

Liu, Ph.D.

Yanhong Liu, Ph.D.

Assistant Professor

Department of Animal Science

University of California, Davis

Phone: (217) 979-3187

Email: yahliu@ucdavis.edu; liuillini@gmail.com

EDUCATION

Ph.D. in Animal Science, University of Illinois, Urbana-Champaign, Urbana, IL, Dec, 2011

Dissertation Title: “Effects of plant extracts on pig health”

Dissertation Adviser: Dr. James E. Pettigrew

M.S. in Animal Science, China Agricultural University, Beijing, China, 2007

Dissertation Title: “Effects of particle size and physical form of diets on growth performance and the small intestine of broilers”

Dissertation Adviser: Dr. Defa Li

B.S. in Biological Sciences, China Agricultural University, Beijing, China, 2004

PROFESSIONAL EXPERIENCE

11/2012-10/2015 Postdoctoral Research Associate, Department of Animal Sciences, University of Illinois, Urbana-Champaign, IL, Monogastric nutrition

(<http://nutrition.ansci.illinois.edu/>)

9/2011-11/2012 Postdoctoral Research Associate, Department of Animal Sciences, University of Illinois, Urbana-Champaign, IL, Pig nutrition and immunity

AWARDS

2012. National Pork Board Swine Innovation Awards - RESEARCH.

45th ASAS-ADSA Midwestern Meeting, Des Moines, IA.

2012. Young Scholar Award.

45th ASAS-ADSA Midwestern Meeting, Des Moines, IA.

2011. Graduate Research Paper Award (2nd place, Ph.D. Poster Competition).

The ASN-ASAS-ADSA Pre-conference to the 2011 ADSA-ASAS Joint Annual Meeting, New Orleans, LA.

2010. Graduate Research Paper Award (3rd place, Ph.D. Oral Competition).

43th ASAS-ADSA Midwestern Meeting, Des Moines, IA.

2006. Excellent Presentation Award.

12th Asian-Australian Association of Animal Production Societies Animal Science Congress, Busan, South Korea.

AD HOC JOURNAL REVIEWS

Journal of Animal Science, Livestock Science, Large Animal Review, Journal of Animal Science and Biotechnology, Asian-Australasian Journal of Animal Sciences, Animal: An International Journal of Animal Bioscience, Canadian Journal of Animal Science, Journal of Agricultural and Food Chemistry, Journal of the Science of Food and Agriculture, Journal of Swine Health and

Production, Revista Colombiana de Ciencias Pecuarias (Colombian journal of animal science and veterinary medicine)

