Kimberly M. Barnes

PO Box 6108, 2411 Ag. Sci. Bldg., West Virginia University, Morgantown, WV 26506

Telephone: 304-293-1841

E-mail: Kim.Barnes@mail.wvu.edu

# Education

PhD: Animal Science

University of Nebraska, Lincoln, Nebraska

August 2005

Dissertation title: Conjugated linoleic acid-induced body fat loss and adipose tissue apoptosis

Advisor: Jess L. Miner

MS: Animal Science

University of Nebraska, Lincoln, Nebraska

August 2002

Thesis title: Modulation of adipose tissue in mice by dietary conjugated linoleic acid

Advisor: Jess L. Miner

BS: Animal Science, Honors College

Michigan State University, East Lansing, Michigan

May 2000, with High Honors

# Experience

Coordinator, Intercollegiate Biochemistry Program; July 2015 – current

 West Virginia University, a joint undergraduate program between the Davis College of

 Agriculture, Natural Resources and Design and the Eberly College of Arts and Sciences

Associate Professor of Biochemistry; July 2014 – current

 West Virginia University, Davis College of Agriculture, Natural Resources and Design,

 Division of Animal and Nutritional Sciences

 Appointment July 2014 – December 2015: 50% Teaching, 50% Research

 Appointment January 2016 – current: 70% Teaching, 20% Administrative/Service, 10%

 Research

Assistant Professor of Biochemistry; July 2007 – June 2014

West Virginia University, Davis College of Agriculture, Forestry, and Consumer Sciences, Division of Animal and Nutritional Sciences

Appointment: 50% Teaching, 50% Research

Assistant Professor of Genetics and Developmental Biology; June 2008 – June 2014

 West Virginia University, Davis College of Agriculture, Forestry, and Consumer

 Sciences

Post Doctoral Trainee; August 2005 – June 2007

University of Wisconsin-Madison, Department of Nutritional Sciences

* PI: Roger A. Sunde

# Professional Associations and Memberships

American Society of Biochemistry and Molecular Biology

American Society of Animal Science

American Society for Nutrition

 Experimental Animal Nutrition RIS, Secretary 2009 – 2010, Treasurer 2010 – 2011,

 Chair Elect 2011 – 2012, Chair 2012 – 2013, Past Chair 2013 – 2014

 Abstract Review Committee member, 2013

 Representative to CAST, 2014 – current

The Council for Agricultural Science and Technology

 Chair, Food Science and Safety Working Group October 2015 - current

Obesity Society

Sigma Xi

Gamma Sigma Delta Honor Society of Agriculture

NCCC210: Regulation of Adipose Tissue in Meat Producing Animals

 Annual meeting co-chair, 2009-2010, and 2017-2018

# Honors and Awards

Ralph E. Powe Junior Faculty Enhancement Award in Life Sciences, Oak Ridge Associated

 Universities, 2009

Ruth L. Kirschstein National Research Service Award (NIH DK07665-14), University of

Wisconsin-Madison, 2005-2007

**Teaching**

AGBI 199, Orientation to Biochemistry – 1 Cr, fall semesters starting 2015, annual enrollment

 ~80

AGBI 386, UG Research Experience 1 – 1 or 2 Cr, fall, spring, and summer, annual enrollment

 ~3 (with the expectation to grow)

AGBI 401, Senior Seminar – 1 Cr, spring semesters, annual enrollment ~20

AGBI 403, Applied Biochemistry Literature Capstone – 3 Cr, spring semesters, annual

 enrollment ~10 (with expectation to grow – first offering spring 2018)

AGBI 410, Introduction to Biochemistry – 3 Cr, fall semesters, annual enrollment ~240, and

 summer session 2013-2016, average enrollment ~40

AGBI 412, Biochemistry Laboratory – 1 Cr, fall semesters 2007 - 2015, annual enrollment ~30

AGBI 486, UG Research Experience 2 Capstone – 2-4 Cr, fall, spring, and summer, annual enrollment ~3 (with the expectation to grow)

AGBI 497, Research – 1-6 Cr, fall, spring, and summer, annual enrollment ~20

AGBI 498, Biochemistry Honors Add-On – 1 Cr, fall semesters, annual enrollment ~7

AGBI 612, General Biochemistry – 4 Cr, spring semesters, annual enrollment ~12

**Advising**

2008 – 2016 BS Biochemistry, Division of Animal and Nutritional Sciences, Davis College of

