. Huang. 2019. Effect of two dietary crude protein levels on finishing performance, meat quality, and genomic changes of lambs. *J. Anim. Sci.* 97(Suppl. 3):220-221.
174. Newman, D. J., S. T. Beauchamp, C. L. Burden, J. M. Young, **J. K. Apple**, X. Sun, C. C. Carr, and C. Roland. 2019. National retail benchmarking for pork 2019. *Meat Muscle Biol.* 3(2):97-98.
173. Ball, J. J., E. M. Herring, E. B. Kegley, J. T. Richeson, **J. K. Apple**, E. A. Palmer, and J. G. Powell. 2019. Comparison of growth-promoting implant regimens from calthood to finishing in beef steers: finishing phase. *J. Anim. Sci.* 97(Suppl. 1):66.

172. Lichtenwalter, C. A., **J. K. Apple**, E. B. Kegley, T. C. Tsai, E. Palmer, J. Knapp, and D. Galloway. 2019. Impact of teat order on feed consumption in swine from birth to nursery. *J. Anim. Sci.* 97(Suppl. 1):32.
171. Sawyer, J., B. D. Lambert, J. P. Muir, **J. K. Apple**, J. J. Ball, and R. N. Cauble. 2018. Fresh ham chop characteristics cooked to various internal endpoint temperatures. *Meat Muscle Biol.* 2(2):114..
170. Knapp, J., T. Tasi, C. Maxwell, **J. Apple**, and J. Chewning. 2018. The effect of peptide product and ZnO on growth performance in nursery pigs fed different levels of crude protein. *J. Anim. Sci.* 96(Suppl. 3):325-326.
169. Althaber, C. A., **J. K. Apple**, J. W. S. Yancey, T. Johnson, and T. W. Glascock. 2018. Effects of bull/cow trim and finely textured beef on cooked color. *J. Anim. Sci.* 96(Suppl. 2):106-107.
168. Wang, X., **J. Apple**, and Y. Huang. 2018. Inactivation of the gene α -1,3-galactosyltransferase in bovine aortic smooth muscle cells using CRISPR-Cas9. *J. Anim. Sci.* 96(Suppl. 2):105.
167. Glascock, T. W., **J. K. Apple**, J. G. Powell, P. A. Beck, J. J. Ball, T. M. Johnson, and J. T. Sawyer. 2018. Evaluation of production economics and a value of carcasses processed into wholesale cuts from steers finished in a conventional system compared to carcasses processed into ground beef from steers finished on a grass-based systems. *J. Anim. Sci.* 96(Suppl. 1):28.
166. Hicks, Z. M., J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, and B. E. Jenschke. 2018. Lean percentage, storage times, and griddle temperature affect raw and cooked visual and instrumental color and cooking loss in fresh ground beef patties. *J. Anim. Sci.* 96(Suppl. 1):80.
165. Huang, Y., S. Shelby, X. Wang, **J. K. Apple**, and K. P. Coffey. 2018. Effect of two dietary crude protein levels on finishing performance, carcass characteristics, and meat quality of lamb. *J. Anim. Sci.* 96(Suppl. 1):29-30.
164. Jogan, K. S., K. V. Johnson, and **J. K. Apple**. 2017. Evaluating confidence and concern in an introductory level EAAT course. *NACTA J.* 61(Suppl. 1):63.
163. Hicks, Z. M., J. W. S. Yancey, **J. K. Apple**, and T. M. Johnson. 2017. Cooking patties from frozen state, endpoint temperature, and post-cookery chilling affect internal and external color and cooking losses in ground beef patties. *J. Anim. Sci.* 95(Suppl. 5):187.
162. Tsai, T. C., H. Kim, X. Wang, **J. K. Apple**, J. J. Chewning, J. R. Bergstrom, and C. V. Maxwell. 2017. Effects of supplementation with a protease, carbohydrases, and phytase in reduced nutrient diets fed from weaning to market on growth performance, nutrient digestibility, and hematological characteristics. *J. Anim. Sci.* 95(Suppl. 2):136-137.
161. Tsai, T. C., H. Kim, X. Wang, , J. J. Chewning, **J. K. Apple**, J. E. Thomson, and C. V. Maxwell. 2017. Effect of increasing the standardized ileal digestible tryptophan:lysine ratio on growth performance of grower-finisher pigs. *J. Anim. Sci.* 95(Suppl. e):136.
160. Wilson, V. G., J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, and R. T. Callahan. 2017. Inclusion of bull and cow beef in patty formulation results in persistent pinking in cooked beef. *J. Anim. Sci.* 95(Suppl. 1):23.

159. **Apple, J. K.**, and J. W. S. Yancey. 2016. The quandaries of measuring meat quality. *J. Anim. Sci.* 94(Suppl. 2):63.
158. Ball, J. J., J. G. Powell, P. Beck, E. B. Kegley, **J. K. Apple**, and D. R. Cox. 2016. Effect of injectable castration regimen administered at branding on gain performance, testosterone production, and testicle atrophy in beef bull calves. *J. Anim. Sci.* 94(Suppl. 1):44.
157. Jones, K. M., B. C. Shanks, J. D. Caldwell, **J. A. Apple**, B. R. Wiegand, L. S. Wilbers, T. M. Johnson, A. L. Bax, C. L. Thomas, K. L. Basinger, and J. W. S. Yancey. 2016. Effects of diet containing psyllium seed husks on carcass composition, fatty acid profile, and cholesterol of rabbits. *J. Anim. Sci.* 94(Suppl. 2):190-191.
156. Kim, H. J., T. C. Tsai, J. J. Chewning, **J. K. Apple**, K. J. Touchette, J. E. Thomson, J. Less, and C. V. Maxwell. 2016. Effects of aggressive feed-grade amino acid supplementation in reduced CP diets formulated on ME or NE basis on growth performance of nursery pigs. *J. Anim. Sci.* 94(Suppl. 1):91.
155. Maxwell, C. V., T. C. Tsai, H. J. Kim, **J. K. Apple**, K. J. Touchette, and J. J. Chewning. 2016. Supplementation of feed grade essential and non-essential amino acids to control levels in pigs fed reduced crude protein (RCP) diets meeting SID His:Lys ratio requirement maintained growth performance and carcass composition of growing/finishing swine. *J. Anim. Sci.* 94(Suppl. 2):89.
154. **Apple, J. K.**, C. V. Maxwell, T. C. Tsai, H. J. Kim, D. G. Cook, K. J. Touchette, J. E. Thomson, J. Less, and J. J. Chewning. 2015. Effect of feed-grade amino acid supplementation in reduced crude protein diets formulated on a net energy basis on performance and carcass characteristics of growing-finishing pigs. *J. Anim. Sci.* 93(Suppl. 2):18-19.
153. **Apple, J. K.**, C. V. Maxwell, T. C. Tsai, H. J. Kim, J. W. Yancey, K. J. Touchette, J. E. Thomson, J. Less, and J. J. Chewning. 2015. Effects of reduced CP diets, formulated on either an ME or NE basis, on growth performance and carcass characteristics of growing-finishing swine. *J. Anim. Sci.* 93(Suppl. 2):74-75.
152. **Apple, J. K.**, T. C. Tsai, H. J. Kim, M. Wang, B. P. Corbett, T. M. Johnson, and C. V. Maxwell. 2015. Intratesticular injection of zinc solution effectively castrates male pigs without affecting pork quality. *J. Anim. Sci.* 93(Suppl. s3):222.
151. Basinger, K. L., B. C. Shanks, **J. K. Apple**, J. D. Caldwell, L. S. Wilbers, C. L. Thomas, W. M. Haslag, S. N. Kleithermes, and A. L. Bax. 2015. Pre-weaning growth performance of F₁ intact male Kiko × Boer goat kids from does divided into high and low lines for parasite resistance – one year summary. *J. Anim. Sci.* 93(Suppl. s3):499.
150. Cook, D. G., **J. K. Apple**, C. V. Maxwell, A. N. Young, D. L. Galloway, H. J. Kim, and T. C. Tsai. 2015. Effects of amino acid supplementation of reduced crude protein (RCP) diets formulated on a NE basis on belly fatty acid deposition in swine. *J. Anim. Sci.* 93(Suppl. 2):166.
149. Cook, D. G., **J. K. Apple**, C. V. Maxwell, A. N. Young, D. L. Galloway, H. J. Kim, and T. C. Tsai. 2015. Effects of amino acid supplementation of reduce crude protein (RCP) diets formulated on a NE basis on the fatty acid composition of the LM and jowl subcutaneous fat. *J. Anim. Sci.* 93(Suppl. 2):188-189.
148. Kim, H. J., T. C. Tsai, J. R. Bergstrom, J. J. Chewning, **J. K. Apple**, and C. V. Maxwell. 2015. Effects of a multicomponent enzyme product in diets with and without wheat

- middlings on the performance of nursery pigs during the first 23 d postweaning. *J. Anim. Sci.* 93(Suppl. 2):126-127.
147. Thomas, C. L., B. C. Shanks, K. L. Basinger, **J. K. Apple**, B. R. Wiegand, J. D. Caldwell, L. S. Wilbers, A. L. Bax, and S. A. Marler. 2016. Evaluation of cholesterol and fatty acid content of lamb and goat longissimus muscle. *Meat Sci.* 112:169-170.
 146. Tsai, T. C., H. J. Kim, J. R. Bergstrom, J. J. Chewning, **J. K. Apple**, and C. V. Maxwell. 2015. Effects of increasing dietary levels of *Aspergillus oryzae*-derived phytase (Ronozyme) on the growth performance of nursery pigs fed an adequate phosphorus diet. *J. Anim. Sci.* 93(Suppl. 2):55-56.
 145. Tsai, T. C., H. J. Kim, J. L. Usry, J. Cohen, J. J. Chewning, **J. K. Apple**, and C. V. Maxwell. 2015. Effect of Zn sources and inclusion rate on growth performance and carcass composition in grower-finisher pigs. *J. Anim. Sci.* 93(Suppl. 2):143-144.
 144. Basinger, K., J. D. Caldwell, **J. K. Apple**, and B. C. Shanks. 2015. Application of “Tendercut” with added weight and “Tenderstretch” to goat carcasses. *Meat Sci.* 101:127.
 143. Cook, D., **J. Apple**, C. Maxwell, K. Basinger, A. Young, T. Johnson, H. Kim, and T. Tsai. 2015. Effects of crystalline amino acid supplementation of reduced crude protein (RCP) diet on net energy basis on longissimus muscle (LM) quality of growing-finishing swine. *Meat Sci.* 101:122.
 142. Hawley, J., E. B. Kegley, J. W. Yancey, and **J. K. Apple**. 2014. Effects of excess dietary sulfur on beef carcass characteristics and quality after aging. *J. Anim. Sci.* 92(E-Suppl. 2):631.
 141. Tsai, T. C., H. J. Kim, J. R. Bergstrom, J. J. Chewning, **J. K. Apple**, and C. V. Maxwell. 2014. Effect of wheat middling and multiple enzyme products on growth performance and carcass characteristics in nursery and finisher pigs. *J. Anim. Sci.* 92 (Suppl. 2):55-56.
 140. Tsai, T. C., H. J. Kim, J. R. Bergstrom, J. J. Chewning, **J. K. Apple**, and C. V. Maxwell. 2014. Effects of the combination of 50 ppm L-carnitine and 200 ppb chromium from chromium picolinate on sow performance, progeny growth performance and carcass quality. *J. Anim. Sci.* 92(Suppl. 2):153.
 139. Young, A. N., **J. K. Apple**, J. W. Yancey, T. M. Johnson, T. C. Tsai, and C. V. Maxwell. 2014. Effects of amino acid supplementation of reduced crude protein (RCP) diets on fatty acid composition of subcutaneous fat and muscle. *J. Anim. Sci.* 92(E-Suppl. 2):619.
 138. **Apple, J. K.**, B. E. Bass, T. C. Tsai, C. V. Maxwell, J. W. S. Yancey, A. N. Young, M. D. Hanigan, R. Ulrich, J. S. Radcliffe, B. T. Richert, G. Thoma, and J. S. Popp. 2013. Effects of amino acid supplementation of reduced crude protein (RCP) diets on performance and carcass composition of growing-finishing swine. *J. Anim. Sci.* 91(Suppl. 2):73.
 137. Basinger, K., B. C. Shanks, **J. K. Apple**, J. D. Caldwell, E. A. Backes, J. J. Hollenbeck, K. R. Ness, J. W. S. Yancey, L. S. Wilbers, and E. L. Farrell. 2014. Application of “Tenderstretch” and “Tendercut” to goat carcasses. *Meat Sci.* 96:472.
 136. Bass, B. E., T. C. Tsai, M. D. Hanigan, **J. K. Apple**, R. Ulrich, J. S. Radcliffe, B. T. Richert, G. Thoma, J. S. Popp, and C. V. Maxwell. 2013. Maximum replacement of CP with synthetic amino acids in nursery pigs. *J. Anim. Sci.* 91(Suppl. 2):102.

135. Hollenbeck, J. J., **J. K. Apple**, J. W. S. Yancey, K. N. Kerns, and A. N. Young. 2014. Cooked color of precooked ground beef patties formulated with mature bull trim. *Meat Sci.* 96:476.
134. Hollenbeck, J., **J. Apple**, J. Yancey, A. Young, C. Moon, T. Johnson, and D. Galloway. 2013. Effect of lactic acid enhancement pH on beef quality attributes of bull strip loins. *J. Anim. Sci.* 91(Suppl. 3):9.
133. Hollenbeck, J., **J. Apple**, J. Yancey, A. Young, C. Moon, T. Johnson, and D. Galloway. 2013. Effect of lactic acid enhancement pH on beef quality attributes of cull cow strip loins. *J. Anim. Sci.* 91(Suppl. 2):101-102.
132. Tsai, T., H. Kim, G. Fitzner, J. K. Apple, J. J. Chewning, and C. V. Maxwell. 2013. Effect of diet complexity and an enzyme-treated soy protein plus yeast on performance in weanling pigs. *J. Anim. Sci.* 91(E-Suppl. 2):583.
131. Young, A. N., **J. K. Apple**, J. W. S. Yancey, J. J. Hollenbeck, T. M. Johnson, B. E. Bass, T. C. Tsai, C. V. Maxwell, M. D. Hanigan, J. S. Radcliffe, B. T. Richert, J. S. Popp, R. Ulrich, and G. Thoma. 2013. Effects of amino acid supplementation of reduced crude protein (RCP) diets on LM quality of growing-finishing swine. *J. Anim. Sci.* 91(Suppl. 2):97-98.
130. **Apple, J. K.**, C. V. Maxwell, J. W. S. Yancey, R. L. Payne, and J. Thomson. 2012. Effects of reducing crude protein level and replacement with crystalline amino acids on growth performance, carcass composition, and fresh pork quality of finishing pigs fed Paylean. *J. Anim. Sci.* 90 (Suppl. 2):3.
129. Basinger, K. L., B. C. Shanks, J. D. Caldwell, E. A. Backes, J. J. Hollenbeck, S. Ahuja, D. K. Sommerer, E. D. Groose, G. T. Otto, K. R. Ness, **J. K. Apple**, and F. Eivazi. 2013. Consumer acceptability and tenderness from retail domestic grain-finished, imported New Zealand grass-finished, and Missouri-produced grass-finished lamb racks. *Meat Sci.* 93:22.
128. Hollenbeck, J., J. G. Powell, **J. K. Apple**, K. P. Coffey, C. A. Tucker, M. P. Rowe, and J. L. Reynolds. 2012. Determining the effects of nematode control on feedlot growth performance and carcass merit in beef cattle. *J. Anim. Sci.* 90 (Suppl. 1):16.
127. Kuttappan, V. A., G. R. Huff, W. E. Huff, B. M. Hargis, **J. K. Apple**, C. Coon, and C. M. Owens. 2012. Comparison of hematologic and serologic profiles of broiler birds with normal and severe degrees of white striping in breast fillets. *Poultry Sci.* 91(Suppl. 1):148.
126. Moon, C. T., J. W. S. Yancey, **J. K. Apple**, J. J. Hollenbeck, T. M. Johnson, and A. R. Winters. 2012. Lean beef trim improved fresh and cooked quality characteristics of ground beef patties. *J. Anim. Sci.* 90 (Suppl. 1):1.
125. Reese, R. A., **J. K. Apple**, J. W. S. Yancey, J. J. Hollenbeck, and T. M. Johnson. 2012. Color development and stability in the beef longissimus thoracis (LT) and psoas major (PM). *J. Anim. Sci.* 90 (Suppl. 1):2.
124. Robinette, J., R. Reuter, P. Beck, F. Ribeiro, B. Stewart, H. Gray, and **J. Apple**. 2012. Effect of pre-finishing implant strategy and nutrient restriction on finishing performance. *J. Anim. Sci.* 90 (Suppl. 1):5.
123. Ahrens, C. R., J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, C. A. Keys, R. J. Stackhouse, and N. A. Browne. 2011. Effects of clarified Noni juice or Noni pulp on the shelf life and color stability of ground beef patties. *J. Anim. Sci.* 89 (E-Suppl. 2):5.