PEER-REVIEWED PUBLICATIONS

1. Berrocoso, J. D., O. J. Rojas, **Y. Liu**, J. Shoulders, J. C. González-vega, and H. H. Stein. 2015. Energy concentration and amino acid digestibility in high protein canola meal, conventional canola meal, and in soybean meal fed to growing pigs. *J. Anim. Sci.* 93:2208-2217.
2. Parr, C., **Y. Liu**, C. M. Parsons, and H. H. Stein. 2015. Effects of high-protein or conventional canola meal on growth performance, organ weights, bone ash, and blood characteristics of weanling pigs. *J. Anim. Sci.* 93:2165-2173.
3. Little, K., B. Bohrer, T. Maison, **Y. Liu**, H. Stein, and B. Dustin. 2015. Effects of feeding canola meal from high protein or conventional varieties of canola seeds on growth performance, carcass characteristics, and cutability of pigs. *J. Anim. Sci.* 93:1284-1297.
4. Lowell, J. E., **Y. Liu**, and H. H. Stein. 2015. Comparative digestibility of energy and nutrients in feed ingredients fed to sows and growing pigs. *Arch. Anim. Nutr.* 69:79-97.
5. Maison, T., **Y. Liu**, and H. H. Stein. 2015. Digestibility of energy and detergent fiber and digestible and metabolizable energy values in canola meal, 00-rapeseed meal, and 00-rapeseed expellers fed to growing pigs. *J. Anim. Sci.* 93:652-660.
6. Song, M., **Y. Liu**, J. J. Lee, T. M. Che, J. A. Soares-Almeida, J. L. Chun, J. M. Campbell, J. Polo, J. D. Crenshaw, S. W. Seo, and J. E. Pettigrew. 2015. Spray-dried plasma attenuates inflammation and improves pregnancy rate of mated female mice. *J. Anim. Sci.* 93:298-305.
7. Kim, B., **Y. Liu**, and H. H. Stein. 2014. Energy concentration and phosphorus digestibility in yeast products from the ethanol industry, brewers yeast, fish meal, and soybean meal fed to growing pigs. *J. Anim. Sci.* 92:5476-5484.
8. Rojas, O. J., **Y. Liu**, and H. H. Stein. 2014. Concentration of metabolizable energy and digestibility of energy, phosphorus, and amino acids in Lemna Protein Concentrate fed to growing pigs. *J. Anim. Sci.* 92:5222-5229.
9. **Liu, Y.**, M. Song, F. N. Almeida, S. L. Tilton, M. J. Cecava, and H. H. Stein. 2014. Energy concentration and amino acid digestibility in corn and corn co-products fed to growing pigs. *J. Anim. Sci.* 92:4557-4565.
10. **Liu, Y.**, M. Song, T. Maison, and H. H. Stein. 2014. Effects of protein concentration and heat treatment on concentration of digestible and metabolizable energy and on amino acid digestibility in four sources of canola meal fed to growing pigs. *J. Anim. Sci.* 92:4466-4477.
11. Gutierrez, N. A., D. Y. Kil, **Y. Liu**, J. E. Pettigrew, and H. H. Stein. 2014. Effects of co-products from the corn-ethanol industry on growth performance, body composition, and retention of protein, lipids, and energy by growing and finishing pigs. *J. Sci. Food Agric.* 94:3008-3016.
12. Baidoo, S. K., D. Y. Kil, J. N. Kim, **Y. Liu**, J. Kim, K. Kim, Y. Kim, and M. Song. 2014. Productive performance of sows fed increasing levels of distillers dried grains with solubles (DDGS) across parities. *Rev. Colomb. Cienc. Pecu.* 27:171-177.
13. **Liu, Y.**, M. Song, T. M. Che, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2014. Effects of capsicum oleoresin, garlic botanical, and turmeric oleoresin on gene expression profile of ileal mucosa in weaned pigs. *J. Anim. Sci.* 92:3426-3440.