 Agriculture, Natural Resources and Design – average ~30 students per year

2013 – current BS Biochemistry, Intercollegiate Biochemistry Program, Davis College of

 Agriculture, Natural Resources and Design and Eberly College of Arts and Sciences –

 average ~50 per year, current 72

# Publications

Refereed Journal Articles:

**Hargrave, KM**, CL Li, BJ Meyer, SD Kachman, DL Hartzell, MA Della-Fera, JL Miner, and

 CA Baile. 2002. Adipose depletion and apoptosis induced by trans-10, cis- 12 conjugated

 linoleic acid in mice. Obes. Res. 10:1284-1290.

**Hargrave, KM**, MJ Azain, SD Kachman, and JL Miner. 2003. Conjugated linoleic acid does

not improve insulin sensitivity in mice. Obes. Res. 11:1104-1115.

**Hargrave, KM**, BJ Meyer, CL Li, MJ Azain, CA Baile, and JL Miner. 2004. Influence of

 conjugated linoleic acid and fat source on body fat and apoptosis in mice. Obes. Res.

 12:1435-1444.

# Hargrave, KM, MJ Azain, and JL Miner. 2005. Dietary coconut oil increases the sensitivity

# to conjugated linoleic acid-induced body fat loss in mice independent of an essential fatty acid deficiency. Biochim. Biophys. Acta 1737:52-60.

**Hargrave, KM**, and JL Miner. 2006. The *trans*-10,*cis*-12 CLA isomer induces death of 3T3-L1

preadipocytes but not adipocytes. Adipocytes 2:125-132.

**Hargrave-Barnes, KM**, MJ Azain, and JL Miner. 2008. Conjugated linoleic acid-induced fat

 loss dependence on Δ6-desaturase or cyclooxygenase. Obesity 16:2245-2252.

Sunde, RA, E Paterson, JK Evenson, **KM Barnes**, JA Lovegrove, and MH Gordon. 2008.

 Longitudinal selenium status in healthy British adults: assessment using biochemical and

 molecular biomarkers. Br. J. Nutr. 99(Suppl. 3):S37-S47.

Sunde, RA, AM Raines, **KM Barnes**, and JK Evenson. 2009. Selenium status highly-regulates

 selenoprotein mRNA levels for only a few of the selenoproteins in the selenoproteome.

 Biosci. Reports 29:329-338.

**Barnes, KM**, JK Evenson, AM Raines, and RA Sunde. 2009. Transcript analysis of the

 selenoproteome indicates that dietary selenium requirements of rats based on selenium-regulated

 selenoprotein mRNA levels are uniformly less than those based on glutathione peroxidase

 activity. J. Nutr. 139:199-206.

Hausman, GL, MV Dodson, K Ajuwon, M Azain, **KM Barnes**, LL Guan, Z Jiang, SP Poulos,

 RD Sainz, S Smith, M Spurlock, J Novakofski, ME Fernyhough, and WG Bergen. 2009.

 Board Invited Review: The biology and regulation of preadipocytes and adipocytes in

 meat animals. J. Anim. Sci. 87:1218-1246.

**Barnes, KM** and JL Miner. 2009. The role of resistin in insulin sensitivity in rodents and

 humans. Curr. Prot. Pept. Sci. 10:96-107.

Schriever, SC, **KM Barnes**, JK Evenson, AM Raines, and RA Sunde. 2009. Selenium

 requirements are higher for glutathione peroxidase-1 mRNA than Gpx 1 activity in rat

 testis. Exp. Biol. Med. 234:513-521.

Ippagunta, S, T.J. Hadenfeldt, JL Miner, and **KM Hargrave-Barnes**. 2011. Dietary conjugated

 linoleic acid induces lipolysis in adipose tissue of coconut oil-fed mice but not soy oil-fed

 mice. Lipids 46:821-830.

**Barnes, KM**, NR Winslow, AG Shelton, KC Hlusko, and MJ Azain. 2012. Effect of dietary

 conjugated linoleic acid on marbling and intramuscular adipocytes in pork. J. Anim. Sci.

 90:1142-1149.

Shelton, VJ, AG Shelton, MJ Azain, and **KM Hargrave-Barnes**. 2012. Incorporation of

 conjugated linoleic acid (CLA) into brain lipids is not necessary for CLA-induced

 reductions in feed intake or body fat in mice. Nutr. Res. 32:827-836.