122. Ahrens, C. R., J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, and N. A. Browne. 2011. Effects of Noni pulp and juice on Lee-Kramer shear force, cooked color and consumer acceptability of ground beef patties. *Meat Sci.* 89:356-357.
121. **Apple, J. K.** 2011. Dietary fat and meat quality. *J. Anim. Sci.* 89 (E-Suppl. 2):89.
120. Browne, N. A., **J. K. Apple**, C. V. Maxwell, J. W. S. Yancey, C. L. Bradley, R. J. Stackhouse, and C. A. Keys. 2011. Effects of phase-feeding beef tallow on growth performance and carcass characteristics of growing-finishing pigs fed dried distillers grains with soluble. *J. Anim. Sci.* 89 (E-Suppl. 2):37.
119. Browne, N. A., **J. K. Apple**, C. V. Maxwell, J. W. S. Yancey, and D. S. Delozier. 2011. Effects of phase-feeding beef tallow on quality characteristics of bacon from growing-finishing pigs fed dried distillers grains with soluble. *Meat Sci.* 89:341.
118. Browne, N. A., **J. K. Apple**, C. V. Maxwell, J. W. S. Yancey, T. M. Johnson, R. J. Stackhouse, and C. A. Keys. 2011. Effects of phase-feeding beef tallow on belly quality characteristics and yields of commercially-processed bacon from growing-finishing pigs fed dried distillers grains with soluble. *J. Anim. Sci.* 89 (E-Suppl. 2):75.
117. Robinette, J., P. Beck, B. Barham, S. Gadberry, and **J. Apple**. 2011. Effect of implants and nutrient restriction prior to feeding on carcass quality. *J. Anim. Sci.* 89 (E-Suppl. 2):1.
116. Tapp, III, W. N., J. W. S. Yancey, **J. K. Apple**, M. J. Wolf, A. M. Laury, J. C. Brooks, M. M. Brashears, and M. F. Miller. 2011. Shelf life extension, organoleptic variation, and pathogenic reduction of noni treated beef patties. *Meat Sci.* 89:337-338.
115. **Apple, J. K.**, J. T. Sawyer, J. F. Muellenet, M. D. Wharton, and J. W. S. Yancey. 2010. Lactic acid enhancement can improve the fresh and cooked beef color of dark-cutting beef. *J. Anim. Sci.* 88(E-Suppl. 3):83.
114. **Apple, J. K.**, J. T. Sawyer, J. F. Muellenet, M. D. Wharton, and J. W. S. Yancey. 2010. There is little benefit of acid enhancement at a low injection rate on the fresh and cooked color of dark-cutting beef. *J. Anim. Sci.* 88(E-Suppl. 3):82-83.
113. Barham, B., P. A. Beck, M. S. Gadberry, W. Whitworth, and **J. Apple**. 2010. Does creep feed and backgrounding energy source affect lifetime growth performance and carcass characteristics of nursing calves pastured on improved warm-season grasses? *J. Anim. Sci.* 88(E-Suppl. 2):71.
112. Gadberry, M. S., P. A. Beck, B. Barham, W. Whitworth, and **J. Apple**. 2010. Does creep feed and backgrounding energy source affect lifetime growth performance and carcass characteristics of nursing calves pastured on annual ryegrass? *J. Anim. Sci.* 88(E-Suppl. 2):70-71.
111. Keys, C. A., **J. K. Apple**, J. W. S. Yancey, R. J. Stackhouse, T. M. Johnson, and L. N. Mehall. 2010. There is no difference in the color and tenderness of commodity and natural beef. *J. Anim. Sci.* 88(E-Suppl. 3):15.
110. Keys, C. A., **J. K. Apple**, J. W. S. Yancey, R. J. Stackhouse, and L. N. Mehall. 2010. Benefits of natural branded vs. conventionally-fed, commodity beef. *Meat Sci.* 86:554.
109. Machete, J. B., **J. K. Apple**, R. J. Stackhouse, T. M. Johnson, C. A. Keys, and J. W. S. Yancey. 2010. Color stability and tenderness variations within the gluteus medius from beef top sirloin butts. *J. Anim. Sci.* 88(E-Suppl. 3):83.

108. Stackhouse, R. J., **J. K. Apple**, J. W. S. Yancey, C. A. Keys, T. M. Johnson, and L. N. Mehall. 2010. The impact of citric acid marination pH on visual and instrumental color characteristics of dark-cutting beef. *J. Anim. Sci.* 88(E-Suppl. 3):16.
107. Stackhouse, R. J., **J. K. Apple**, J. W. S. Yancey, C. A. Keys, and T. M. Johnson. 2010. Effect of enhancement solution pH on the fresh and cooked color of dark cutting beef. *Meat Sci.* 86:557-558.
106. Stackhouse, R. J., **J. K. Apple**, J. W. S. Yancey, C. A. Keys, and T. M. Johnson. 2010. Citric acid marination can improve the cooked color, but not fresh color, of dark-cutting beef. *Meat Sci.* 86:558.
105. Trapp, III, W. N., J. W. S. Yancey, **J. K. Apple**, and R. G. Godbee. 2010. The effects of using Noni pulp (*Morinda citrifolia*) on beef patties to enhance color stability. *J. Anim. Sci.* 88(E-Suppl. 3):38-39.
104. Trusell, K. A., **J. K. Apple**, D. L. Galloway, J. W. S. Yancey, T. M. Johnson, and R. J. Stackhouse. 2010. Fatty acid variations in fresh pork bellies. *J. Anim. Sci.* 88(E-Suppl. 3):39.
103. Yancey, J. W. S., **J. K. Apple**, T. M. Johnson, R. J. Stackhouse, and R. G. Godbee. 2010. Clarified Noni juice spray was not successful as an antioxidant in beef loin steaks. *Meat Sci.* 86:563.
102. Barham, B., P. Beck, S. Gadberry, **J. Apple**, W. Whitworth, and M. Miller. 2009. Age entering the feedlot and implant potency: II. Carcass quality, shear force and sensory panel characteristics. *J. Anim. Sci.* 87(E-Suppl. 2):55-56.
101. Beck, P., B. Barham, S. Gadberry, **J. Apple**, M. Miller, and L. Hughes. 2009. Age entering the feedlot and implant potency: I. Post-weaning and feedlot performance. *J. Anim. Sci.* 87(E-Suppl. 2):55.
100. Tapp, N. W., J. W. S. Yancey, and **J. K. Apple**. 2009. How is the instrumental color of meat measured? *Proc. 62nd Recipr. Meats Conf. Abstract No. 90.*
99. Trusell, K. A., **J. K. Apple**, J. W. S. Yancey, T. M. Johnson, and R. J. Stackhouse. 2009. Measuring the compositional and instrumental firmness variations in fresh pork bellies. *J. Anim. Sci.* 87(E-Suppl. 3):132.
98. Wharton, M. D., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. S. Lee. 2009. Internal color and tenderness of the infraspinatus are affected by cooking method and degree of doneness. *J. Anim. Sci.* 87(E-Suppl. 3):79.
97. Wharton, M. D., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. S. Lee. 2009. Internal color and tenderness of the semimembranosus are affected by cooking method and degree of doneness. *J. Anim. Sci.* 87(E-Suppl. 3):79-80.
96. Ahrens, C. A., J. W. S. Yancey, and **J. K. Apple**. 2008. Fabrication method of the infraspinatus muscle affects WBSF. *J. Anim. Sci.* 86(Suppl. 1):34.
95. **Apple, J. K.** 2008. Changes in live performance and carcass composition associated with feeding diets formulated with fats and/or oils. *J. Anim. Sci.* 86(Suppl. 2):23.
94. **Apple, J. K.**, J. T. Sawyer, C. V. Maxwell, J. C. Woodworth, J. W. S. Yancey, and R. E. Musser. 2008. Effect of L-carnitine supplementation on the performance and pork quality traits of growing-finishing swine fed three levels of corn oil. *J. Anim. Sci.* 86(E-Suppl. 2):37.
93. **Apple, J. K.**, J. T. Sawyer, C. V. Maxwell, J. C. Woodworth, J. W. S. Yancey, and R. E. Musser. 2008. Effect of L-carnitine supplementation on the fatty acid composition of

- subcutaneous fat and LM from swine fed three levels of corn oil. *J. Anim. Sci.* 86(E-Suppl. 2):38.
92. Lee, M. S., **J. K. Apple**, J. T. Sawyer, J. W. S. Yancey, and M. D. Wharton. 2008. Influence of beef ribeye roll aging period prior to bloom and steak vacuum-storage on subsequent bloom development. 61st Recipr. Meats Conf. Abstract No. 43.
 91. Shockey, J. D., S. A. Gunter, P. A. Beck, and **J. K. Apple**. 2008. Evaluation of feeding systems for finishing beef cattle. *J. Anim. Sci.* 86(Suppl. 1):12.
 90. Yancey, J. W. S., **J. K. Apple**, J. T. Sawyer, M. S. Lee, and M. D. Wharton. 2008. Relationship of belly-flop measurements with smokehouse yield and fatty acid composition. *J. Anim. Sci.* 86(E-Suppl. 2):38.
 89. Yancey, J. W. S., **J. K. Apple**, J. T. Sawyer, M. S. Lee, and J. C. Woodworth. 2008. Comparison of fatty acid composition in pork belly primary and secondary lean, and seam and subcutaneous fat. *J. Anim. Sci.* 86(E-Suppl. 2):39.
 88. Yancey, J. W. S., H. Flórez-Díaz, E. B. Kegley, and **J. K. Apple**. 2008. Effects of rumen-protected Ca salt of conjugated linoleic acid (CLA) and previous rate of gain on visual display and sensory characteristics of beef steaks. *J. Anim. Sci.* 86(Suppl. 2):80.
 87. Yancey, J. W. S., H. Flórez-Díaz, E. B. Kegley, and **J. K. Apple**. 2008. Effects of rumen-protected Ca salt of conjugated linoleic acid (CLA) and previous rate of gain on fatty acid composition. *J. Anim. Sci.* 86(Suppl. 2):79.
 86. Wharton, M. D., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. S. Lee. 2008. Internal color and tenderness of the *longissimus thoracis* are affected by cooking methods and degree of doneness. 61st Recipr. Meats Conf. Abstract No. 42.
 85. Koonce, J. B., E. B. Kegley, D. L. Galloway, and **J. K. Apple**. 2007. Impact of stressing a penmate on behavior and physiological responses of growing pigs. *J. Anim. Sci.* 85(Suppl. 2):44.
 84. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, M. M. Brashears, and T. P. Stephens. 2007. Influence of sanitizing feedlot pens on microbial populations and cattle performance. *J. Anim. Sci.* 85(Suppl. 2):125.
 83. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. D. Wharton. 2007. Influence of wet-aging on bloom stability of beef ribeye rolls. 60th Recipr. Meats Conf. Abstract No. 25.
 82. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. D. Wharton. 2007. Influence of wet-aging on bloom time of beef top sirloin butts. 60th Recipr. Meats Conf. Abstract No. 26.
 81. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. D. Wharton. 2007. Influence of wet-aging on bloom time of beef inside rounds. 60th Recipr. Meats Conf. Abstract No. 27.
 80. Lee, M. S., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. D. Wharton. 2007. Influence of wet-aging on bloom time of beef shoulder clods. 60th Recipr. Meats Conf. Abstract No. 28.
 79. Sawyer, J. T., **J. K. Apple**, R. T. Baublits, and J. W. S. Yancey. 2007. Color stability of dark-cutting beef enhanced with lactic acid. 60th Recipr. Meats Conf. Abstract No. 40.

78. Sawyer, J. T., **J. K. Apple**, and Z. B. Johnson. 2007. The impact of acidic marination concentration and sodium chloride on sensory and instrumental color characteristics of dark-cutting beef. *J. Anim. Sci.* 85(Suppl. 2):79.
77. Sawyer, J. T., **J. K. Apple**, and Z. B. Johnson. 2007. The impact of acidic marination on sensory and instrumental color characteristics of dark-cutting beef. 60th Recipr. Meats Conf. Abstract No. 43.
76. Sawyer, J. T., **J. K. Apple**, J.-F. Meullenet, B. Cheatman, W. K. Chung, and R. Xiong. 2007. Empirical modeling for predicting objective tenderness of muscles from the beef round. *J. Anim. Sci.* 85(Suppl. 2):80.
75. Sawyer, J. T., **J. K. Apple**, J.-F. Meullenet, B. Cheatman, W. K. Chung, R. Xiong, and S. G. Bajwa. 2007. The use of non-invasive measurements for predicting objective tenderness of muscles from the beef round. 60th Recipr. Meats Conf. Abstract No. 82.
74. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, S. Hutchison, and J. T. Sawyer. 2006. Effect of dietary fat source on the saturated fatty acid (SFA) composition of backfat from growing-finishing swine. *J. Anim. Sci.* 84(Suppl. 2):111.
73. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, S. Hutchison, and J. T. Sawyer. 2006. Effect of dietary fat source on the monounsaturated fatty acid (MUFA) composition of backfat from growing-finishing swine. *J. Anim. Sci.* 84(Suppl. 2):111.
72. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, S. Hutchison, and J. T. Sawyer. 2006. Effect of dietary fat source on the polyunsaturated fatty acid (PUFA) composition of backfat from growing-finishing swine. *J. Anim. Sci.* 84(Suppl. 2):58.
71. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, S. Hutchison, and J. T. Sawyer. 2006. Effect of dietary fat source on fatty acid composition of backfat from growing-finishing swine. *J. Anim. Sci.* 84(Suppl. 2):58.
70. Flórez-Díaz, H., E. B. Kegley, G. F. Erf, D. L. Kreider, K. P. Coffey, **J. K. Apple**, and N. D. Luchini. 2006. Effects of rumen-protected Ca salts of conjugated linoleic acid (CLA) and previous rate of gain on growth performance, immune function, and carcass characteristics of feedlot cattle. *J. Anim. Sci.* 84(Suppl. 1):70.
69. Lee, M. S., **J. K. Apple**, C. V. Maxwell, D. L. Galloway, J. T. Sawyer, and J. W. S. Yancey. 2006. Effects of dietary fat source and slaughter weight on LM fatty acid composition of growing-finishing swine. *J. Anim. Sci.* 84(Suppl. 2):20.
68. Lee, M. S., J. W. S. Yancey, **J. K. Apple**, J. T. Sawyer, and R. T. Baublits. 2006. Within muscle variation in color and pH of beef semimembranosus. 59th Recipr. Meats Conf. Abstract No. 14P.
67. Sawyer, J. T., **J. K. Apple**, J. -F. Mullenent, B. Cheatman, W. K. Chung, R. Xiong, and J. Kandaswamy. 2006. Empirical modeling for predicting objective tenderness of biceps femoris steaks. *J. Anim. Sci.* 84(Suppl. 2):19.
66. Sawyer, J. T., R. T. Baublits, **J. K. Apple**, and Z. B. Johnson. 2006. Longitudinal and lateral characterization of color stability in the beef semimembranosus. 59th Recipr. Meats Conf. Abstract No. 9P.
65. Sawyer, J. T., R. T. Baublits, **J. K. Apple**, J. -F. Meullenet, Z. B. Johnson, and T. K. Alpers. 2006. Longitudinal and lateral characterization of instrumental tenderness and sensory characteristics in the beef semimembranosus. 59th Recipr. Meats Conf. Abstract No. 10P.
64. Yancey, J. W. S., **J. K. Apple**, C. V. Maxwell, D. L. Galloway, J. T. Sawyer, and M. S. Lee. 2006. Effects of dietary fat source and slaughter weight on the fatty acid