14. **Liu, Y.**, Y. L. Ma, J. M. Zhao, M. Vazquez-Añón, and H. H. Stein. 2014. Digestibility and retention of Zn, Cu, Mn, Fe, Ca, and P in pigs fed diets containing inorganic or organic minerals. *J. Anim. Sci.* 92:3407-3415.
15. Almaguer, B. L., R. C. Sulabo, **Y. Liu**, and H. H. Stein. 2014. Standardized total tract digestibility of phosphorus in copra meal, palm kernel expellers, palm kernel meal, and soybean meal fed to growing pigs. *J. Anim. Sci.* 92:2473-2480.
16. González-vega, J. C., C. L. Walk, **Y. Liu**, and H. H. Stein. 2014. The site of net absorption of Ca from the intestine tract of growing pigs and effect of phytic acid, Ca level and Ca source on Ca digestibility. *Arch. Anim. Nutr.* 68:126-142.
17. **Liu, Y.**, M. Song, T. M. Che, J. J. Lee, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2014. Dietary plant extracts modulate gene expression profiles in ileal mucosa of weaned pigs after an *Escherichia coli* infection. *J. Anim. Sci.* 92:2050-2062.
18. Cervantes-Pahm S. K., **Y. Liu**, and H. H. Stein. 2014. Digestible indispensable amino acid score and digestible amino acids in eight cereal grains. *Br. J. Nutr.* 111:1663-1672.
19. Kim, B. G., D. M. Wulf, R. J. Maddock, D. N. Peters, C. Pedersen, **Y. Liu**, and H. H. Stein. 2014. Effects of dietary barley on growth performance, carcass traits, and pork quality in finishing pigs. *Rev. Colomb. Cienc. Pecu.* 27:102-113.
20. Cervantes-Pahm, S., **Y. Liu**, A. Evans, and H. H. Stein. 2014. Effect of novel fiber ingredients on ileal and total tract digestibility of energy and nutrients in semi-purified diets fed to growing pigs. *J. Sci. Food Agric.* 94:1284-1290.
21. Cervantes-Pahm, S. K., **Y. Liu**, and H. H. Stein. 2014. Comparative digestibility of energy and nutrients and fermentability of dietary fiber in eight cereal grains fed to pigs. *J. Sci. Food Agric.* 94:841-849.
22. Petersen, G. I., **Y. Liu**, and H. H. Stein. 2014. Coefficient of standardized ileal digestibility of corn, soybean meal, corn gluten meal, high-protein distillers dried grains, and field peas fed to weanling pigs. *Anim. Feed Sci. Technol.* 188:145-149.
23. Baker, K. M., **Y. Liu**, and H. H. Stein. 2014. Nutritional value of soybean meal produced from high protein, low oligosaccharide, or conventional varieties of soybeans and fed to weanling pigs. *Anim. Feed Sci. Technol.* 188:64-73.
24. Almeida, J. A., **Y. Liu**, M. Song, J. J. Lee, H. R. Gaskins, C. W. Maddox, O. Osuna, and J. E. Pettigrew. 2013. *Escherichia coli* challenge and one type of smectite alter intestinal barrier of pigs. *J. Anim. Sci. Biotech.* 4:52.
25. Cervantes-Pahm, S., B. K. Knapp, B. G. Kim, **Y. Liu**, C. M. Parsons, G. C. Fahey, Jr., and H. H. Stein. 2013. Comparison of two different in vivo models and an in vitro model for caloric determination of four novel fiber ingredients. *J. Agric. Food Chem.* 61:12374-12379.
26. **Liu, Y.**, T. M. Che, M. Song, J. J. Lee, J. A. S. Almeida, D. Bravo, W. G. Van Alstine, and J. E. Pettigrew. 2013. Dietary plant extracts improve immune responses and growth efficiency of weaned pigs experimentally infected with porcine reproductive and respiratory syndrome virus. *J. Anim. Sci.* 91:5668-5679.
27. **Liu, Y.**, M. Song, T. M. Che, J. A. S. Almeida, J. J. Lee, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2013. Dietary plant extracts alleviate diarrhea and alter immune responses of weaned pigs experimentally infected with a pathogenic *Escherichia coli*. *J. Anim. Sci.* 91:5294-5306.

28. González-vega, J. C., C. L. Walk, **Y. Liu**, and H. H. Stein. 2013. Determination of endogenous intestinal losses of calcium and true total tract digestibility of calcium in canola meal fed to growing pigs. *J. Anim. Sci.* 91:4807-4816.
29. Rojas, O. J., **Y. Liu**, and H. H. Stein. 2013. Phosphorus digestibility and concentration of digestible and metabolizable energy in corn, corn co-products, and bakery meal fed to growing pigs. *J. Anim. Sci.* 91:5326-5335.
30. **Liu, Y.**, I. R. Ipharraguerre, and J. E. Pettigrew. 2013. Potential applications of knowledge of gut chemosensing in pig production. *J. Anim. Sci.* 91:1982-1990.
31. Song, M., T. M. Che, **Y. Liu**, J. A. Soares, B. G. Harmon, and J. E. Pettigrew. 2012. Effects of dietary spray-dried egg on growth performance and health of weaned pigs. *J. Anim. Sci.* 90:3080-3087.
32. Che, T. M., M. Song, **Y. Liu**, R. W. Johnson, K. W. Kelley, W. G. Van Alstine, K. A. Dawson, and J. E. Pettigrew. 2012. Mannan oligosaccharide increases serum concentrations of antibodies and inflammatory mediators in weanling pigs experimentally infected with porcine reproductive and respiratory syndrome virus. *J. Anim. Sci.* 90:2784-2793.
33. **Liu, Y.**, M. Song, T. M. Che, D. Bravo, and J. E. Pettigrew. 2012. Anti-inflammatory effects of several plant extracts on porcine alveolar macrophages *in vitro*. *J. Anim. Sci.* 90:2774-2783.
34. Song, M., **Y. Liu**, J. A. Soares, T. M. Che, O. Osuna, C. W. Maddox, and J. E. Pettigrew. 2012. Dietary clays alleviate diarrhea of weaned pigs. *J. Anim. Sci.* 90:345-360.
35. Zhenfeng Zhan, Deyuan Ou, Xiangshu Piao, Sung Woo Kim, **Yanhong Liu**, and Junjun Wang. 2008. Dietary arginine supplementation affects microvascular development in the small intestine of early-weaned pigs. *J. Nutr.* 138:1304-1309.
36. **Liu, Y. H.**, X. S. Piao, D. Y. Ou, Y. H. Cao, D. S. Huang, and D. F. Li. 2006. Effects of particle size and physical form of diets on mast cell numbers, histamine, and stem cell factor concentration in the small intestine of broiler chickens. *Poult. Sci.* 85:2149-2155.