Gatrell, SK, LE Berg, JT Barnard, JG Grimmett, **KM Barnes**, and KP Blemings. 2013.

 Tissue distribution of indices of lysine catabolism in growing swine. J. Anim. Sci.

 91:238-247.

Kanosky, KM, S Ippagunta, and **KM Barnes**. 2013. Mice do not accumulate muscle lipid in

 response to dietary conjugated linoleic acid. J. Anim. Sci. 91:4705-4712.

Matak, KE, KH Maditz, **KM Barnes**, SK Beamer, and PB Kenney. 2013. Effect of

 dietary inclusion of conjugated linoleic acid on quality indicators of aged pork loin. J.

 Ag. Sci. 5(6) doi:10.5539/jas.v5n6p1.

Adams, SH, **KM Barnes**, and J Odle. 2013. Comparative metabolic physiology in the ‘omics’

 era: A call to arms, paws, flippers, and claws. Adv. Nutr. 4:568-569.

Ippagunta, S, Z Angius, M Sanda, **KM Hargrave-Barnes**. 2013. Dietary CLA-induced lipolysis is delayed in soy oil-fed mice compared to coconut oil-fed mice. Lipids

 48(11):1145-1155.

Meeting Abstracts:

**Hargrave, KM**, MM Martinez, GM Hill, JE Link, CW Ernst, and NE Raney. 2000. Impact of

 phytase and pharmacological concentrations of Zn on nursery pig performance and

 metallothionein in the liver and kidney. J. Anim. Sci. 78(Suppl. 2):164.

**Hargrave, KM**, BJ Meyer, and JL Miner. 2002. Influence of fat source and conjugated linoleic

 acid on body fatness in mice. FASEB J.16:Abst #197.8.

**Hargrave, KM**, and JL Miner. 2002. Influence of linoleic acid isomers on body fat in mice. J.

 Anim. Sci. 80(Suppl. 2):50.

Meyer, BJ, **KM Hargrave**, and JL Miner. 2002. Fish oil, conjugated linoleic acid, and body fat

 deposition. J. Anim. Sci. 80(Suppl. 2):103.

Closs, MA, CP Wilkinson, NE Raney, GM Hill, JE Link, MM Martinez, **KM Hargrave**, and

 CW Ernst. 2002. Identification of genes regulated by zinc supplementation of weaned

 pigs. J. Anim. Sci. 80(Suppl. 2):103.

**Hargrave, KM** and JL Miner. 2003. Effect of conjugated linoleic acid on DNA fragmentation

of preadipocytes in culture. J. Anim. Sci. 81(Suppl. 2):57.

**Hargrave, KM**, MJ Azain, and JL Miner. 2003. Aspirin does not alter conjugated linoleic acid-

 induced body fat loss in mice. FASEB J. 17:Abst #430.5.

Miner, JL and **KM Hargrave**. 2003. The adipocyte as an endocrine cell. J. Anim. Sci. 81(Suppl.

 1):7.

**Hargrave, KM** and JL Miner. 2003. Effect of conjugated linoleic acid on DNA fragmentation

in cultured adipocytes. J. Anim. Sci. 81(Suppl. 1):165.

**Hargrave, KM** and JL Miner. 2004. Essential fatty acids do not diminish the coconut oil enhancement of CLA-induced body fat loss. J. Anim. Sci. 82(Suppl. 2):59.

**Hargrave, KM** and JL Miner. 2004. Dietary coconut oil and conjugated linoleic acid reduce body fat in mice. J. Anim. Sci. 82(Suppl. 1):422.

**Hargrave, KM**, MJ Azain, MG Obukowicz, and JL Miner. 2005. Effect of conjugated linoleic

 acid and/or a specific Δ6-desaturase inhibitor on body composition of mice. J. Anim. Sci. 83(Suppl. 2):106.

Hadenfeldt, TJ, **KM Hargrave**, and JL Miner. 2005. The interaction of dietary CLA and fat source on triglyceride turnover in adipose tissue of mice. J. Anim. Sci. 83(Suppl. 2):279.

**Hargrave, KM**, TJ Hadenfeldt, MJ Azain, and JL Miner. 2005. Coconut oil and fat free diets

enhance conjugated linoleic acid-induced lipolysis and body fat loss in mice. FASEB J. 19:Abst #269.3.