- composition of carcass composition samples from growing-finishing swine. *J. Anim. Sci.* 84(Suppl. 2):20-21.
63. **Apple, J. K.**, C. V. Maxwell, D. L. Galloway, and L. K. Rakes. 2005. Effects of dietary fat source on carcass fatty acid composition of pigs slaughtered at 113.6 kg. *J. Anim. Sci.* 83(Suppl. 2):24.
 62. Burke, J. M., and **J. K. Apple**. 2005. Carcass traits of hair breed ram and wether lambs on moderate or high level of supplement. *J. Anim. Sci.* 83(Suppl. 1):63-64.
 61. Johnson, T. M., R. E. Morrow, C. A. Wells, and **J. K. Apple**. 2005. Producer experiences in whole farm planning for the production of grass-finished beef. *J. Anim. Sci.* 83(Suppl. 1):20.
 60. **Apple, J. K.**, B. R. Kutz, C. V. Maxwell, M. E. Davis, L. K. Rakes, Z. B. Johnson, and T. A. Armstrong. 2004. Effects of ractopamine and dietary fat source on quality characteristics of fresh pork bellies. *J. Anim. Sci.* 82(Suppl. 1):135.
 59. **Apple, J. K.**, B. R. Kutz, C. V. Maxwell, M. E. Davis, L. K. Rakes, Z. B. Johnson, and T. A. Armstrong. 2004. Effects of ractopamine and dietary fat source on performance and carcass characteristics of growing-finishing swine. *J. Anim. Sci.* 82(Suppl. 1):135.
 58. **Apple, J. K.**, C. V. Maxwell, L. K. Rakes, J. D. Stephenson, Z. B. Johnson, and W. A. Wallis. 2004. Effects of dietary fat source on performance and carcass composition of growing-finishing swine. *J. Anim. Sci.* 82(Suppl. 2):14.
 57. **Apple, J. K.**, W. A. Wallis, C. V. Maxwell, L. K. Rakes, and T. M. Fakler. 2004. Effects of iron supplementation level on performance and carcass characteristics of growing-finishing swine. *J. Anim. Sci.* 82(Suppl. 2):14.
 56. Davis, M. E., C. V. Maxwell, **J. Apple**, Z. B. Johnson, and S. Arthur. 2004. Effect of weaning age and commingling after the nursery phase on growth performance of pigs housed in a wean-to-finish facility. *J. Anim. Sci.* 82(Suppl. 2):72.
 55. Davis, M. E., C. V. Maxwell, **J. K. Apple**, Z. B. Johnson, S. C. Arthur, and D. C. Brown. 2004. Effect of weaning age and commingling after the nursery phase on immune characteristics of pigs housed in a wean-to-finish facility. *J. Anim. Sci.* 82(Suppl. 2):72.
 54. Hutchison, S., **J. K. Apple**, E. B. Kegley, and T. J. Wistuba. 2004. Comparison of beef tallow versus poultry fat in the finishing diets of steers on beef quality during retail display. *J. Anim. Sci.* 82(Suppl. 1):19.
 53. Hutchison, S., E. B. Kegley, **J. K. Apple**, and T. J. Wistuba. 2004. Comparison of beef tallow versus poultry fat in the finishing diets of steers on muscle and subcutaneous fatty acid profiles. *J. Anim. Sci.* 82(Suppl. 1):19.
 52. Hutchison, S., E. B. Kegley, **J. K. Apple**, T. J. Wistuba, and M. E. Dikeman. 2004. Comparison of beef tallow versus poultry fat in the finishing diets of steers on performance, carcass traits, and beef palatability of finishing steers. *J. Anim. Sci.* 82(Suppl. 2):102.
 51. Krumpelman, S. L., **J. K. Apple**, E. B. Kegley, M. G. Johnson, and S. E. Watkins. 2004. Utilization of chemical treatments to reduce escherichia coli O157:H7 from inoculated cattle manure. *J. Anim. Sci.* 82(Suppl. 2):11-12.
 50. Krumpelman, S. L., **J. K. Apple**, E. B. Kegley, M. G. Johnson, and S. E. Watkins. 2004. Utilization of lactic acid or cetylpyridinium chloride to reduce escherichia coli

- O157:H7 in inoculated cattle manure incubated at two temperatures. *J. Anim. Sci.* 82(Suppl. 2):53.
49. Tittor, A. W., **J. K. Apple**, and J. B. Morgan. 2004. Effects of supplemental manganese on pork quality of growing and finishing swine. *J. Anim. Sci.* 82(Suppl. 2):14.
 48. Boger, C. B., **J. K. Apple**, E. B. Kegley, W. J. Roberts, T. J. Wistuba, D. L. Galloway, and L. K. Rakes. 2003. Effects of restraint and isolation stress on stress physiology and the incidence of dark-cutting longissimus muscle in Holstein steers. *J. Anim. Sci.* 81(Suppl. 2):50.
 47. Boger, C. B., **J. K. Apple**, E. B. Kegley, W. J. Roberts, T. J. Wistuba, D. L. Galloway, and L. K. Rakes. 2003. Influence of treadmill exercise (TME) on meat quality of Holstein calves. *J. Anim. Sci.* 81(Suppl. 2):49.
 46. Burke, J. M., **J. K. Apple**, W. J. Roberts, and C. B. Boger. 2003. Comparison of carcass traits of extensively raised hair breed lambs. *J. Anim. Sci.* 81(Suppl. 2):27.
 45. Burke, J. M., C. F. Rosenkrans, R. W. Rorie, C. Golden, and **J. K. Apple**. 2003. Reproductive responses and carcass characteristics of ram lambs fed endophyte-infected tall fescue. *J. Anim. Sci.* 81(Suppl. 1):91-92.
 44. Johnson, T. M., R. E. Morrow, C. A. Wells, M. L. Thomas, and **J. K. Apple**. 2003. Whole farm planning for the production of grass-finished beef. *J. Anim. Sci.* 81(Suppl. 1):114.
 43. Roberts, W. J., **J. K. Apple**, C. V. Maxwell, C. B. Boger, K. G. Friesen, T. M. Fakler, and Z. B. Johnson. 2003. Effects of dietary inclusion level of manganese on live swine performance and quality characteristics of longissimus muscle (LM) chops during retail display. *J. Anim. Sci.* 81(Suppl. 2):52.
 42. Boger, C. B., **J. K. Apple**, C. V. Maxwell, W. J. Roberts, and K. G. Friesen. 2002. Effect of feather meal on live animal performance and carcass quality and composition of growing-finishing swine. *J. Anim. Sci.* 80(Suppl. 2):50-51.
 41. Brown, D. C., **J. K. Apple**, C. V. Maxwell, K. G. Friesen, R. E. Musser, Z. B. Johnson, and T. A. Armstrong. 2002. Effects of lysine and energy density on performance and carcass traits of finishing pigs fed ractopamine. *J. Anim. Sci.* 80(Suppl. 2):78.
 40. Jimenez-Villarreal, J. R., F. W. Pohlman, R. T. Baublits, Z. B. Johnson, **J. K. Apple**, A. H. Brown, Jr., and J. F. Meullenet. 2002. The impact of single antimicrobial intervention treatment with cetylpyridinium chloride, trisodium phosphate, chlorine dioxide or lactic acid on ground beef processing, lipid, instrumental color and sensory characteristics. *J. Anim. Sci.* 80(Suppl. 2):16.
 39. Jimenez-Villarreal, J. R., F. W. Pohlman, Z. B. Johnson, A. H. Brown, Jr., **J. K. Apple**, and J. F. Meullenet. 2002. Processing, lipid, instrumental color and sensory characteristics of ground beef produced using trisodium phosphate, cetylpyridinium chloride, chlorine dioxide or lactic acid as multiple antimicrobial interventions. *J. Anim. Sci.* 80(Suppl. 2):16.
 38. Jimenez-Villarreal, J. R., F. W. Pohlman, Z. B. Johnson, A. H. Brown, Jr., **J. K. Apple**, and J. F. Meullenet. 2002. The effects of chlorine dioxide, cetylpyridinium chloride, lactic acid and trisodium phosphate on processing, textural, lipid, instrumental color and sensory characteristics when used in a ground beef patty production system. *J. Anim. Sci.* 80(Suppl. 2):13.
 37. Jimenez-Villarreal, J. R., F. W. Pohlman, Z. B. Johnson, A. H. Brown, Jr., **J. K. Apple**, and J. F. Meullenet. 2002. The effects of multiple antimicrobial interventions on

- processing, lipid, textural instrumental color and sensory characteristics when used in a ground beef patty production system. *J. Anim. Sci.* 80(Suppl. 2):16.
36. Roberts, W. J., **J. K. Apple**, C. B. Boger, C. V. Maxwell, and K. G. Friesen. 2002. Effects of dietary manganese on quality characteristics of pork longissimus muscle (LM) chops during retail display. *J. Anim. Sci.* 80(Suppl. 2):51.
 35. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2002. Influence of fish oil addition on growth performance and immune function of growing cattle. *J. Anim. Sci.* 80(Suppl. 2):21.
 34. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2002. Influence of fish oil addition to finishing diets on carcass characteristics, immune function, and growth performance of cattle. *J. Anim. Sci.* 80(Suppl. 1):99.
 33. **Apple, J. K.**, J. M. Burke, W. J. Roberts, J. S. Stephenson, and L. K. Rakes. 2001. Effect of breed-type on the performance and carcass traits of hair-sheep. *J. Anim. Sci.* 79(Suppl. 1):442.
 32. **Apple, J. K.**, E. B. Kegley, L. K. Rakes, K. S. Anschutz, T. J. Wistuba, and C. V. Maxwell. 2001. Effects of supplemental magnesium and short-term transportation stress on pork quality. *J. Anim. Sci.* 79(Suppl. 2):9.
 31. **Apple, J. K.**, C. V. Maxwell, A. L. Hays, D. L. Kirkpatrick, M. R. Stivarius, and L. K. Rakes. 2001. Effects of magnesium mica and halothane-genotype on performance and carcass traits of growing-finishing swine. *J. Anim. Sci.* 79(Suppl. 2):9.
 30. **Apple, J. K.**, M. R. Stivarius, J. Rieman, L. K. Rakes, and C. V. Maxwell. 2001. Effects of halothane genotype, dietary magnesium, and duration of refrigerated storage on quality characteristics of vacuum-packaged pork loins. *J. Anim. Sci.* 79(Suppl. 2):56.
 29. Pohlman, F. W., M. R. Stivarius, K. S. McElyea, **J. K. Apple**, and J. R. Jimenez-Villarreal. 2001. The effects of ozone and chlorine dioxide on microbial, instrumental color and sensory color and odor characteristics when used in a ground beef production system. *J. Anim. Sci.* 79(Suppl. 2):10.
 28. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2001. Influence of fish oil addition on growth performance, immune function, and carcass characteristics of cattle. *Plains Nutr. Conf. Publ. No. AREC 01-23*, p. 95.
 27. **Apple, J. K.**, J. R. Davis, L. K. Rakes, C. V. Maxwell, and F. W. Pohlman. 2000. Dietary magnesium effects on quality of vacuum-packaged pork loins during refrigerated storage. *J. Anim. Sci.* 78(Suppl. 2):16.
 26. Brown, D. C., **J. K. Apple**, C. V. Maxwell, B. Z. deRodas, Z. B. Johnson, and K. Friesen. 2000. Efficacy of feather meal in improving gain, efficiency and carcass composition in growing-finishing pigs. *J. Anim. Sci.* 78(Suppl. 1):59.
 25. Davis, J. R., **J. K. Apple**, D. H. Hellwig, E. B. Kegley, and F. W. Pohlman. 2000. The impact of feeding poultry litter on microbial contamination of beef carcasses. *J. Anim. Sci.* 78(Suppl. 2):44.
 24. Davis, J. R., **J. K. Apple**, D. H. Hellwig, E. B. Kegley, and F. W. Pohlman. 2000. The impact of fertilization with poultry litter on microbial contamination of grass-fed beef carcasses. *J. Anim. Sci.* 78(Suppl. 2):44.
 23. Pohlman, F. W., M. R. Stivarius, K. S. McElyea, M. G. Johnson, **J. K. Apple**, and A. L. Waldroup. 2000. The effects of hot water and lactic acid treatment prior to grinding on microbial growth, instrumental color and sensory properties of ground beef during storage. *J. Anim. Sci.* 78(Suppl. 2):17.

22. Stivarius, M. R., F. W. Pohlman, K. S. McElyea, M. G. Johnson, **J. K. Apple**, and A. L. Waldroup. 2000. Reduction of *E. coli* and *Salmonella typhimurium* in ground beef using trisodium phosphate or cetylpyridinium chloride prior to grinding. *J. Anim. Sci.* 78(Suppl. 2):4.
21. Stivarius, M. R., F. W. Pohlman, K. S. McElyea, M. G. Johnson, **J. K. Apple**, A. L. Waldroup, and Z. B. Johnson. 2000. Reduction of microbial pathogens in ground beef utilizing hurdle technology and a novel ozone generator. *J. Anim. Sci.* 78 (Suppl. 2):48.
20. Stivarius, M. R., F. W. Pohlman, K. S. McElyea, M. G. Johnson, **J. K. Apple**, A. L. Waldroup, and Z. B. Johnson. 2000. Reduction of microbial pathogens in ground beef using multiple intervention technology. *J. Anim. Sci.* 78(Suppl. 2):45.
19. **Apple, J. K.** 1999. Carcass and live value of cull beef cows. *J. Anim. Sci.* 77(Suppl. 1):44.
18. **Apple, J. K.**, J. C. Davis, J. D. Stephenson, and C. B. Boger. 1999. Yield and value of beef by-products from cull beef cows is affected by body condition score. *J. Anim. Sci.* 77(Suppl. 1):49.
17. **Apple, J. K.**, J. C. Davis, J. D. Stephenson, J. E. Hankins, J. R. Davis, S. L. Beaty, C. S. Boger, and C. B. Boger. 1999. Influence of body condition scores on carcass characteristics and subprimal yields from cull beef cows. *J. Anim. Sci.* 77(Suppl. 1):49.
16. **Apple, J. K.**, L. K. Rakes, H. B. Watson, and F. W. Pohlman. 1999. Effect of marbling score, cookery method, and shearing methodology on Warner-Bratzler shear force values in pork. *J. Anim. Sci.* 77(Suppl. 1):13.
15. **Apple, J. K.**, H. B. Watson, K. P. Coffey, and E. B. Kegley. 1999. Comparison of magnesium sources on carcass traits, muscle color, and tenderness of finishing lambs. *J. Anim. Sci.* 77(Suppl. 1):13.
14. Watson, H. B., C. V. Maxwell, B. Z. de Rhodas, **J. K. Apple**, K. P. Coffey, Z. B. Johnson, and F. W. Pohlman. 1999. Effects of magnesium-mica on performance and carcass quality of growing-finishing swine. *J. Anim. Sci.* 77(Suppl. 1):67.
13. Beaty, S. L., **J. K. Apple**, L. K. Rakes, and D. L. Kreider. 1998. Effect of prerigor treatment on sarcomere length, myofibrillar fragmentation index, and muscle tenderness of beef from Brangus heifers. *J. Anim. Sci.* 76(Suppl. 2):13.
12. Watson, H. B., K. P. Coffey, E. B. Kegley, **J. K. Apple**, and W. R. Ratchford. 1998. Comparison of magnesium sources in diets of finishing lambs. *J. Anim. Sci.* 76(Suppl. 1):359.
11. Tarn, C. Y., C. F. Rosenkrans, Jr., J. D. Kirby, and **J. K. Apple**. 1996. Effects of 6-N-propyl-2-thiouracil on boars. *J. Anim. Sci.* 74(Suppl. 1):155.
10. **Apple, J. K.**, J. E. Minton, R. M. McMurphy, M. E. Dikeman, M. R. Fedde, and D. E. Leith. 1993. Effect of restraint and isolation stress and epidural-blockade on blood constituents of sheep. *J. Anim. Sci.* 71(Suppl. 1):114.
9. **Apple, J. K.**, J. E. Minton, M. E. Dikeman, R. M. McMurphy, M. R. Fedde, and D. E. Leith. 1993. Effect of restraint and isolation stress and epidural-blockade on the formation of the dark-cutting condition in sheep. *J. Anim. Sci.* 71(Suppl. 1):148.
8. **Apple, J. K.**, J. E. Minton, R. M. McMurphy, M. E. Dikeman, M. R. Fedde, and D. E. Leith. 1993. Effects of restraint and isolation stress and epidural-blockade on blood

- metabolite status and glycogen metabolism and the formation of the dark-cutting condition in the longissimus muscle of sheep. Proc. 46th Recipr. Meats Conf. 46:74.
7. Hansen, J. A., **J. K. Apple**, K. E. Warren, D. H. Kropf, J. L. Nelssen, and R. D. Goodband. 1993. Interactive effects between somatotropin and salbutamol on carcass traits of finishing swine. J. Anim. Sci. 71(Suppl. 1):54.
 6. Minton, J. E., **J. K. Apple**, K. M. Parsons, and F. Blecha. 1993. Concentrations of cortisol achieved during stress cannot account for stressor-induced reductions in lymphocyte function and increases in serum glutamic oxaloacetic transaminase activity. 75th Ann. Mtg. Endocr. Soc. Abstract No. 1564.
 5. **Apple, J. K.**, M. E. Dikeman, S. Henderson-Perry, J. W. Wise, and L. V. Cundiff. 1992. Determining beef carcass retail product and trimmable fat yields from ultrasound evaluations of cattle and warm carcass traits. J. Anim. Sci. 70(Suppl. 1):56.
 4. **Apple, J. K.**, K. M. Parsons, J. E. Minton, M. E. Dikeman, and D. E. Leith. 1992. The influence of treadmill exercise on blood constituents and muscle quality of sheep. J. Anim. Sci. 70(Suppl. 1):54.
 3. Bartlett, J. B., **J. K. Apple**, J. A. Unruh, and J. E. Minton. 1991. Influence of preslaughter stress and electrolyte administration on lamb endocrine responses and carcass quality of sheep. J. Anim. Sci. 69(Suppl. 1):96.
 2. **Apple, J. K.**, M. E. Dikeman, L. V. Cundiff, and J. W. Wise. 1990. Determining retail product within one hour postmortem. J. Anim. Sci. 68(Suppl. 1):92.
 1. **Apple, J. K.**, M. E. Dikeman, D. D. Simms, C. L. Kastner, and G. Kuhl. 1990. Effects of Finaplix®, Synovex-S® and Ralgro®, singularly or in combinations, on performance, carcass traits and longissimus palatability of Holstein steers. J. Anim. Sci. 68(Suppl. 1):93.