ABSTRACTS

1. **Y. Liu**, and H. H. Stein. 2015. Effect of Sal CURB on digestibility of energy and nutrients by growing pigs. *J. Anim. Sci.* 93 (E-Suppl.2):855.
2. Navarro, D. M. D. L., **Y. Liu**, T. S. Bruun, and H. H. Stein. 2015. Digestibility of energy and concentrations of digestible and metabolizable energy in processed soybean meal and rapeseed products fed to growing pigs. *J. Anim. Sci.* 93 (E-Suppl.2):42.
3. **Y. Liu**, O. J. Rojas, and H. H. Stein. 2015. Effects of extrusion of corn and oats on the digestibility of energy and nutrients in diets fed to pigs. *J. Anim. Sci.* 93 (E-Suppl.2):71.
4. **Y. Liu**, R. C. Sulabo, T. E. Sauber, and H. H. Stein. 2014. Different corn hybrids fed to growing pigs. I. Chemical composition, energy concentration, and digestibility of nutrients. *J. Anim. Sci.* 92 (E-Suppl.2): 667.
5. **Y. Liu**, R. C. Sulabo, T. E. Sauber, and H. H. Stein. 2014. Different corn hybrids fed to growing pigs. II. Concentrations and digestibility of amino acids. *J. Anim. Sci.* 92 (E-Suppl.2): 668.
6. **Y. Liu**, D. Bravo, and J. E. Pettigrew. 2014. Nutritional immunology in swine. *J. Anim. Sci.* 92 (E-Suppl.2): 102.