**Hargrave, KM**, D Pomp, and JL Miner. 2005. Effect of dietary conjugated linoleic acid on

adiposity and the adipose-transcriptome. J. Anim. Sci. 83 (Suppl. 1):280.

**Hargrave, KM**, AM Rothert, and RA Sunde. 2006. Effect of dietary selenium on expression

and regulation of the mouse kidney selenoproteome. Int. Symp. Se Biol. Med.

Rothert, AM, **KM Hargrave**, and RA Sunde. 2006. Selenium regulation of selenoprotein expression in mouse liver. Int. Symp. Se Biol. Med.

Evenson, JK, **KM Hargrave**, and RA Sunde. 2006. Glutathione peroxidase-1 mRNA expression

 in human blood. Int. Symp. Se Biol. Med.

**Hargrave, KM**, JK Evenson, AM Rothert, and RA Sunde. 2007. Dietary selenium regulation of the rat liver and kidney selenoproteomes. J. Anim. Sci. 85 (Suppl. 1):105.

Sunde, RA, E Paterson, **KM Barnes**, JK Evenson, JA Lovegrove, and MA Gordon. 2008.

 Selenium status in healthy adults in a longitudinal study using both traditional

 biochemical and molecular biology-based biomarkers. FASEB J. 22:Abst #146.3.

Sunde, RA, **KM Barnes**, AM Raines, and JK Evenson. 2008. Selenium regulation of

 selenoproteome expression in rats. FASEB J. 22:Abst #156.1.

Kanosky, KM, S Ippagunta, **KM Barnes**. 2009. Effect of dietary conjugated linoleic acid and

 coconut oil on muscle lipid content in mice. J. Anim. Sci. 86 (Suppl. 2):310.

Ippagunta, S and **KM Barnes**. 2009. Coconut oil enhancement of conjugated linoleic acid-

 induced body fat loss and lipolysis in mice. FASEB J. 23:Abst #722.14.

Pietrofesa, RA, and **KM Barnes**. 2010. Lipidemic and cholesterolemic effects of feeding an

 algal source of docosahexaenoic acid to mice. FASEB J. 24:Abst #939.8.

Ippagunta, S, KM Kanosky, and **KM Barnes**. 2010. Use of a mouse model for conjugated

 linoleic acid-induced changes in adipose depots. FASEB J. 24:Abst #927.5.

Shelton, VJ, AG Shelton, and **KM Barnes**. 2010. Incorporation of conjugated linoleic acid into

 mouse tissues and the regulation of feed intake and body fat in the short term. FASEB J.

 24:Abst #730.5.

Gatrell, S, LE Berg, JT Barnard, JG Engels, TA Wilmoth, **KM Barnes**, ME Wilson, and KP

 Blemings. 2010. Lysine catabolism in pig tissues. FASEB J. 24:Abst#740.9.

**Barnes, KM**, N Winslow, A Shelton, and MJ Azain. 2010. Effect of dietary conjugated linoleic

 acid on markers of intramuscular adipocytes in pork. J. Anim. Sci. 87 (Suppl. 1):149.

Ippagunta, S, and **KM Barnes**. 2011. Time-dependent effect of conjugated linoleic acid-

 induced body fat loss and lipolysis in coconut oil fed mice. FASEB J. 25:Abst#109.2.

Shelton, AG, RA Pietrofesa, **KM Barnes**. 2011. Effect of high docosahexaenoic acid-algal oil

 on body fat and serum lipids in mice. FASEB J. 25:Abst#586.5.

Ippagunta, S, and **KM Barnes**. 2012. Conjugated linoleic acid-induced lipolysis in 3T3-L1

 adipocytes. FASEB J. 26:Abst#1015.10.

Sanda, MW, Z. Angius, S Ippagunta, and **KM Barnes**. 2012. Effect of conjugated linoleic acid

 on fatty acid synthesis in soy and coconut oil fed mice. FASEB J. 26:Abst#651.6.

Rodavich, MC, JS Ketz, and **KM Barnes**. 2013. The effect of non-marine versus marine

 sources of the omega-3 fatty acids, DHA and EPA, on serum lipoproteins. FASEB J.

 27:Abst#345.6.

Ippagunta, S, and **KM Barnes**. 2013. Effect of inhibitors on CLA enhanced lipolysis in

 coconut oil-treated 3T3-L1 cells. FASEB J. 27:Abst#857.5.