Research Reports

83. Lichtenwalter, C. A., **J. K. Apple**, B. Kegley, and T. C. Tsai. 2018. Impact of teat order on feed consumption in swine from birth to nursery. Discovery, the Student Journal of Dale Bumpers College of Agricultural, Food and Life Science 19:46-52.
82. Hamm, J. M., and **J. Apple**. 2018. Predicting kidding date using prepartum milk calcium concentrations and comparing kid growth to colostrum quality in goats. Discovery, the Student Journal of Dale Bumpers College of Agricultural, Food and Life Science 19:24-30.
81. Hawley, J., B. Kegley, D. Galloway, J. Yancey, and **J. Apple**. 2015. Effects of excess dietary sulfur on fatty acid composition in muscle of beef cattle. Ark. Anim. Sci. Dept. Rep., AAES Research Series 628:56-58.
80. Basinger, K. L., B. C. Shanks, **J. K. Apple**, J. D. Caldwell, E. A. Backes, J. J. Hollenbeck, K. R. Ness, J. W. S. Yancey, L. S. Wilbers, and E. L. Farrell. 2014. Carcass manipulation to improve tenderness in goat meat. Ark. Anim. Sci. Dept. Rep., AAES Research Series 620:58-60.
79. Hawley, J., E. B. Kegley, J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, and A. W. Ryan. 2014. Effects of excess dietary sulfur on beef carcass characteristics and quality after aging. Ark. Anim. Sci. Dept. Rep., AAES Research Series 620:26-30.
78. Hollenbeck, J. J., **J. K. Apple**, J. W. S. Yancey, K. N. Kerns, and A. N. Young. 2013. Beef quality attributes of precooked ground beef patties formulated with mature bull trimmings. Ark. Anim. Sci. Dept. Rep., AAES Research Series 612:115-119.

77. Hollenbeck, J. J., **J. K. Apple**, J. W. S. Yancey, A. N. Young, C. T. Moon, T. M. Johnson, and D. L. Galloway. 2013. Effects of lactic acid enhancement on beef quality attributes of mature bull strip loins. Ark. Anim. Sci. Dept. Rep., AAES Research Series 612:120-125.
76. Moon, C. T., J. W. S. Yancey, **J. K. Apple**, J. J. Hollenbeck, T. M. Johnson, and A. R. Winters. 2012. Incorporation of lean finely textured beef improved select quality characteristics of ground beef patties. Ark. Anim. Sci. Dept. Rep., AAES Research Series 606:100-103.
75. Ahrens, C. R., J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, and N. A. Browne. 2011. Effects of Noni puree vs. clarified Noni juice on quality characteristics of fresh ground beef patties. Ark. Anim. Sci. Dept. Rep., AAES Research Series 597:89-92.
74. Ahrens, C. R., J. W. S. Yancey, **J. K. Apple**, T. M. Johnson, and N. A. Browne. 2011. Effects of Noni puree vs. clarified Noni juice on quality characteristics of cooked ground beef patties. Ark. Anim. Sci. Dept. Rep., AAES Research Series 597:93-96.
73. Browne, N. A., **J. K. Apple**, and J. W. S. Yancey. 2011. Phase-feeding dietary fat to growing-finishing pigs fed dried distillers grains with soluble I. Performance and carcass characteristics. Ark. Anim. Sci. Dept. Rep., AAES Research Series 597:75-78.
72. Browne, N. A., **J. K. Apple**, and J. W. S. Yancey. 2011. Phase-feeding dietary fat to growing-finishing pigs fed dried distillers grains with soluble II. Fresh belly quality and yields of commercially-processed bacon. Ark. Anim. Sci. Dept. Rep., AAES Research Series 597:79-82.
71. Browne, N. A., **J. K. Apple**, and J. W. S. Yancey. 2011. Phase-feeding dietary fat to growing-finishing pigs fed dried distillers grains with soluble III. Quality characteristics of bacon. Ark. Anim. Sci. Dept. Rep., AAES Research Series 597:83-85.
70. Gadberry, S., P. Beck, B. Barham, W. Whitworth, G. Montgomery, and **J. Apple**. 2010. Impact of a starch- or fiber-based creep feed and backgrounding diet on calf growth performance and carcass characteristics. Ark. Anim. Sci. Dept. Rep., AAES Research Series 584:89-91.
69. Keys, C. A., **J. K. Apple**, J. W. S. Yancey, R. J. Stackhouse, and L. N. Mehall. 2010. Benefits of natural branded vs. conventionally-fed, commodity beef. Ark. Anim. Sci. Dept. Rep., AAES Research Series 584:57-59.
68. Stackhouse, R. J., **J. K. Apple**, J. W. S. Yancey, C. A. Keys, and T. M. Johnson. 2010. Citric acid enhancement at solution pH values between 3.5 and 5.0 does not alter the fresh or cooked color of dark-cutting beef. Ark. Anim. Sci. Dept. Rep., AAES Research Series 584:65-67.
67. Stackhouse, R. J., **J. K. Apple**, J. W. S. Yancey, C. A. Keys, and T. M. Johnson. 2010. Citric acid marination can improve the cooked color, but not fresh color, of dark-cutting beef. Ark. Anim. Sci. Dept. Rep., AAES Research Series 584:68-71.
66. Tapp, W. N., J. W. S. Yancey, **J. K. Apple**, and R. G. Godbee. 2010. Noni pulp (*Morinda citrifolia*) mixed in beef patties enhanced color stability. Ark. Anim. Sci. Dept. Rep., AAES Research Series 584:72-76.
65. Yancey, J. W. S., **J. K. Apple**, T. M. Johnson, and R. J. Stackhouse. 2010. Clarified noni juice spray was not successful as an antioxidant in beef loins steaks. Ark. Anim. Sci. Dept. Rep., AAES Research Series 584:77-79.

64. Gadberry, M. S., P. Beck, B. Barham, W. Whitworth, and **J. Apple**. 2009. Impact of a starch or fiber based creep feed and preconditioning diet on calf growth performance and carcass characteristics. Ark. Anim. Sci. Dept. Rep., AAES Research Series 574:69-71.
63. Tapp, N. W., J. W. S. Yancey, and **J. K. Apple**. 2009. How is the instrumental color of meat measured? Ark. Anim. Sci. Dept. Rep., AAES Research Series 574:110-116.
62. Ahrens, C. A., J. W. S. Yancey, and **J. K. Apple**. 2008. Fabrication method of the *infraspinatus* muscle affects Warner-Bratzler shear force. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:96-98.
61. Flórez-Díaz, H., E. B. Kegley, J. W. S. Yancey, D. L. Galloway, and **J. K. Apple**. 2008. Effects of Ca salts of conjugated linoleic acid and previous rate of weight gain on fatty acid composition of adipose and muscle of beef cattle. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:87-91.
60. Yancey, J. W. S., **J. K. Apple**, and E. B. Kegley. 2008. Effects of *Morinda citrifolia* (Noni) pulp on growth performance and stress responses of growing cattle. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:68-72.
59. Yancey, J. W. S., **J. K. Apple**, J. –F. Meullenet, and J. T. Sawyer. 2008. Near-infrared spectroscopy, Warner-Bratzler shear force and Meullenet-Owens razor shear as predictors of beef ribeye steak consumer panel responses. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:92-95.
58. Wharton, M. D., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. S. Lee. 2008. Internal color and tenderness of the *semimembranosus* are affected by cooked method and degree of doneness. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:99-101.
57. Wharton, M. D., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. S. Lee. 2008. Internal color and tenderness of the *infraspinatus* are affected by cooked method and degree of doneness. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:102-104.
56. Wharton, M. D., **J. K. Apple**, J. W. S. Yancey, J. T. Sawyer, and M. S. Lee. 2008. Internal color and tenderness of the *longissimus thoracis* are affected by cooked method and degree of doneness. Ark. Anim. Sci. Dept. Rep., AAES Research Series 563:105-108.
55. Koonce, J. B., E. B. Kegley, D. L. Galloway, Sr., and **J. K. Apple**. 2007. Impact of stressing a pen mate on physiological responses of growing pigs. Ark. Anim. Sci. Dept. Rep., AAES Research Series 555:96-99.
54. Lee, M. S., **J. K. Apple**, J. S. Yancey, J. T. Sawyer, M. M. Brashears, and T. P. Stephens. 2007. Influence of sanitizing feedlot pens on microbial populations and cattle performance. Ark. Anim. Sci. Dept. Rep., AAES Research Series 555:34-38.
53. Sawyer, J. T., **J. K. Apple**, and Z. B. Johnson. 2007. The impact of acidic marination concentration and sodium chloride on sensory and instrumental color characteristics of dark-cutting beef. Ark. Anim. Sci. Dept. Rep., AAES Research Series 555:92-95.
52. Sawyer, J. T., **J. K. Apple**, Z. B. Johnson, R. T. Baublits, and J. W. S. Yancey. 2007. Color stability of dark-cutting beef enhanced with lactic acid. Ark. Anim. Sci. Dept. Rep., AAES Research Series 555:87-91.
51. Flórez-Díaz, H., E. B. Kegley, G. F. Erf, D. L. Kreider, K. P. Coffey, **J. K. Apple**, and N. D. Luchini. 2006. Effects of Ca salts of conjugated linoleic acid and previous rate

- of weight gain on growth performance, immune function, and carcass characteristics of beef cattle. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 545:163-166.
50. Lee, M. S., J. W. S. Yancey, **J. K. Apple**, J. Sawyer, and R. T. Baublits. 2006. Within muscle variation in color and pH of beef semimembranosus. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 545:26-30.
 49. Sawyer, J. T., **J. K. Apple**, J. –F. Meullenet, B. Cheatman, W. K. Chung, R. Xiong, and S. G. Bajwa. 2006. Empirical modeling for predicting tenderness of muscles from the beef round. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 545:52-56.
 48. Sawyer, J. T., R. T. Baublits, **J. K. Apple**, J. –F. Meullenet, Z. B. Johnson, and T. K. Alpers. 2006. Lateral and longitudinal characterization of instrumental tenderness and sensory characteristics in the beef semimembranosus. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 545:43-46.
 47. Sawyer, J. T., R. T. Baublits, **J. K. Apple**, and Z. B. Johnson. 2006. Longitudinal and lateral characterization of color stability in the beef semimembranosus. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 545:47-51.
 46. **Apple, J. K.**, C. V. Maxwell, Jr., L. K. Rakes, S. Hutchison, W. A. Wallis, J. D. Stephenson, and Z. B. Johnson. 2005. Effects of dietary fat source and length of fat consumption on performance and carcass composition of growing-finishing swine. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 535:30-34.
 45. **Apple, J. K.**, C. V. Maxwell, Jr., L. K. Rakes, D. Galloway, and S. Hutchison. 2005. Effects of dietary fat source and length of fat consumption on degree of unsaturation of carcass composition samples. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 535:35-38.
 44. Kandaswamy, J., **J. K. Apple**, and S. G. Bajwa. 2005. Ability of near-infrared reflectance spectroscopy to predict fat, cholesterol, and caloric content of fresh and cooked ground beef. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 535:138-141.
 43. Sawyer, J., **J. K. Apple**, and R. T. Babulits. 2005. A six-year compilation of carcass traits from the Arkansas/Oklahoma State Fair. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 535:42-45.
 42. **Apple, J. K.**, B. R. Kutz, C. V. Maxwell, L. K. Rakes, M. E. Davis, and T. A. Armstrong. 2004. Interactive effects of ractopamine and dietary fat source on quality characteristics of fresh pork loins and bellies. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 522:144-146.
 41. **Apple, J. K.**, B. R. Kutz, C. V. Maxwell, L. K. Rakes, Z. B. Johnson, and T. A. Armstrong. 2004. Interactive effects of ractopamine and dietary fat source on performance and carcass traits of finishing swine. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 522:147-150.
 40. **Apple, J. K.**, A. W. Tittor, C. V. Maxwell, J. B. Morgan, L. K. Rakes, M. E. Davis, J. Stephenson, and T. M. Fakler. 2004. Effects of supplemental manganese on the performance and pork carcass composition of growing-finishing swine. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 522:151-155.
 39. **Apple, J. K.**, A. W. Tittor, J. B. Morgan, C. V. Maxwell, L. K. Rakes, J. Stephenson, and T. M. Fakler. 2004. Effects of supplemental manganese source on the pork quality during seven days of retail display. *Ark. Anim. Sci. Dept. Rep.*, AAES Research Series 522:156-159.

38. Arthur, S. C., M. E. Davis, **J. K. Apple**, and C. V. Maxwell. 2004. Effect of pig weaning age and commingling after the nursery phase on humoral and behavioral indicators of well-being and on growth performance. *Discovery* 5:3-9.
37. Davis, M. E., **J. K. Apple**, C. V. Maxwell, S. C. Arthur, Z. B. Johnson, and M. S. Dirain. 2004. Effect of weaning age and commingling after the nursery phase on growth performance, mortality rate, and behavioral indicators of welfare. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 522:160-165.
36. Hutchinson, S., E. B. Kegley, **J. K. Apple**, T. J. Wistuba, and M. E. Dikeman. 2004. Effect of poultry fat addition to finishing rations on beef quality during retail display and sensory panel evaluations. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 522:126-128.
35. Hutchinson, S., E. B. Kegley, **J. K. Apple**, T. J. Wistuba, and D. C. Rule. 2004. Poultry fat addition to finishing rations influences the fatty acid composition of muscle tissue and adipose tissue. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 522:123-125.
34. Krumpelman, S. L., **J. K. Apple**, E. B. Kegley, M. G. Johnson, and S. E. Watkins. 2004. Utilization of chemical treatments to reduce *Escherichia coli* O157:H7 in cattle manure. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 522:112-115.
33. Krumpelman, S. L., **J. K. Apple**, E. B. Kegley, M. G. Johnson, and S. E. Watkins. 2004. Use of lactic acid or cetylpyridinium chloride to reduce *Escherichia coli* O157:H7 in cattle manure incubated at two temperatures. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 522:116-120.
32. **Apple, J. K.**, E. B. Kegley, C. B. Boger, D. Galloway, L. K. Rakes, and J. W. Roberts. 2003. Effects of treadmill exercise on stress physiology and the incidence of dark-cutting longissimus muscle in Holstein steers. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:16-20.
31. **Apple, J. K.**, W. J. Roberts, C. V. Maxwell, C. B. Boger, T. M. Fakler, K. G. Friesen, and Z. B. Johnson. 2003. Effect of dietary manganese inclusion level on performance and carcass characteristics of growing-finishing swine. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:148-152.
30. **Apple, J. K.**, W. A. Wallis, C. V. Maxwell, L. K. Rakes, and J. D. Stephenson. 2003. Effects of iron supplementation level in diets of growing-finishing swine. I. Pig performance and carcass characteristics. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:140-143.
29. Hutchison, S., E. B. Kegley, **J. K. Apple**, and T. J. Wistuba. 2003. Poultry fat addition to finishing rations influences cattle performance. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:73-75.
28. Wallis, W. A., **J. K. Apple**, C. V. Maxwell, L. K. Rakes, S. Hutchison, and J. D. Stephenson. 2003. Effects of iron supplementation level in diets of growing-finishing swine. II. Pork quality traits during retail display. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:144-147.
27. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2003. Influence of fish oil addition to finishing diets on the professional descriptor sensory analysis of steaks from cattle. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:26-29.
26. Wistuba, T. J., E. B. Kegley, **J. K. Apple**, and D. C. Rule. 2003. Feeding feedlot steers fish oil differently enhances the fatty acid composition of muscle tissue. *Ark. Anim. Sci. Dept. Rep., AAES Research Series* 509:21-25.