7. **Y. Liu**, T. Maison, and H. H. Stein. 2014. Performance of pigs fed diets containing canola meal produced from high protein or conventional varieties of canola seeds. *J. Anim. Sci.* 92 (E-Suppl.2): 225.
8. N. W. Jaworski, **Y. Liu**, and H. H. Stein. 2014. Energy concentration and amino acid digestibility in two sources of canola meal fed to growing pigs. *J. Anim. Sci.* 92 (E-Suppl.2): 220.
9. J. Lowell, **Y. Liu**, and H. H. Stein. 2014. Comparative digestibility of energy and nutrients in feed ingredients fed to sows and growing pigs. *J. Anim. Sci.* 92 (E-Suppl.2): 226.
10. D. M. D. L. Navarro, **Y. Liu**, T. S. Bruun, and H. H. Stein. 2014. Amino acid digestibility in processed soybean products and rapeseed products fed to weanling pigs. *J. Anim. Sci.* 92 (E-Suppl.2): 221.
11. C. K. Parr, **Y. Liu**, C. M. Parsons, and H. H. Stein. 2014. Phosphorus digestibility in high protein canola meals, conventional canola meal, and soybean meal fed to growing pigs. *J. Anim. Sci.* 92 (E-Suppl.2): 641.
12. C. K. Parr, **Y. Liu**, C. M. Parsons, and H. H. Stein. 2014. Effects of high-protein canola meals fed to weanling pigs on growth performance, organ weights, bone ash, and blood parameters. *J. Anim. Sci.* 92 (Suppl.2): 61.
13. **Y. Liu**, and J. E. Pettigrew. 2013. Pig health without antibodies: Immunity. Pancosma sale meeting. Switzerland.
14. **Y. Liu**, Y. L. Ma, J. M. Zhao, M. Vazquez-Añón, and H. H. Stein. 2013. Retention and digestibility of Zn, Cu, Mn, and Fe in pigs fed diets containing inorganic or organic minerals. *J. Anim. Sci.* 91 (E-Suppl. 2):162.
15. **Y. Liu**, J. J. Lee, M. Song, T. M. Che, J. A. S. Almeida, D. Bravo, W. G. Van Alstine, and J. E. Pettigrew. 2013. Effects of plant extracts on gene expression profiles of alveolar macrophage of weaned pigs. *J. Anim. Sci.* 91 (E-Suppl. 2):106.
16. **Y. Liu**, J. J. Lee, M. Song, T. M. Che, J. A. S. Almeida, D. Bravo, W. G. Van Alstine, and J. E. Pettigrew. 2013. Dietary plant extracts altered gene expression profile in alveolar macrophages of weaned pigs experimentally infected with PRRSV. *J. Anim. Sci.* 91 (E-Suppl. 2):105.
17. G. C. Rocha, R. D. Boyd, J. A. S. Almeida, **Y. Liu**, T. M. Che, R. Dilger, J. E. Pettigrew. 2013. Soybean meal level in diets for pigs challenged with porcine alveolar reproductive and respiratory syndrome (PRRS) virus. *J. Anim. Sci.* 91 (E-Suppl. 2):31.
18. **Y. Liu**, M. Song, T. M. Che, J. A. Soares-Almeida, J. J. Lee, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2012. Effects of feeding capsicum oleoresin, garlison, or turmeric oleoresin on gene expression of ileal mucosa of pigs. *J. Anim. Sci.* 90(E-Suppl.3):557.
19. **Y. Liu**, I. Ipharraguerre, and J. E. Pettigrew. 2012. Potential applications of knowledge of gut chemosensing in pig production. *Digestive Physiology of Pigs*, 12th International Symposium. Pre-conference.
20. **Y. Liu**, M. Song, J. A. Soares-Almeida, D. Bravo, C. W. Maddox, J. E. Pettigrew, and C. Oguey. 2012. Effects of capsicum and turmeric oleoresins on performance, diarrhea, gut morphology, immune and inflammatory status of weaned pigs infected with a pathogenic *E. coli*. *Digestive Physiology of Pigs*, 12th International Symposium. p92.
21. **Y. Liu**, M. Song, T. M. Che, J. A. Soares-Almeida, J. J. Lee, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2012. Effects of feeding capsicum oleoresin, garlison, or turmeric