Ketz, JS, MC Rodavich, and **KM Barnes**. 2013. Absorption of marine versus non-marine

 sources of EPA and DHA. FASEB J. 27:Abst#867.3.

Clevenger, LT, **KM Barnes**, JS Ketz, and MC Rodavich. 2013. Expression of transcription

 factors involved in lipid metabolism in mice fed algae, yeast, or fish oil. FASEB J.

 27:Abst#1082.3.

Bowen, LE, HS Spooner, JL Zambito, and **KM Barnes**. 2013. Comparison of krill oil and fish oil supplementation on serum and tissue fatty acid profiles in horses. J. Equine Vet.

 Sci. 33:342.

Zambito, JL, CE Nichols, HS Spooner, **KM Barnes**, and JM Hollander. 2013. Novel

 evaluation of equine and murine skeletal muscle mitochondrial function: electron

 transport chain complex activity and oxygen consumption. J. Equine Vet. Sci. 33:326-

 327.

Zambito, JL, CE Nichols, **KM Barnes**, HS Spooner, and JM Hollander. 2014. Influence of weight loss on mitochondrial function in the mature horse. Equine Vet. J.

Hoblitzell, EH, JL Zambito, HS Spooner, and **KM Barnes**. 2014. Effect of weight loss on

 markers of oxidant status in the mature horse. J. Anim. Sci. 91:Abst #242.

Zambito, JL, HS Spooner, CE Nichols, RM Hoffman, JM Hollander, and **KM Barnes**. 2014.

 Influence of weight loss on metabolic and skeletal muscle mitochondrial function in the

 mature horse. J. Anim. Sci. 91:Abst #48.

Bush, ML, JL Zambito, HS Spooner, and **KM Barnes**. 2014. Effect of weight loss on lipid

 metabolism in the mature horse. FASEB J. 28:Abst #814.4.

Zambito, JL, HS Spooner, RM Hoffman, and **KM Barnes**. 2014. Influence of weight loss on insulin sensitivity in the mature horse. FASEB J. 28:Abst #246.4.

**Barnes, KM**, Q Chen, and V Dartigue. 2015. Effect of mouse strain on dietary CLA and

 coconut oil-induced lipolysis. FASEB J. 29:Abst#136.6.

Kidrick, JN, EE Felton, KS Shaffer, and **KM Barnes**. 2016. Relationship between antioxidants and residual feed intake in grazing heifers. J. Anim. Sci. 94, E-

 Suppl.5:Abst#209.

**KM Barnes**, JP Engle, Q Chen, AM DiGregorio, and JW McFadden. 2017. Effect of dietary

 coconut oil and conjugated linoleic acid on liver metabolic phenotype in mice. FASEB J. 31:Abst#42.8.

# Presentations

**Hargrave, KM**, MM Martinez, GM Hill, JE Link, SR Wesolowski, CW Ernst, and NE Raney.

 2000. Impact of phytase and pharmacological concentrations of Zn on nursery pig

 performance and metallothionein in the liver and kidney. Paper presented at the Midwest

 Sec. Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. March 14, Des Moines,

 IA. Third Place Undergraduate Paper Presentation.

**Hargrave, KM** and JL Miner. 2002 Influence of linoleic acid isomers on body fat in mice. Paper

 presented at the Midwest Sec. Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg.

 March 19, Des Moines, IA. First Place Masters Paper Presentation.

**Hargrave, KM**, BJ Meyer, and JL Miner. 2002 Influence of fat source and conjugated linoleic

 acid on body fatness in mice. Paper presented at the Exp. Biol. mtg. April 21, New

 Orleans, LA.

**Hargrave, KM** and JL Miner. 2003. Effect of conjugated linoleic acid on DNA fragmentation

of preadipocytes in culture. Paper presented at the Midwest Sec. Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. March 19, Des Moines, IA.

**Hargrave, KM**, MJ Azain, and JL Miner. 2003. Aspirin does not alter conjugated linoleic acid-

 induced body fat loss in mice. Paper presented at the Exp. Biol. Mtg. April 13, San

 Diego, CA.

**Hargrave, KM** and JL Miner. 2003. Effect of conjugated linoleic acid on DNA fragmentation

in cultured adipocytes. Paper presented at the Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. June 26, Phoenix, AZ.