25. **Apple, J. K.**, E. B. Kegley, C. V. Maxwell, Jr., L. K. Rakes, and T. J. Wistuba. 2002. Effects of dietary magnesium and short-duration transportation stress in finishing swine. II. Postmortem muscle metabolism and meat quality. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:112-115.
24. **Apple, J. K.**, E. B. Kegley, C. B. Boger, J. W. Roberts, D. Galloway, and L. K. Rakes. 2002. Effects of restraint and isolation stress on stress physiology and the incidence of dark-cutting longissimus muscle in Holstein steers. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:73-77.
23. Brown, D. C., **J. K. Apple**, C. V. Maxwell, K. G. Friesen, R. E. Musser, Z. Johnson, and T. A. Armstrong. 2002. Effects of lysine and energy density of finishing pigs fed ractopamine. I. Performance and carcass yield. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:93-96.
22. Brown, D. C., **J. K. Apple**, C. V. Maxwell, K. G. Friesen, R. E. Musser, Z. Johnson, and T. A. Armstrong. 2002. Effects of lysine and energy density of finishing pigs fed ractopamine. II. Pork quality. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:97-99.
21. Kegley, E. B., **J. K. Apple**, C. V. Maxwell, Jr., and D. Galloway. 2002. Effects of dietary magnesium and short-duration transportation stress in finishing swine. I. Stress response. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:107-111.
20. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2002. Influence of fish oil addition to finishing diets on carcass characteristics, immune function, and growth performance of cattle. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:81-84.
19. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2002. Influence of time and duration of fish oil supplementation on performance and carcass characteristics of cattle. Ark. Anim. Sci. Dept. Rep., AAES Research Series 499:78-80.
18. **Apple, J. K.**, C. V. Maxwell, M. R. Stivarius, L. K. Rakes, and Z. B. Johnson. 2001. Effects of dietary magnesium and halothane genotype on performance and carcass traits of growing-finishing swine. Ark. Anim. Sci. Dept. Rep., AAES Research Series 488:22-28.
17. Boger, C. B., **J. K. Apple**, D. C. Brown, C. V. Maxwell, W. J. Roberts, Z. B. Johnson, L. K. Rakes, and J. Stephenson. 2001. Effect of feather meal on live animal performance and carcass quality and composition of growing-finishing swine. Ark. Anim. Sci. Dept. Rep., AAES Research Series 488:32-37.
16. Roberts, W. J., **J. K. Apple**, C. V. Maxwell, L. K. Rakes, J. N. Leach, J. R. Jimenez, and C. B. Boger. 2001. Effects of supplemental manganese on performance and pork quality of growing-finishing swine. Ark. Anim. Sci. Dept. Rep., AAES Research Series 488:29-31.
15. Wistuba, T. J., E. B. Kegley, and **J. K. Apple**. 2001. Influence of fish oil addition on growth performance and immune function of grazing cattle. Ark. Anim. Sci. Dept. Rep., AAES Research Series 488:63-65.
14. Brown, D. C., **J. K. Apple**, C. V. Maxwell, K. G. Friesen, B. Z. deRodas, and Z. B. Johnson. 2000. Efficacy of feather meal for improving gain, feed efficiency and carcass composition in growing finishing pigs. Ark. Anim. Sci. Dept. Rep., AAES Research Series 478:130-133.
13. Stivarius, M. R., F. W. Pohlman, K. S. McElyea, Z. B. Johnson, **J. K. Apple**, M. G. Johnson, and A. L. Waldroup. 2000. Reduction of microbial pathogens in ground

- beef utilizing hurdle technology and a novel ozone generator. Ark. Anim. Sci. Dept. Rep., AAES Research Series 478:37-42.
12. **Apple, J.**, C. Maxwell, B. deRhodas, J. Davis, and L. Rakes. 1999. Influence of magnesium-mica on performance and carcass quality traits of growing-finishing swine. Ark. Anim. Sci. Dept. Rep., AAES Research Series 4770:23-28.
 11. **Apple, J. K.**, J. R. Davis, L. K. Rakes, C. V. Maxwell, F. W. Pohlman, and B. Z. deRhodas. 1999. Effect of magnesium-mica on pork loin quality during extended refrigerated storage. Ark. Anim. Sci. Dept. Rep., AAES Research Series 470:29-31.
 10. **Apple, J.**, B. Watson, K. Coffey, and E. Kegley. 1999. Comparison of magnesium sources on muscle color and tenderness of finishing sheep. Ark. Anim. Sci. Dept. Rep., AAES Research Series 470:185-188.
 9. Davis, J. R., **J. K. Apple**, D. H. Hellwig, E. B. Kegley, and F. W. Pohlman. 1999. The impact of feeding poultry litter on microbial contamination of beef carcasses. Ark. Anim. Sci. Dept. Rep., AAES Research Series 470:69-71.
 8. Pohlman, F. W., M. R. Stivarius, K. S. McElyea, **J. K. Apple**, M. G. Johnson, and A. L. Waldroup. 1999. Reduction of *E. coli* and *Salmonella typhimurium* in ground beef utilizing antimicrobial treatments prior to grinding. Ark. Anim. Sci. Dept. Rep., AAES Research Series 470:135-141.
 7. **Apple, J. K.** 1998. Influence of body condition scores on the carcass and live values of culled beef cows. Ark. Anim. Sci. Dept. Rep., AAES Research Series 464:66-68.
 6. **Apple, J. K.**, J. C. Davis, and J. Stephenson. 1998. Influence of body condition scores on by-product yields and value from culled beef cows. Ark. Anim. Sci. Dept. Rep., AAES Research Series 464:57-61.
 5. **Apple, J. K.**, J. C. Davis, J. Stephenson, S. L. Beaty, and L. K. Rakes. 1998. Influence of body condition scores on carcass composition of culled beef cows. Ark. Anim. Sci. Dept. Rep., AAES Research Series 464:62-65.
 4. **Apple, J. K.**, L. K. Rakes, and H. B. Watson. 1998. Cooking and shearing methodology effects on Warner-Bratzler shear force values in pork. Ark. Anim. Sci. Dept. Rep., AAES Research Series 464:54-56.
 3. Maxwell, C. V., H. B. Watson, B. Z. de Rodas, **J. K. Apple**, and Z. B. Johnson. 1998. Effects of Magnesium-Mica on performance and carcass quality of growing-finishing swine. Ark. Anim. Sci. Dept. Rep., AAES Research Series 464:115-118.
 2. **Apple, J. K.**, M. E. Dikeman, L. V. Cundiff, and J. W. Wise. 1990. Predicting beef carcass retail yield from hot carcass traits. Cattlemen's Day 361:45-47.
 1. **Apple, J. K.**, M. E. Dikeman, D. D. Simms, C. L. Kastner, and G. Kuhl. 1990. Effects of Finaplix®, Synovex-S® and Ralgro®, singularly or in combinations, on performance, carcass traits and longissimus palatability of Holstein steers. Cattlemen's Day 361:35-37.

Proceedings, Factsheets, & Other Publications

20. **Apple, J. K.** 2021. Is pork quality related to pork palatability? National Pork Board, Des Moines, IA (*in review*).
19. Gadberry, S., B. See, J. Jennings, P. Beck, and **J. Apple**. 2017. Raising calves for slaughter. University of Arkansas Cooperative Extension Service, Agriculture and Natural Resource Factsheet FSA3143.

18. Maxwell, C. V., T. C. Tsai, **J. Apple**, B. Richert, S. Radcliffe, A. Jones, and H. Kim. 2016. Aggressive feeding of amino acids in nursery, growing and finishing pigs. Pages 60-64 in Proc. 52nd Eastern Nutrition Conference, Guelph, Canada.
17. Maxwell, C. V., T. C. Tsai, **J. Apple**, B. Richert, S. Radcliffe, A. Jones, and H. Kim. 2016. Decreasing dietary crude protein with amino acid supplementation on performance, carcass, and nutrient excretion of pigs. Proc. 77th Minnesota Nutrition Conf., Prior Lake, MN.
16. Maxwell, C. V., T. C. Tsai, **J. Apple**, B. Richert, S. Radcliffe, A. Jones, and H. Kim. 2015. Effects of decreasing dietary crude protein with amino acid supplementation on performance, carcass, and nutrient excretion of pigs. Pages 35-44 in Proc. Midwest Swine Nutrition Conf., Indianapolis, IN.
15. **Apple, J. K.** 2012. The influence of Paylean™ (ractopamine hydrochloride) on pork quality. Swine Nutrition Guide, National Pork Board, Des Moines, IA.
14. **Apple, J. K.** 2011. Swine nutrition and pork quality. Swine Nutrition Guide, National Pork Board, Des Moines, IA.
13. Kandaswamy, J., S. G. Bajwa, **J. K. Apple**, and J. T. Sawyer. 2005. Effect of near-infrared scanning angle in prediction of tenderness and sensory attributes in longissimus thoracis steaks. Am. Soc. Agric. Eng., Paper No. 056010.
12. **Apple, J. K.** 1997. Adding value to cull cows. Proceedings Arkansas Cattlemen's Association Annual Mid-Year Meeting, Fayetteville, AR.
11. **Apple, J. K.** 1996. Determinants of carcass and live value of cull beef cows. Proceedings Arkansas Cattlemen's College, Pine Bluff, AR.
10. **Apple, J. K.** 1996. University of Arkansas Meat Grading and Selection Handbook (text for ANSC 410, Special Problems – Meat Grading and Selection)
9. Unruh, J. A., and **J. K. Apple**. 1994. Principles of Meat Evaluation Handbook, 3rd Ed. (text for Principles of Meats Evaluation at Kansas State University)
8. Unruh, J. A., and **J. K. Apple**. 1992. Beef, Pork and Lamb Carcass Evaluation Handbook (supplementary text for Livestock and Meat Evaluation at Kansas State University)
7. **Apple, J. K.** 1992. The whys and hows of specifications. In: Proceedings of 1992 Intercollegiate Meat Judging Coaches' Clinic, Colorado State University.
6. **Apple, J. K.** 1991. Beef as food. In: Kansas 4-H Beef Curriculum, Kansas State University Cooperative Extension Service, Manhattan.
5. **Apple, J. K.** 1991. Determining live and carcass prices for market steers. In: Kansas 4-H Beef Curriculum, Kansas State University Cooperative Extension Service, Manhattan.
4. **Apple, J. K.** 1991. Calf to carcass, the slaughter process. In: Kansas 4-H Beef Curriculum, Kansas State University Cooperative Extension Service, Manhattan.
3. **Apple, J. K.** 1991. Determining shrink and dressing percent for market steers. In: Kansas 4-H Beef Curriculum, Kansas State University Cooperative Extension Service, Manhattan.
2. **Apple, J. K.**, and T. H. Powell. 1991. Proceedings of 1991 Intercollegiate Meat Judging Coaches' Clinic, Kansas State University, Manhattan.
1. Astroth, K. A., and **J. K. Apple**. 1991. Your beef animal is more than just steak. In: Kansas 4-H Beef Curriculum, Kansas State University Cooperative Extension Service, Manhattan.

Research Funding

50. Machado, T., C. Donato, R. Stanko, M. Garcia, **J. Apple**, and S. Nelson. 2021. Multicultural-scholars pre-vet experiential learning (M-SPEAL). USDA, NIFA, HEMS - \$200,000
49. **Apple, J. K.**, J. W. S. Yancey, and M. L. Looper. 2018. Arkansas Cattlemen's Association Young Cattlemen's Leadership class beef short course. Arkansas Beef Council - \$15,125
48. **Apple, J. K.**, and J. W. S. Yancey. 2018. Comparing the tenderness of retail-ready beef steaks packaged in mother bags to traditionally wet-aged steaks. Arkansas Beef Council - \$20,400
47. Lichtenwalter, C., and **J. K. Apple**. 2018. Impact of teat order on feed consumption in swine from birth to nursery. University of Arkansas Honors College & Bumpers College Undergraduate Research and Creative Award - \$2,500
46. Hicks, Z., J. Yancey, and **J. Apple**. 2017. Effects of lean percentage, holding time, and cooking method on cooked patty color of fresh ground beef. Arkansas Beef Council - \$15,785
45. **Apple, J.**, P. Beck, and J. Powell. 2016. Evaluation of production economics and value of carcasses processed into wholesale cuts from steers finished in a conventional system compared to carcasses processed into ground beef from steers finished on a grass-based system. Arkansas Beef Council - \$13,550
44. Huang, Y., and **J. Apple**. 2016. Production of α -1,3-galactosyltransferase gene-deficient in bovine primary cell culture. Arkansas Beef Council - \$30,000
43. **Apple, J. K.**, and J. W. S. Yancey. 2014. Effects of the proportion of bull/cow blended trimmings on the color stability of precooked ground beef patties. Arkansas Beef Council - \$20,575
42. **Apple, J.**, P. Beck, B. Kegley, S. Gadberry, and J. Powell. 2014. Effect of injectable castration administered at approximately 90 days of age at two dosage levels. Cowboy Animal Health, LLC - \$20,805
41. **Apple, J. K.**, and C. V. Maxwell. 2013. Injection of boars with Testrin eliminates boar taint and increases growth performance. ARK Science, New York, NY - \$20,000
40. Esmond, G., and **J. Apple**. 2013. Physical, chemical, and sensory evaluation of "uncured" bacon produced with alternative (natural) nitrite/nitrate sources. Arkansas Department of Higher Education, Student Undergraduate Research Fellowship - \$1,250
39. Kegley, B., J. Hawley, **J. Apple**, and J. Powell. 2012. How does long term excess dietary sulfur affect carcass quality and beef characteristics? Arkansas Beef Council - \$29,000
38. Beck, P., J. Robinette, R. Reuter, B. Barham, S. Gadberry, and **J. Apple**. 2011. Growth promoting implants and nutrient restriction prior to feed: effect on carcass composition, carcass quality, and consumer acceptance of beef. Arkansas Beef Council - **\$37,800**
37. Looper, M., C. Rosenkrans, Jr., **J. Apple**, F. Pohlman, and A. Szalanski. 2011. Management practices to reduce calf stress and increase food safety. Arkansas Beef Council - \$29,650
36. Reese, R., and **J. K. Apple**. 2011. The interactive effect of USDA beef quality grade category and muscle on metmyoglobin reductase activity and beef color stability.