- oleoresin on gene expression of ileal mucosa of pigs experimentally infected with a pathogenic *E. coli*. Digestive Physiology of Pigs, 12th International Symposium. p94.
22. **Y. Liu**, M. Song, T. M. Che, J. A. Soares-Almeida, D. Bravo, C. W. Maddox, J. E. Pettigrew, and C. Oguey. 2012. Effects of an Allium botanical on performance, diarrhea, gut morphology, immune and inflammatory status of weaned pigs infected with a pathogenic *E. coli*. Digestive Physiology of Pigs, 12th International Symposium. p96.
 23. **Y. Liu** and J. E. Pettigrew. 2012. Effects of plant extracts on immune function and disease resistance in pigs. *J. Anim. Sci.* 90(E-Suppl.2):50.
 24. Song, M., **Y. Liu**, J. J. Lee, T. M. Che, J. A. Soares-Almeida, J. M. Campbell, J. Polo, J. D. Crenshaw, J. L. Chun, S. W. Seo, and J. E. Pettigrew. 2012. Dietary spray-dried plasma attenuates inflammation caused by transport stress and increases pregnancy rate of mated female mice. *FASEB J.*
 25. Song, M., J. J. Lee, **Y. Liu**, J. A. Soares-Almeida, T. M. Che, J. M. Campbell, J. Polo, J. D. Crenshaw, J. L. Chun, S. W. Seo, and J. E. Pettigrew. 2012. Dietary spray-dried plasma influences intestinal morphology, growth performance, and organ weights of mated female mice under transport stress. *FASEB J.*
 26. Song, M., J. J. Lee, **Y. Liu**, J. A. Soares-Almeida, T. M. Che, J. M. Campbell, J. Polo, S. W. Seo, and J. E. Pettigrew. 2012. Effects of graded levels of dietary spray-dried plasma on pregnancy rate of mated female mice under transport stress as a model for stressed sows. *J. Anim. Sci.* 90(E-Suppl.2):112.
 27. Song, M., J. A. Soares-Almeida, **Y. Liu**, J. J. Lee, T. M. Che, J. M. Campbell, J. Polo, S. W. Seo, and J. E. Pettigrew. 2012. Effects of graded levels of dietary spray-dried plasma on growth and fetal characteristics of pregnant mice as a model for sows. *J. Anim. Sci.* 90(E-Suppl.2):112.
 28. **Y. Liu**, and J. E. Pettigrew. 2011. The effects of plant extracts on immune function and disease resistance in pigs. Pancosma Symposium, December, Paris, France.
 29. **Y. Liu**, J. J. Lee, M. Song, T. M. Che, J. A. Soares, D. Bravo, W. G. Van Alstine, and J. E. Pettigrew. 2011. Plant extracts for weaned pigs experimentally infected with porcine reproductive and respiratory syndrome virus. 1) Effect on growth performance and immune response. *J. Anim. Sci.* 89(E-Suppl.1):247.
 30. **Y. Liu**, J. J. Lee, M. Song, T. M. Che, J. A. Soares, D. Bravo, W. G. Van Alstine, and J. E. Pettigrew. 2011. Plant extracts for weaned pigs experimentally infected with porcine reproductive and respiratory syndrome virus. 2) Effect on peripheral blood immune cells and inflammatory mediators. *J. Anim. Sci.* 89(E-Suppl.1):248.
 31. **Y. Liu**, M. Song, T. M. Che, J. A. Soares, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2011. Effects of plant extracts on peripheral blood immune cells and inflammatory mediators of weaned pigs experimentally infected with a pathogenic *E. coli*. *J. Anim. Sci.* 89(E-Suppl.1):579.
 32. **Y. Liu**, M. Song, T. M. Che, J. A. Soares, D. Bravo, C. W. Maddox, and J. E. Pettigrew. 2011. Effects of plant extracts on diarrhea and intestinal morphology of newly weaned pigs experimentally infected with a pathogenic *E. coli*. *J. Anim. Sci.* 86(E-Suppl. 2):96.
 33. **Y. Liu**, T. M. Che, D. Bravo, and J. E. Pettigrew. 2011. Effects of plant extracts on cytokine production of porcine alveolar macrophages. *J. Anim. Sci.* 86(E-Suppl. 2):47.
 34. Song, M., T. M. Che, **Y. Liu**, J. A. Soares, J. J. Lee, J. M. Campbell, J. C. O'Connor, and J. E. Pettigrew. 2011. Effects of spray-dried plasma on pregnancy rate and growth