**Hargrave, KM** and JL Miner. 2004. Essential fatty acids do not diminish the coconut oil enhancement of CLA-induced body fat loss. Paper presented at the Midwest Sec. Am.

Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. March 17, Des Moines, IA.

**Hargrave, KM** and JL Miner. 2004. Dietary coconut oil and conjugated linoleic acid reduce

body fat in mice. Paper presented at the Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. July 28, St. Louis, MO.

**Hargrave, KM**, MJ Azain, MG Obukowicz, and JL Miner. 2005. Effect of conjugated linoleic

 acid and/or a specific Δ6-desaturase inhibitor on body composition of mice. Paper

 presented at the Midwest Sec. Am. Dairy Sci. Assoc. and Am. Anim. Sci. ann. mtg.

 March 23, Des Moines, IA. Second Place PhD Paper Presentation.

**Hargrave, KM**, TJ Hadenfeldt, MJ Azain, and JL Miner. 2005. Coconut oil and fat free diets

enhance conjugated linoleic acid-induced lipolysis and body fat loss in mice. Paper presented at the Exp. Biol. Mtg. April 3, San Diego, CA.

**Hargrave, KM**, D Pomp, and JL Miner. 2005. Effect of dietary conjugated linoleic acid on

 adiposity and the adipose-transcriptome. Poster presented at the Am. Dairy Sci. Assoc.

 and Am. Soc. Anim. Sci. ann. mtg. July 26, Cincinnati, OH.

**Hargrave, KM**, AM Rothert, and RA Sunde. 2006. Effect of dietary selenium on expression

and regulation of the mouse kidney selenoproteome. Poster presented at the 8th Ann. Inter. Symp. Se Biol. Med. July 26, Madison, WI.

**Hargrave Barnes, KM**, JK Evenson, AM Rothert Raines, and RA Sunde. 2007. Dietary

 selenium regulation of the rat liver and kidney selenoproteomes. Paper presented at the

 Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. July 9, San Antonio, TX.

**Barnes, KM**, N Winslow, A Shelton, and MJ Azain. 2010. Effect of dietary conjugated linoleic

 acid on markers of intramuscular adipocytes in pork. Paper presented at the Am. Dairy

 Sci. Assoc. and Am. Soc. Anim. Sci. ann. mtg. July 12, Denver, CO.

**Barnes, K.M.**, Q. Chen, V. Dartigue. 2015. Effect of mouse strain on dietary CLA and coconut

 oil-induced lipolysis. Paper presented at Experimental Biology, Boston, MA, March

 2015.

Kidrick, J.N., E.E. Felton, K.S. Shaffer, and **K.M. Barnes**. 2016. Relationship between antioxidants and residual feed intake in grazing heifers. Poster presented in place of

 undergraduate student at the Am. Dairy Sci. Assoc. and Am. Soc. Anim. Sci. ann. Mtg.

 July 20, 2016, Salt Lake City, UT.

**K.M. Barnes**, J.P. Engle, Q. Chen, A.M. DiGregorio, and J.W. McFadden. 2017. Effect of

 dietary coconut oil and conjugated linoleic acid on liver metabolic phenotype in mice.

 Paper presented at Experimental Biology Mtg, Chicago, IL, April 22, 2017.

**Grant Support**

Davis College Faculty Enrichment Grant 01/01/17-06/30/18

 Biochemistry and Genetic Teaching Laboratory Equipment

 Role: PI

CSREES WVA (Hatch) – WVA00675 12/03/14-09/03/19

 Effect of Dietary Conjugated Linoleic Acid on Adipose Tissue Depots and Insulin

 Resistance

 Role: PI

CSREES WVA (Hatch) – WVA00499 06/10/08-06/10/14

Adipose tissue regulation by dietary factors.

Role: PI

WVU Research Corp. – Start Up 07/01/07-08/31/09

Start-up funds to set up nutritional biochemistry lab and for graduate research assistant.

Role: PI

WVU Faculty Senate 07/01/09-06/30/10

The effect of dietary conjugated linoleic acid on marbling in pigs.

Role: PI

WVU Research Corp. - PSCoR 07/01/09-06/30/10

The potential of feeding *C. cohnii* algae to mice as a source of docosahexaenoic acid to

 reduce body fat.

Role: PI

Oak Ridge Associated Universities 07/01/09–06/30/10

 Feasibility and efficacy of feeding *C. cohnii* algae to mice as a source of DHA to

 reduce body fat.

 Role: PI