- Arkansas Department of Higher Education, Student Undergraduate Research Fellowship - \$2,750
35. **Apple, J. K.**, and J. W. S. Yancey. 2010. Effects of Noni pulp or clarified Noni juice on color stability and palatability of ground beef patties. Tahitian Noni Inc. - **\$10,075**
 34. Maxwell, C. V., **J. K. Apple**, and R. L. Payne. 2010. Determine the effect of reducing crude protein level and replacements with crystalline amino acids on growth performance and carcass composition of finishing pigs fed Paylean. Evonik Degussa Corp. - \$40,812
 33. Powell, J., K. Coffey, T. Yazwinski, **J. Apple**, and B. Barham. 2010. Determining the effects of aggressive versus traditional nematode control on growth performance and carcass merit in beef cattle. Arkansas Beef Council - \$48,420
 32. **Apple, J. K.** 2009. Effect of phase-feeding beef tallow on quality characteristics of subcutaneous fat and fresh pork bellies from growing-finishing pigs fed dried distillers grains with soluble. Proteins and Fats Research Council - \$40,765
 31. Beck, P., B. Barham, S. Gadberry, and **J. Apple**. 2009. Effects of implants and nutrient restriction prior to feeding on carcass composition and quality. Arkansas Beef Council - \$50,900
 30. **Apple, J. K.**, and J. W. S. Yancey. 2008. Enhancement methods to improve the fresh and cooked meat color of dark-cutting beef. Arkansas Beef Council - \$99,525
 29. Gadberry, S., P. Beck, B. Barham, **J. Apple**, and W. Whitworth. 2008. Can Arkansas producers impact quality grade and would the potential benefit justify the cost? Arkansas Beef Council - \$54,750
 28. Trusell, K. A., and **J. K. Apple**. 2008. Profiling the quality of fresh pork bellies. University of Arkansas Honors College Undergraduate Research Grant - \$2,650
 27. **Apple, J. K.**, J. W. S. Yancey, and J. T. Sawyer. 2007. Effects of enhancement and packaging on the lateral and longitudinal characterization of muscle quality in the *biceps femoris* from heavy beef carcasses. National Cattlemen's Beef Assn. - \$30,430
 26. **Apple, J. K.**, J. W. S. Yancey, J. T. Sawyer, and R. G. Taylor. 2007. Use of subcutaneous fats/lipids to improve the fresh quality and cooked palatability of *longissimus* muscle steaks from carcasses with insufficient marbling to grade USDA Choice or higher. National Cattlemen's Beef Assn. - \$15,000
 25. Beck, P. B. Barham, S. Gadberry, W. Whitworth, and **J. Apple**. 2007. Making the grade: effect of age entering the feedlot, implants and genotype on carcass quality. Arkansas Beef Council - \$49,573
 24. **Apple, J. K.**, and J. T. Sawyer. 2006. Value-added effects on dark-cutting beef. Arkansas Beef Council and National Cattlemen's Beef Assn. - \$56,600
 23. **Apple, J. K.**, J. T. Sawyer, M. Lee, and J. Yancey. 2006. Factors influencing the ability of vacuum-packaged beef to bloom. Arkansas Beef Council - \$63,275
 22. **Apple, J. K.**, J.-F. Meullenet, and S. G. Bajwa. 2004. Use of near-infrared spectroscopy to predict beef tenderness of several muscles. Arkansas Beef Council - \$86,299
 21. Maxwell, C. V., and **J. K. Apple**. 2004. Interactive effects of ractopamine and dietary fat source on pork quality. Elanco Animal Health - \$39,200
 20. **Apple, J. K.**, and C. V. Maxwell. 2003. Effects of dietary IVP and length of fat consumption on fatty acid profiles and iodine values of pork backfat. Darling International By-Products, Inc. - \$32,000

19. **Apple, J. K.**, and C. V. Maxwell. 2002. Effects of Availa-Fe® supplementation level on pork color during retail display. Zinpro Corp. - \$12,000
18. **Apple, J.**, F. Pohlman, K. Lusby, and T. Troxel. 2002. Support for the state FFA meats judging contests. Arkansas Beef Council - \$3,000
17. Arthur, S. C., and **J. K. Apple**. 2002. Effect of weaning age and co-mingling after the nursery phase on humoral and behavioral indicators of well-being and growth of weanling pigs. DBCAFLS Undergraduate Research Grant - \$450
16. Krumpelman, S., and **J. Apple**. 2002. Pre-harvest intervention to reduce Escherichia coli O157:H7 on fat cattle destined for harvest. Arkansas Beef Council - \$106,180
15. Maxwell, C. V., **J. K. Apple**, M. E. Davis, and Z. Johnson. 2002. Effect of weaning age and co-mingling after the nursery phase on humoral and behavioral indicators of well-being and on growth performance. National Pork Board - \$50,180
14. Wistuba, T. J., **J. K. Apple**, and E. B. Kegley. 2002. Influence of poultry fat addition to finishing rations on cattle performance, carcass characteristics, retail beef shelf-life, and cooked beef palatability. Arkansas Beef Council - \$47,612
13. **Apple, J. K.** 2001. Effects of supplemental manganese and chromium on performance and pork quality of growing-finishing swine. Arkansas Agriculture Experiment Station Research Incentive Grant - \$10,000
12. **Apple, J. K.**, and C. V. Maxwell. 2001. Influence of supplemental manganese on pork quality of growing-finishing swine. Zinpro Corp. - \$5,000
11. **Apple, J. K.** 2000. Effects of supplemental manganese on performance and pork quality of growing-finishing swine. Arkansas Agriculture Experiment Station Research Incentive Grant - \$10,000
10. **Apple, J. K.** and E. B. Kegley. 2000. Developing a reliable animal model to study the dark-cutting condition in beef cattle. Arkansas Beef Council - \$73,870
9. **Apple, J. K.**, C. V. Maxwell, and K. G. Friesen. 2000. Effect of feather meal on live animal performance and carcass quality and composition of growing-finishing swine. U. S. Poultry & Egg Assn. - \$21,944
8. Maxwell, C. V., **J. K. Apple**, K. G. Friesen, and D. C. Brown. 2000. The interactive effects of lysine and energy density on performance and carcass characteristics of finishing pigs fed Paylean™. Elanco Animal Health - \$47,036
7. Maxwell, C. V., B. deRodas, and **J. K. Apple**. 1999. Effects of magnesium-mica on performance and carcass quality of growing-finishing swine. Micro-Lite, LLC - \$16,895
6. **Apple, J. K.**, D. H. Hellwig, E. B. Kegley, and F. W. Pohlman. 1998. The impact of feeding poultry litter on microbial contamination of beef carcasses. Arkansas Beef Council - \$74,800
5. Maxwell, C. V., B. deRodas, and **J. K. Apple**. 1998. Effects of magnesium-mica on performance and carcass quality of growing-finishing swine. Micro-Lite, LLC - \$14,820
4. **Apple, J. K.**, T. Troxel, and K. Lusby. 1997. Proposal for intensive seminar on determining the value of beef cattle. Arkansas Beef Council - \$16,500
3. **Apple, J. K.** 1996. Optimizing quality and consistency of products from cull cows. Arkansas Beef Council - \$52,034
2. **Apple, J. K.** 1996. Measuring meat tenderness with an Instron Universal Testing unit. USDA, NRICGP, Equipment Grant - \$32,390

1. **Apple, J. K.** 1996. Optimizing market value of cull cows. Arkansas Agriculture Experiment Station Research Incentive Grant - \$10,000

Unfunded Proposals

65. Tarrant, K., A. Culbertson, **J. Apple**, M. Donato-Molina, & D. Koltes. 2020. Create and implement bilingual poultry welfare curricula to enhance animal science education and increase underrepresented student employability. USDA, NIFA, HSI – \$999,998
64. Gadberry, S., K. Lawson, & **J. Apple**. 2018. Improving consistency in farm-finished beef sold at farmers market. Southern Sustainable Agriculture Research & Education - \$14,813
63. Powell, J., B. Kegley, **J. Apple**, P. Beck, & R. Cauble. 2018. The use of QSCOUT BLD on arrival as a means to reduce antibiotic use and improve performance in newly received stocker calves. Advanced Animal Diagnostics - \$49,400
62. Zhao, J., J. Johnson, C. Maxwell, S. Radcliffe, & **J. Apple**. 2018. A system approach to improving pig health, survival, well-being and productivity. National Pork Board – \$1,897,840
61. **Apple, J. K.**, & J. W. S. Yancey. 2018. Effect of thawing method on palatability of beef. Arkansas Beef Council - \$20,400
60. Zhao, J., G. Thoma, C. Maxwell, **J. Apple**, J. VanDevender, K. W. Popp, J. Ricke, S. Zhu, L. Greenlee, R. Buddington, R. Ceballos, M. Van der Merwe, M. Radcliffe, B. Richert, J. Johnson, J. Hanigan, M. Koltes, & D. Koltes. 2018. Holistic farm management for resilient and resistant swine production. USDA, AFRI, SAS - \$10,000,000
59. Koltes, D., **J. Apple**, D. Hubbell III, J. Zhao, & T. Glascock. 2017. Strategies to mitigate weaning weight loss in Red Angus calves. Red Angus Foundation - \$36,800
58. Koltes, D., T. C. Tsai, C. V. Maxwell, & **J. K. Apple**. Effects of dietary vitamin D and ultraviolet-B light supplementation on sow productivity and piglet health. National Pork Board – \$46,902
57. **Apple, J. K.**, J. G. Powell, & C. V. Maxwell. 2016. Comparison of Testrin sterilization of male pigs to available castration methods. ARK Science, New York, NY. - \$63,934
56. Huang, Y., & **J. Apple**. 2016. Prediction of marbling scores from mitochondria function analysis. National Cattlemen’s Beef Assn. - \$47,026
55. Huang, Y., & **J. Apple**. 2016. Prediction of marbling scores from mitochondria function analysis. Arkansas Beef Council - \$23,788
54. Maxwell, C. V., **J. K. Apple**, T. C. Tsai, H. Kim, & C. Hart. 2016. Determine effect of dietary oregano oil complex on gain and efficiency in wean-to-finish swine. By-O-Reg+, Canton, SD - \$48,824
53. Rorie, R., J. Powell, & **J. Apple**. 2016. Effects of maternal nutrition on the eventual carcass quality and value of the developing calf. Arkansas Beef Council - \$25,550
52. Beck, P. A., R. Reuter, M. S. Gadberry, T. L. Roberts, S. A. Gunter, J. K. Rogers, D. Koltes, J. E. Koltes, L. Goodman, A. Rocateli, D. Philipp, D. Lalman, G. W. Horn, J. Edwards, K. B. Watkins, E. B. Kegley, T. L. Springer, J. A. Jennings, **J. K. Apple**, K. Ballard, C. Moffet, B. M. Freking, T. T. Milacek, D. Zook, J. Bedwell, W. J. Ross, & J. Kelley. 2015. Livestock integration into cropping systems: Using cover crops to benefit both cattle and crops. USDA, NIFA, AFRI, Food Security - \$3,998,936

51. Boler, D. D., **J. K. Apple**, A. C. Dilger, S. D. Shackelford, & M. D. Tokach. 2015. Characterization of the variation in loin, ham, and belly quality of pigs from commercial finishing barns using 3 cut marketing schemes. National Pork Board - \$69,290
50. Richeson, J. T., T. E. Lawrence, M. B. Rhoads, P. Pinedo, S. E. Ives, & **J. K. Apple**. 2015. Evaluation of transportation and beta-agonist feeding upon responses indicative of beef cattle well-being. USDA, NIFA, AFRI - \$490,449
49. **Apple, J. K.**, D. D. Boler, & A. C. Dilger. 2014. Characterization of the variation in belly quality of pigs from commercial finishing facilities using a three-phase marketing scheme. National Pork Board - \$76,794
48. **Apple, J. K.**, and J. W. S. Yancey. 20014. Effect of physiological maturity on the quality characteristics of peeled outside skirts and flanks. Arkansas Beef Council - \$21,439
47. Boler, D. D., **J. K. Apple**, A. C. Dilger, S. D. Shackelford, & M. D. Tokach. 2014. Characterization of the variation in loin, ham, and belly quality of pigs from commercial finishing barns using 3 cut marketing schemes. National Pork Board - \$109,534
46. Philipp, D., M. Popp, K. Coffey, H. –S. Seo, R. Nayga, **J. Apple**, S. Jones, M. Savin, N. Conrad, M. Hale, & L. Coffey. 2014. Shaping the future of beef production through an integrated approach to input efficiency, environmental sustainability, and marketing. USDA, NIFA, AFRI Foundation - \$497,173
45. **Apple, J. K.**, & J. W. S. Yancey. 2013. Effects of the proportion of bull/cow blended trimmings on the color stability of precooked ground beef patties. Arkansas Beef Council - \$18,987.50
44. **Apple, J. K.**, & J. W. S. Yancey. 2013. Effect of physiological maturity on the quality characteristics of peeled outside skirts and flanks. Arkansas Beef Council - \$20,851
43. Weigand, B., **J. Apple**, D. Keisler, & M. Wilson. 2013 Understanding the growth potential of low birth weight pigs and determining how immune-castration influences the growth of low birth weight pigs. USDA, NIFA, AFRI, Animal Health & Production, Animal Products, Animal Nutrition, Growth, & Lactation - \$324,792
42. **Apple, J. K.**, & J. W. S. Yancey. 2012. Lactic acid enhancement to improve the fresh and cooked color of dark-cutting beef. National Cattlemen’s Beef Assn. - \$40,415.50
41. Beck, P., R. Reuter, S. Gadberry, **J. Apple**, & J. Blanton. 2012. Selection of beef cattle for improved feed efficiency: effect on carcass composition, carcass quality, and consumer acceptance. Arkansas Beef Council - \$25,800
40. Coffey, K., M. C. Savin, D. Philipp, J. –F. Meullenet, R. M. Nayga, Jr., S. Jones, **J. Apple**, M. Hale, & L. Coffey. 2012. Shaping the future of beef production through an integrated approach to input efficiency, environmental sustainability, and marketing. Southern Sustainable Agriculture Research & Education, Large Systems Research - \$286,951
39. **Apple, J. K.**, C. V. Maxwell, & J. W. S. Yancey. 2011. Effects of free fatty acid content on live pig performance, carcass composition, and fresh pork quality characteristics of growing-finishing pigs fed choice white grease. Fats and Protein Research Foundation - \$45,417
38. **Apple, J. K.**, D. Woerner, J. Richeson, J. Wagner, P. Beck, E. B. Kegley, J. Powell, &

- D. Feuz. 2011. Does weaning management and subsequent exposure to a persistently infected bovine viral diarrhea virus pen mate affect carcass characteristics, beef tenderness, and consumer acceptance? Arkansas Beef Council - \$63,000
37. Coffey, K. P., M. Popp, D. Philipp, J. –F. Meullenet, R. M. Rudolfo, S. M. Jones, L. Rinehart, C. F. Rosenkrans, Jr., **J. K. Apple**, & M. C. Savin. 2011. Shaping the future of beef production through an integrated approach to input efficiency, environmental sustainability, and marketing. USDA, ARFI Foundational Program - \$499,969
 36. Richeson, J. T., J. Wagner, D. Feuz, D. Woerner, & **J. Apple**. 2011. Effects of weaning management and exposure to persistently infected bovine viral diarrhea virus challenge on profitability of beef production. USDA, NIFA, Agriculture and Food Research Initiative Fellowship - \$130,000
 35. **Apple, J. K.**, & C. V. Maxwell. 2010. Interactive Effects of Swine Genotype and Dietary Inclusion of a Yeast Culture on Performance, Hind-Gut Fermentation, and Pork Quality of Growing-Finishing Swine. Diamond V Inc.- \$26,456
 34. Beck, P. A., S. Bevers, **J. Apple**, S. Gadberry, B. Barham, & B. Phillips. 2010. Adding value to production of beef cattle operations in the south central United States. USDA, NIFA, AFRI – Agriculture Economics and Rural Communities - \$499,980
 33. Richeson, J., J. Wagner, J. Ridpath, E. Kegley, **J. Apple**, & D. Feuz. 2010. Effects of weaning management and subsequent exposure to persistently infected bovine viral diarrhea virus challenge on profitability of beef production. USDA, NIFA, AFRI - \$130,000
 32. Cantrell, A., J. W. S. Yancey, & **J. K. Apple**. 2008. The effects of packaging tray color on consumer selection of beef cuts. Arkansas Beef Council - \$45,400
 31. **Apple, J. K.**, J. T. Sawyer, & J. W. S. Yancey. 2007. Enhancement methods to improve the fresh and cooked meat color of dark-cutting beef. USDA, NRI - \$364,441
 30. **Apple, J. K.**, J. W. S. Yancey, & J. T. Sawyer. 2007. Mapping the color stability and palatability of top sirloin butts. National Cattlemen’s Beef Assn.- \$38,797
 29. **Apple, J. K.**, J. W. S. Yancey, & J. T. Sawyer. 2007. An investigation into the pH and color gradients found within the beef *semimembranosus*. National Cattlemen’s Beef Assn.- \$21,927
 28. **Apple, J. K.**, J. W. S. Yancey, & M. D. Wharton. 2007. Mapping the color stability and palatability of top sirloin butts. Arkansas Beef Council - \$59,490
 27. **Apple, J. K.**, J. T. Sawyer, & J. W. S. Yancey. 2007. Effects of length of aging, quality grade, and packaging on the lateral and longitudinal characterization of muscle quality in the *biceps femoris* from heavy beef carcasses. Arkansas Beef Council - \$43,900
 26. Yancey, J. W. S., **J. K. Apple**, & J. T. Sawyer. 2007. An investigation into the pH and color gradients found with beef *semimembranosus*. Arkansas Beef Council - \$35,900
 25. **Apple, J. K.**, & J. W. S. Yancey. 2006. An investigation into the pH and color gradients found with beef *semimembranosus*. National Cattlemen’s Beef Assn. - \$32,508
 24. **Apple, J. K.** 2005. Reduction of *Escherichia coli* O157:H7 in the Drinking Water of Beef Cattle. Chr. Hansen, Inc. - \$18,760
 23. **Apple, J. K.**, & C. Bokina. 2005. Reduction of *Escherichia coli* O157:H7 in the

- drinking water of beef cattle. USDA, NRICGP, Food Safety - \$232,554
22. Gunter, S., P. Beck, E. Kegley, & **J. K. Apple**. 2005. Increasing the demand for rice bran by animal feeding. Arkansas Rice Research & Promotion Board - \$20,804
 21. **Apple, J. K.**, & E. B. Kegley. 2004. Efficacy of poultry fat inclusion in beef cattle finishing diets. U. S. Poultry & Egg Council (pre-proposal)
 20. **Apple, J. K.** 2004. Reduction of *Escherichia coli* O157:H7 in the drinking water of beef cattle. American Meat Industry Foundation - \$79,100
 19. **Apple, J. K.**, & S. Krumpelman. 2004. Reduction of *Escherichia coli* O157:H7 in the drinking water of beef cattle. Arkansas Beef Council - \$114,200
 18. Krumpelman, S., & **J. K. Apple**. 2004. Pre-harvest intervention to reduce *Escherichia coli* O157:H7 on cattle destined for harvest. Arkansas Biosciences Institute - \$39,200
 17. Kandaswamy, J., S. G. Bajwa, & **J. K. Apple**. 2004. On-line determination tenderness, fat content of ground meat samples. Arkansas Biosciences Institute - \$75,000
 16. Davis, M. E., **J. K. Apple**, & C. V. Maxwell. 2004. Lipopolysaccharide induction of an inflammatory challenge and its effects on behavior, immunological development, and growth performance of early-weaned pigs during the nursery phase, and subsequently during the finishing period. National Pork Board - \$56,900
 15. **Apple, J. K.**, & C. V. Maxwell. 2003. Influence of blending dietary fat sources of animal origin on the pork quality of finishing pigs. Murphy-Brown, LLC - \$32,000
 14. **Apple, J. K.**, & C. V. Maxwell. 2003. Effect of fat source and feeding phase on pork quality. Premium Standard Farms - \$32,000
 13. Arthur, S., & **J. K. Apple**. 2003. Effect of weaning age and co-mingling after the nursery phase on humoral and behavioral indicators of well-being and growth in weanling pigs. SILO Advisory Council SURF grant - \$2,650
 12. **Apple, J. K.**, C. V. Maxwell, & K. G. Friesen. 2003. Crystalline amino acid supplementation in the diets of growing-finishing swine on live animal performance and carcass quality. Heartland Lysine Corp.- \$21,111
 11. **Apple, J. K.**, C. V. Maxwell, & K. G. Friesen. 2003. Effects of source and level of dietary selenium on the quality of fresh pork products from growing-finishing swine. Alltech - \$46,529
 10. Maxwell, C. V., **J. K. Apple**, K. G. Friesen, S. Singh, & E. B. Kegley. 2003. Effects of dietary manganese and chromium on live animal performance and pork quality of growing-finishing swine. Alltech - \$24,692.50
 9. **Apple, J. K.**, C. V. Maxwell, K. G. Friesen, & D. C. Brown. 2000. Effects of Paylean™ inclusion level on performance and carcass merit of finishing swine with different genetic propensities for lean deposition fed to a market weight of 270 pounds. Elanco Animal Health - \$46,422
 8. **Apple, J. K.**, & E. B. Kegley. 1999. Nutritional modification of the formation of the dark-cutting condition. USDA, NRICGP - \$277,413.22
 7. **Apple, J. K.**, E. B. Kegley, & C. V. Maxwell. 1999. Influence of magnesium supplementation on pork quality. Prince Milling Co. - \$48,792
 6. **Apple, J. K.**, & E. B. Kegley. 1998. Nutritional modification of stress response and formation of the dark-cutting condition. Arkansas E. P. S. Co. R. Program - \$284,023
 5. **Apple, J. K.**, K. G. Friesen, & C. V. Maxwell. 1998. The influence of spray-dried blood

- meal on pork quality and color. American Proteins Corp. - \$21,575
4. **Apple, J. K.** 1997. Effect of swine genotype and dietary fat intake on the fatty acid composition, quality, and acceptability of bacon. National Pork Producers' Council - \$38,000
 3. **Apple, J. K.** 1997. Effect of swine genotype and dietary fat intake on the fatty acid composition, quality, and acceptability of bacon. Arkansas Agriculture Experiment Station Research Incentive Program - \$20,000
 2. **Apple, J. K.** 1996. Influence of pen size and environmental enrichment on performance and aggressive and stereotypic behaviors of growing and finishing swine. National Pork Producers' Council - \$51,626
 1. **Apple, J. K.** 1996. Effects of breed and gender on calpastatin activity and pork longissimus muscle tenderness. National Pork Producers' Council - \$40,887

Courses Taught

		<u>Year</u>	<u>Enrolled</u>	<u>Core mean</u>
Texas A&M University – Kingsville				
ANSC 1419	Introduction to Animal Science	2019 (F)	57	4.68
ANSC 1419	Introduction to Animal Science	2020 (F)	66	4.74
ANSC 1419	Introduction to Animal Science	2020 (F)	66	4.84
ANSC 1419	Introduction to Animal Science	2021 (F)	76	
ANSC 1419	Introduction to Animal Science	2021 (F)	79	
ANSC 3390	ST: Domestic Animal Behavior	2020 (S)	54	4.77
ANSC 3390	ST: Domestic Animal Behavior	2021 (S)	67	4.78
ANSC 3390	ST: Domestic Animal Behavior	2022 (S)		
ANSC 4308	Statistics in Agriculture	2021 (F)	37	
ANSC 5390	ST: Advanced Meat Science	2020 (S)	8	4.52
ANSC 5390	ST: Professional Animal Scientists	2021 (S)	4	
University of Arkansas				
ANSC 1051	Introduction to the Livestock Industry	2019 (S)	49	5.00
ANSC 1051	Introduction to the Livestock Industry	2018 (F)	108	4.80
ANSC 1051	Introduction to the Livestock Industry	2018 (S)	51	4.82
ANSC 1051	Introduction to the Livestock Industry	2017 (F)	98	4.84
ANSC 1051	Introduction to the Livestock Industry	2017 (S)	45	4.98
ANSC 1051	Introduction to the Livestock Industry	2016 (F)	93	4.87
ANSC 1051	Introduction to the Livestock Industry	2016 (S)	44	4.77
ANSC 1051	Introduction to the Livestock Industry	2015 (F)	99	4.69
ANSC 1051	Introduction to the Livestock Industry	2015 (S)	43	4.75
ANSC 1051	Introduction to the Livestock Industry	2014	97	4.89
ANSC 1051	Introduction to the Livestock Industry	2013	105	4.67
ANSC 1051	Introduction to the Livestock Industry	2012	128	4.63
ANSC 1051	Introduction to the Livestock Industry	2011	142	4.70
ANSC 1051	Introduction to the Livestock Industry	2009	98	4.6

ANSC 1051	Introduction to the Livestock Industry	2008	55	<i>n/a</i>
ANSC 1051	Introduction to the Livestock Industry	2007	57	4.6
ANSC 1051	Introduction to the Livestock Industry	2006	42	<i>n/a</i>
ANSC 1051	Introduction to the Livestock Industry	2005	40	4.8
ANSC 1051	Introduction to the Livestock Industry	2004	36	4.8
ANSC 1051	Introduction to the Livestock Industry	2003	28	4.5
ANSC 2213	Behavior of Domestic Animals	2018	86	4.80
ANSC 2213	Behavior of Domestic Animals	2017	62	4.77
ANSC 2213	Behavior of Domestic Animals	2016	78	4.78
ANSC 2213	Behavior of Domestic Animals	2015	57	4.67
ANSC 2213	Behavior of Domestic Animals	2014	37	4.70
ANSC 2252L	Intro. Livestock & Meats Evaluation	2011	60	4.7
ANSC 2252L	Intro. Livestock & Meats Evaluation	2006	42	<i>n/a</i>
ANSC 2252L	Intro. Livestock & Meats Evaluation	2005	32	4.7
ANSC 2252L	Intro. Livestock & Meats Evaluation	2004	38	4.6
ANSC 2252L	Intro. Livestock & Meats Evaluation	2003	41	4.9
ANSC 2252L	Intro. Livestock & Meats Evaluation	2002	29	4.4
ANSC 2252L	Intro. Livestock & Meats Evaluation	2001	44	4.5
ANSC 2252L	Intro. Livestock & Meats Evaluation	2000	43	4.4
ANSC 2252L	Intro. Livestock & Meats Evaluation	1999	46	4.4
ANSC 2252L	Intro. Livestock & Meats Evaluation	1998	15	4.7
ANSC 3614	Commodity Science of Meats	1998	7	4.6
ANSC 3614	Commodity Science of Meats	1996	21	<i>n/a</i>
ANSC 3614	Commodity Science of Meats	1995	18	4.8
ANSC 4272	Sheep Production	2019	48	4.08
ANSC 4272	Sheep Production	2017	38	4.82
ANSC 4272	Sheep Production	2015	37	4.92
ANSC 4272	Sheep Production	2013	42	4.76
ANSC 4272	Sheep Production	2011	34	4.6
ANSC 4272	Sheep Production	2009	39	4.7
ANSC 4272	Sheep Production	2007	37	4.6
ANSC 4272	Sheep Production	2005	33	4.2
ANSC 4272	Sheep Production	2003	27	4.7
ANSC 410V	ST: Meat Selection and Grading	2002	30	4.6
ANSC 410V	ST: Meat Selection and Grading	1999	5	<i>n/a</i>
ANSC 410V	ST: Meat Selection and Grading	1997	11	<i>n/a</i>
ANSC 410V	ST: Meat Selection and Grading	1996	11	<i>n/a</i>
ANSC 5853	Advanced Meat Technology	2016	9	4.29
ANSC 5853	Advanced Meat Technology	2014	12	5.00
ANSC 5853	Advanced Meat Technology	2012	8	4.81

Brandon Benish	2015	Food Safety, Tyson Foods, Inc.
Yi Zhang	2014	Beijing, China
Darren Toczko	2011	Bar-S Foods Co.
Honors undergraduate research		
Kelsey Johnson	2019	OU-TU School of Community Medicine
Mersady Redding	2019	University of Arkansas Medical School
Rachel Schaffhauser		College of Vet.Med., Louisiana St. Univ.
Callen Lichtenwalter	2018	Ph.D. candidate, Washington State University
Zena Hicks	2018	Ph.D. candidate, University of Nebraska-Lincoln
Justin Hamm	2018	Self-employed
Lensey Watson	2017	DVM, Mississippi St. Univ.
Rosalee Reese	2012	American SW Ichthyological Researchers LLC
Keely Trusell	2010	Deceased
Allison Cantrell	2008	Self-employed
Undergraduate research mentor		
Reagan Callahan	ANSC	Librarian, Texas A&M University
Chelsey Ahrens	ANSC	Arkansas 4-H Animal Science Specialist
Crystal Ahrens	ANSC	Director of Communications, AMSA
Nathan Tapp III	ANSC	Food Scientist, Simmons Foods, Inc.
Wendie Wallis	ANSC	Food Scientist, Cargill Meat Solutions
Shanna Hutchison	ANSC	PIC, Inc.
Sarah Arthur	ANSC	Washington County Sheriff's Department
Ph.D. committee service		
Reagan Cauble	ANSC	Expected May, 2022
Caleb Weiss	ANSC	Product Manager, Quality Liquid Feeds
Barbara Mallmann	POSC	R&D, Adisseo (Lyon, France)
Jamie Hawley	ANSC	STEM Director, Elkins School District
Jase Ball	ANSC	R&D, Zoetis, Inc.
Bill D. Potter	POSC	Food Safety Technical Advisor, Elanco
J. Grant Mason	POSC	Geneticist, Aviagen
Mark Christie	POSC	Food Technologist, Simmons Foods, Inc.
Vivek Kuttappan	POSC	Research Scientist, Novus
Dari C. Brown	ANSC	Sr. Director, Purina Animal Nutrition LLC
L. Cain Cavitt	POSC	Food Technologist, Tyson Foods, Inc.
Troy Wistuba	ANSC	Dir. Dairy Tech. Sol., Purina Animal Nutr.LLC
M.S. committee service		
Gabriel Vera	ANSC	Expected, January 2022
Cristian Rivas	ANSC	Expected, May 2021
Gabriella Garcia	AGSC	Expected, January 2022
Lane Baker	AGSC	Instructor, James Madison Agriscience Magnet
Kylie Hackworth	AECT	Academic Advisor, Missouri Southern St. Univ.
Joshua Flees	POSC	Ph.D. candidate, Auburn University
Colton Althaber	ANSC	US Bestmix Consultant, Adifo Software
Sarah Chewing	ANSC	Self-employed
Ashley Young	ANSC	Pet Food R&D, Simmons Foods, Inc.
Famous Yang	POSC	Self-employed

Jessica Solo	POSC	Food Technologist, Tyson Foods, Inc.
Vishwesh Tijare	POSC	Food Technologist, Columbus Foods
Jackson Alexander	AECT	Facilitator, Communities Unlimited
Jessica Williamson	ANSC	Hay & forage specialist, AGCO Corp.
Valerie Brewer	POSC	Food Technologist, Tyson Foods, Inc.
Jamie Hawley	ANSC	STEM Director, Elkins School District
Schott Walnoffer	FDSC	Research Chef, Tyson Foods, Inc.
Jennifer Leach	ANSC	Food Technologist, Advanced Foods, Inc.
Tabra Alpers	FDSC	Sensory Scientist, Conagra Brands, Inc.
Jayarani Kandaswamy	BENG	Group Product Mngr., Capital One
Shanna Hutchison	ANSC	PIC, Inc.
Harold B. Watson	ANSC	Instructor, NW Arkansas Community College
Matt Stivarius	ANSC	Decease

Service

Texas A&M University – Kingsville

2021 to <i>present</i>	TAMUK Graduation Marshall
2020 to 2025	TAMUK Institutional Biosafety Committee (IBC)
2020 to 2022	TAMUK Calendar Committee
2020 to 2023	TAMUK Graduate Faculty Council
2020 to <i>present</i>	TAMUK Javelina Scholarship Committee

University of Arkansas

2018 to 2020	University of Arkansas Faculty Senate
2017	DBCAFLS Promotion & Tenure Committee
2015 to 2019	DBCAFLS Faculty Council
2016 to 2017	DBCAFLS Strategic Alignment Committee
2016	Division of Agriculture Strategic Planning Committee
2016 to 2017	Department of Animal Science Annual Faculty Review Committee (Chair, 2016)
2016	Author, Department of Animal Science Guidelines for Recommending Faculty Appointment, Reappointment, Promotion and/or Tenure, and Annual Faculty Evaluation
2015	Department of Animal Science Search Committee, Assist. Professor of Genomics
2015	Department of Animal Science Search Committee, Assist. Professor of Muscle Biology
2014	DBCAFLS Promotion & Tenure Committee
2011 to 2013	University of Arkansas Committee on Committees
2000 to 2019	University of Arkansas Institutional Animal Care and Use Committee (Vice Chair)
2008	DBCAFLS Search Committee, Food Science Department Head
2007 to 2009	University of Arkansas General Education Core Curriculum Committee (Chair, 2008)
2005 to 2012	Department of Animal Science Graduate Student Evaluation Committee
2004 to 2005	Department of Animal Science Curriculum Strategic Planning Committee

2001 to 2019 Department of Animal Science Internships Committee (Chair, 2015 – 2016)
 2000 to 2001 DBCAFLS Commencement Committee
 1998 DBCAFLS Land-Grant Days Organization Committee
 1998 DBCAFLS Chancellor Investiture Committee
 1997 Chair, Department of Animal Science Search Committee, Assist. Professor
 of Meat Science
 1996 Chair, Department of Animal Science Search Committee, Professor of Swine
 Nutrition
 1996 Department of Animal Science Search Committee, Lecturer of Animal
 Science
 1995 to 2019 Faculty Supervisor, University of Arkansas Red Meat Research Abattoir

American Meat Science Association (AMSA)

2016 to 2019 Abstract & Student Research Competition Committee
 2015 to 2018 Journal Committee
 2015 to 2018 Distinguished Research Award Selection Committee
 2011 to 2013 Membership Committee (Chair, 2013)
 2010 to 2011 Reciprocation Magazine Editor
 2009 to 2011 Undergraduate Scholastic Achievement Award Committee (Chair, 2011)
 2004 to 2006 Meat Research Award Selection Committee
 2002 to 2005 Meat Industry Research Conference Planning Committee (Chair/Facilitator,
 2003)
 2000 to 2003 Budget Committee
 1996 to 1998 Graduate Student Research Poster Competition Committee (Chair, 1998)
 1995 to 1996 Nominations Committee

American Society of Animal Science

2008 to 2010 Meat Research Award Selection Committee
 2004 to 2006 Southern Section Undergraduate Competition Committee
 2003 to 2006 Southern Section Meat Science Committee (Chair, 2006)
 2002 to 2006 Southern Section Outstanding Young Scientist Selection Committee (Chair,
 2004)

Intercollegiate Meat Judging Coaches' Association

2021 Cargill High Plains Meat Judging Contest (lamb carcass official)
 2015 Houston Livestock Show & Rodeo Meat Judging Contest (beef cuts official)
 2015 Cargill High Plains Meat Judging Contest (lamb carcasses official)
 2014 American Royal Intercollegiate Meat Judging Contest (beef carcasses
 official)
 2013 High Plains/EXCEL Meat Judging Contest (pork carcasses official)
 2012 American Royal Intercollegiate Meat Judging Contest (pork carcasses
 official)
 2009 American Royal Intercollegiate Meat Judging Contest (pork carcasses
 official)
 2008 Southeastern Intercollegiate Meat Judging Contest (lamb carcasses official)
 2008 American Royal Intercollegiate Meat Judging Contest (pork cuts official)

2004	Eastern National Intercollegiate Meat Judging Contest (beef carcasses official)
2003	High Plains/EXCEL Meat Judging Contest (lamb carcasses official)
2002	American Royal Intercollegiate Meat Judging Contest (pork cuts official)
2002	Southeastern Intercollegiate Meat Judging Contest (beef cuts official)
2001	Eastern National Intercollegiate Meat Judging Contest (lamb/veal carcasses official)
2000	Eastern National Intercollegiate Meat Judging Contest (lamb/veal carcasses official)
1999 to 2001	Meat Evaluation Handbook Revision Committee
1999	National 4-H Meat Judging Contest Official Committee
1999	National Western Intercollegiate Meat Judging Contest (lamb carcasses official)
1998	Eastern National Intercollegiate Meat Judging Contest (beef carcasses official)
1997	Eastern National Intercollegiate Meat Judging Contest (pork carcasses official)
1996	Iowa State University Invitational Meat Judging Contest (beef cuts official)
1995	Eastern National Intercollegiate Meat Judging Contest (lamb carcasses official)
1992	Beef Empires Days Meats Judging Contest (committee chair)

Presentations

2021	American Society of Animal Science, ARPS Symposium, Louisville, KY. Invited presentation entitled: "Can regionalized livestock production and meat packing meet the food needs of today's consumer?"
2021	Texas Livestock Ambassadors Training, Kingsville, TX
2020	Texas Agriculture Lifetime Leadership Experience, Kingsville, TX
2019	University of Arkansas Cooperative Extension Small Ruminant Symposium, Berryville, AR. Invited presentation entitled: "Small ruminant reproduction."
2019	University of Arkansas Cooperative Extension Service Back to Basics: Small Ruminant Medicine, Fayetteville, AR. Invited presentation entitled: "Grazing management to control internal parasites of small ruminants."
2018	Arkansas Cattlemen's Leadership Conference 3-day "Gate-to-Plate" Seminar, Fayetteville, AR. Invited presentation entitled: "What is drop credit?" (also organized & coordinated the seminar)
2018	American Junior Red Angus Association Leadership Tour, Rogers, AR
2018	Arkansas Forage and Grassland Association, Batesville, AR. Invited presentation entitled: "Role of pasture and forages in the production of quality beef."
2018	University of Arkansas Northeast Research and Extension Center Beef Cattle Symposium, Batesville, AR. Invited presentation entitled: "Forages and beef quality."
2018	University of Arizona, the School of Animal and Comparative Biomedical Sciences, Tucson. Invited presentation entitled: "The power of 'AND'"

- 2017 University of Arkansas Cooperative Extension In-Service Training on Small Ruminant Slaughter and Fabrication (two days), University of Arkansas Red Meat Abattoir, Fayetteville, AR
- 2017 University of Georgia, Department of Animal and Dairy Science, Athens. Invited presentation entitled: "Journey to the future of animal and dairy sciences."
- 2016 American Society of Animal Science, Midwest Section, Des Moines, IA, 2016, invited presentation entitled: "Quandaries of measuring meat quality"
- 2016 Mid-Missouri Grazing Conference, Jefferson City, MO, 2016 invited presentation entitled: "Comparison of grain-finished to grass-fed beef"
- 2016 Arkansas Small Farmer, Russellville, AR. Invited presentation entitled: "Small ruminants for small farms."
- 2016 Arkansas Small Farmer, Fayetteville, AR. Invited presentation entitled: "Small ruminants for small farms."
- 2016 American Junior Angus Association Tour, Fayetteville, 2016
- 2015 University of Arkansas Grazing Conference, Batesville, AR. Invited presentation entitled: "Management practices that may impact beef quality."
- 2015 ASAS Innovations in Education: An Animal Sciences Curriculum for the 21st Century, Braselton, GA. Invited presentation entitled: "Strategies for improving teaching and learning"
- 2015 American Society of Animal Science, Midwest Section, Des Moines, IA. Baker Symposium invited presentation entitled: "Effect of feed-grade amino acid supplementation in reduced crude protein diets formulated on a net energy basis on performance and carcass characteristics of growing-finishing pigs."
- 2015 Tarleton State University, Department of Animal Sciences (Stephenville, TX) invited presentation entitled: "Future of animal science at non-land-grant universities."
- 2014 Feed Energy Company Colony Summit, Mitchell & Watertown, SD. Invited presentations entitled: "Dietary fat and meat quality."
- 2014 American Society of Animal Science, National Meetings, Kansas City, MO. Invited presentation entitled: "What the data say: Pork carcass transfer/composition."
- 2014 Arkansas Women in Agriculture Annual Convention, Little Rock, AR. Panel discussion of issues facing animal agriculture.
- 2013 Lincoln University Small Ruminant Field Day, Jefferson City, MO. Invited presentation entitled: "Factors affected cooked lamb and goat palatability."
- 2012 Second Annual Advances and Issues in Food Animal Wellbeing Symposia, Fayetteville, AR. Invited presentation entitled: "Gestation stall update."
- 2012 Arkansas Farm Bureau, Fayetteville, AR. Invited presentation entitled: "Emerging food safety issues"
- 2012 American Society of Animal Science, Midwest Section, Des Moines, IA. Baker Symposium invited presentation entitled: "Effects of reduction crude protein level and replacement with crystalline amino acid on growth performance, carcass composition, and fresh pork quality of finishing pigs fed Paylean."
- 2011 Reciprocal Meats Conference, Kansas State University, Manhattan, KS. Invited presentation entitled: "Principles of manuscript writing"
- 2011 Beef ROI from Pasture to Plate, Morrilton, AR. Invited presentation entitled: "Acid enhancement of dark-cutting beef."
- 2011 American Society of Animal Science, Midwest Section, Des Moines, IA. Invited

- presentation entitled: “Dietary fat and meat quality.”
- 2010 Reciprocal Meats Conference, Texas Tech University, Lubbock, TX. Invited presentation entitled: “Beyond iodine value”
- 2009 Missouri Meat Processors Convention, Columbia, MO. Invited presentation entitled: “Factors influence fresh pork belly quality.”
- 2008 American Society of Animal Science, Midwest Section, Des Moines, IA. Invited presentation entitled: “Changes in live performance and carcass composition associated with feeding diets formulated with fats and/or oils.”
- 2008 Northwest Arkansas Cattlemen’s Association, Gravette, AR. Invited presentation entitled: “Injection-site blemishes”
- 2007 Arkansas Beef Council, Little Rock, AR. Invited presentation entitled: “Value-added effects on dark-cutting beef”
- 2005 Drip Loss and Water Holding Capacity of Porcine Meat Workshop, Institut für Tierwissenschaften, University of Bonn, Germany. Invited presentation entitled: “Nutritional influences on water-holding capacity of pork.”
- 2005 Morrilton Career Fair at University of Arkansas Community College, Morrilton, AR
- 2004 University of Arkansas Monticello Beef Cattle Field Day, Monticello, AR. Invited presentation entitled: “Straight talk on ‘mad cow’”
- 2003 Paradise Farm Field Day, Snow, AR. Invited presentation entitled: ““Alternative marketing strategies for beef cattle?”
- 2003 Marion County 4-H Steer Feed-Out, Fayetteville, AR. Invited presentation entitled: “Marketing beef cattle”
- 2003 Beef Carcass Fabrication Demonstration, Clarksville Packing Company, Clarksville, AR
- 2003 Keynote banquet speaker at Auburn University Meat Science Association Banquet, 2003
- 2003 Department of Animal and Dairy Sciences, Auburn University, 2003. Invited seminar entitled: "Fundamentals of writing a journal article."
- 2002 Cleburne County Cattlemen’s Assn. Mtg., Drasco, AR. Invited presentation entitled: “Beef quality management”
- 2002 Arkansas Beef Council, Little Rock, AR. Invited presentation entitled: “Developing a reliable animal-model to study the dark-cutting condition”
- 2002 University of Arkansas Cooperative Extension In-Service Training, Fayetteville, AR. Invited presentation entitled: “What are my cattle worth?”
- 2002 Tyson Food, Inc., Corporate “Beef 101” Seminar, Springdale, AR. Invited presentation entitled: “The beef packing industry.”
- 2001 Mena High School FFA Banquet Keynote Speaker, Mena, AR
- 2000 Kansas-Oklahoma-Missouri-Arkansas Beef Cattle Conference, Joplin, MO, 2000. Invited presentation entitled: “Cull cows: by-product or value-added commodity?”
- 2000 Polk County Forage/Beef Short Course, Mena, AR. Presentation entitled: “Reallimentation and delayed marketing of culled cows can increase your cows’ value”
- 2000 Arkansas Beefmaster Breeders Association Field Day at Hickory Ridge Farms, Paris, AR. Presentation entitled: “What affects the value of my cattle?”
- 1999 52nd Annual Reciprocal Meat Conference, Oklahoma State University, Stillwater. Graduate Student Opportunities – Industry/Government Panel Discussion. Invited

question to address: “How important is it to complete projects by the suggested deadline in the research proposal, would you sacrifice the quality of the research to make the deadline, or are proposals written with unrealistic deadlines just to get an advantage over the competition during the proposal submission and review process?”

- 1999 13th Annual Arkansas-Oklahoma Border Beef Cattle Conference, Ft. Smith, AR, 1999. Invited presentation entitled: “Beef cattle marketing: What’s the value my cattle?”
- 1999 University of Arkansas Sheep Breeding Soundness Examination Clinic, Fayetteville, AR. Invited presentation entitled: “Marketing sheep and lamb”
- 1999 Arkansas Cattlemen’s Association Mid-Year Meeting, Fayetteville, AR. Invited presentation entitled: “Beef quality defects and nonconforming cattle”
- 1999 University of Arkansas Livestock & Meats Judging Camp, Fayetteville, AR. Presentations on beef, pork and lamb carcass evaluation, beef quality and yield grading, and primal, subprimal and retail cut classes evaluation
- 1998 IX Simposium Internacional de Ingenieria en Industrias Alimentarias, Monterrey, Mexico, 1998. Invited presentation entitled: “Animal stress and the occurrence of the dark-cutting condition.”
- 1998 National Santa Gertrudis Leadership Conference, Fayetteville, AR. Invited presentation entitled: “Value-based marketing and you”
- 1998 Tyson Food Research and Development Retreat, Russellville, AR “Meat science 101: conversion of muscle to meat”
- 1998 University of Arkansas Cooperative Extension In-Service Training, Fayetteville, AR. Invited presentation entitled: “Value-based marketing and you”
- 1998 Crawford County Cattlemen’s Assoc. Meeting, Van Buren, AR. Invited presentation entitled: “What can my cow be worth?”
- 1998 Arkansas Beefmaster Breeders Assoc. New Member Seminar, Fayetteville, AR. Invited presentation entitled: “Factors affecting beef quality”
- 1998 Northwest Arkansas Cattlemen’s Assoc. Meeting, Siloam Springs, AR. Invited presentation entitled: “Factors affecting cull cow value”
- 1997 Arkansas Cattlemen’s Association Mid-Year Meeting, Hope, AR. Invited presentation entitled: “Delayed marketing of cull cows”
- 1997 North Arkansas “Super Cow” Beef Clinic, Berryville, AR. Invited presentation entitled: “Beef production – now and then”
- 1997 Washington County Beef Cattle Short Course, Fayetteville, AR. Invited presentation entitled: “Factors affecting beef quality”
- 1997 Washington County 4-H Leaders Banquet Keynote Speaker, Fayetteville, AR, 1997
- 1996 Value-Based Marketing Symposium, University of Arkansas, Fayetteville. Organized symposium and invited presentation entitled “What are my cattle worth?”
- 1996 Arkansas Cattlemen’s College, Arkansas Cattlemen’s Assoc. Convention, Pine Bluff, AR. Invited presentation entitled: “Cull cows: by-product or value-added commodity”
- 1996 Sebastian County Cattlemen’s Assoc. Meeting, Greenwood, AR. Invited presentation entitled: “National Beef Quality Audit – what’s it mean to me?”, 1996
- 1996 Ozark Cattlemen’s Assoc. Meeting, Fayetteville, AR. Invited presentation entitled: “National Beef Quality Audit – what’s it mean to me?”⁶

- 1996 Arkansas Cattlemen's Association Mid-Year Meeting, Fayetteville, AR. "Value-based marketing and you"
- 1995 Winrock International, Farmer-to-Farmer Program, Kazakhstan. Conducted several presentations, farm-tours, and developed several business plans.
- 1995 Arkansas Cattlemen's College, Arkansas Cattlemen's Assoc. Convention, Pine Bluff, AR. Invited presentation entitled: "National Beef Quality Audit – what's it mean to me?"
- 1995 Massachusetts 4-H Volunteer/Teacher Training Conference, Northhampton.
- 1994 Department of Animal and Dairy Sciences, Auburn University, 1994. Invited presentation entitled: "Emotional and physical stressors affecting lamb muscle quality."
- 1994 New England Sheep & Wool Growers' Assn. Symposium, Amherst, MA, 1994. Invited presentation entitled: "Alternative marketing of lamb and lamb products"
- 1994 Department of Animal and Veterinary Sciences, University of Idaho, Moscow, 1994. Invited presentation entitled: "Shedding light on the dark-cutting condition"
- 1994 Vermont Beef Cattlemen's Conference, Randolph Center, VA. Invited presentation entitled: "Beef quality and cattle marketing. The 'buzz' words and you"
- 1994 Northeast Angora Goat Breeders Assn., Hadley, MA. Invited presentation entitled: "Handling and housing of Angora goats in New England"
- 1993 Colorado State University, Department of Animal Science, Colorado State University, Ft. Collins. Invited presentation entitled: "Emotional and physical stressors affecting lamb muscle quality."
- 1993 New England Polled Hereford Assn. Field Day, Hartford, CT. Invited presentation entitled: "Defining beef quality"
- 1995 New England Sheep & Wool Growers' Assn. Symposium, Springfield, MA. Invited presentation entitled: "Lamb meat production and its future."
- 1992 Muscle to Meat: Physiology of Unperfused Muscle Miniworkshop, Kansas State University, Manhattan, KS. Invited presentation entitled: "Emotional and physical stressors affecting lamb muscle quality" (conducted demonstration laboratory for participants)
- 1992 4-H Discovery Days, Kansas State University, Manhattan, KS. Invited presentation entitled: "The history of beef grading system"