- performance of mated female mice after transport as a model for stressed sows. *J. Anim. Sci.* 89 (E-Suppl. 1):248.
35. Song, M., **Y. Liu**, J. A. Soares, J. J. Lee, T. M. Che, J. M. Campbell, J. C. O'Connor, and J. E. Pettigrew. 2011. Effects of spray-dried plasma on growth and reproductive responses of pregnant mice to lipopolysaccharide as a model for inflammation in sows. *J. Anim. Sci.* 89 (E-Suppl. 1):579.
 36. Song, M., **Y. Liu**, J. J. Lee, J. A. Soares, T. M. Che, J. M. Campbell, J. C. O'Connor, and J. E. Pettigrew. 2011. Effects of spray-dried plasma on immune responses of pregnant mice to lipopolysaccharide as a model for inflammation in sows. *J. Anim. Sci.* 89 (E-Suppl. 1):580.
 37. Song, M., **Y. Liu**, J. A. Soares, T. M. Che, O. Osuna, C. W. Maddox, and J. E. Pettigrew. 2011. Effects of dietary clays on diarrhea of weaned pigs experimentally infected with a pathogenic *E. coli*. *J. Anim. Sci.* 89 (E-Suppl. 2):40.
 38. **Y. Liu**, D. Y. Kil, V. G. Perez-Mendoza, J. E. Pettigrew. 2010. Comparison of choice white grease and soybean oil for finishing pigs. *J. Anim. Sci.* 88 (E-Suppl. 3):69.
 39. **Y. Liu**, D. Y. Kil, V. G. Perez-Mendoza, J. E. Pettigrew. 2010. Comparison of several dietary fats for finishing pigs. *J. Anim. Sci.* 88 (E-Suppl. 3):95.
 40. **Y. Liu**, M. Rossoni, J. Barnes, J. E. Pettigrew. 2010. Effects of various cereals on nursery pigs: specific bacteria identified from the gastrointestinal tract. *J. Anim. Sci.* 88 (E-Suppl. 2):388.
 41. Song, M., J. A. Soares, **Y. Liu**, O. Osuna, C. W. Maddox, and J. E. Pettigrew. 2010. Effect of dietary clay on diarrhea of weaned pigs experimentally infected with a pathogenic *E. coli*. *J. Anim. Sci.* 88 (E-Suppl. 3):76.
 42. **Y. Liu**, M. Rossoni, J. Barnes, and J. E. Pettigrew. 2009. Effects of various cereals on nursery pigs: gastrointestinal bacterial populations. *J. Anim. Sci.* 87 (E-Suppl. 2):58.
 43. **Yanhong Liu**, Deyuan Ou, and Defa Li. 2006. Effects of feed particle size and feed form on mast cell number, histamine and stem cell factor in the small intestine in broiler chickens. 12th AAAP Animal Science Congress Proceedings-Abstracts. p646.

CONFERENCE PROCEEDINGS AND POPULAR PRESSES

1. **Liu Y.**, Song M, Che TM, Bravo D, Pettigrew JE. 2012. Anti-inflammatory effects of several plant extracts on porcine alveolar macrophages in vitro. *Global Medical Discovery*. <http://globalmedicaldiscovery.com/key-scientific-articles/anti-inflammatory-effects-of-several-plant-extracts-on-porcine-alveolar-macrophages-in-vitro/>
2. **Yanhong Liu** and James E. Pettigrew. 2012. Dietary Effects on Pig Immunity. Midwest Swine Nutrition Conference.
3. **Yanhong Liu**, Minho Song, Jeong J. Lee, Tung M. Che, Juliana A. Soares-Almeida, Carol W. Maddox and James E. Pettigrew. Specific plant extracts aid health-challenged newly weaned pigs. *National Hog Farmer*. December, 2011.
4. Minho Song, **Yanhong Liu**, Juliana Soares, Tung Che, Orlando Osuna, Carol Maddox, and James Pettigrew. Dietary clays hold promise to cease postweaning diarrhea. *National Hog Farmer*. January, 2011.
5. J. Soares, **Y. Liu**, and J. E. Pettigrew. 2010. Prebiotic and Probiotic Applications and Modes of Action in Swine Diets. Proceedings of the 30th Western Nutrition Conference. p40.

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6. **Y. Liu**, D. Y. Kil, V. G. Perez-Mendoza, and J. E. Pettigrew. Assessing added fats in finishing pig diets. National Hog Farmer. August, 2010.
7. J. E. Pettigrew and **Yanhong Liu**. Alternate Starter Diet Inclusions for Gut Health. 2009. Swine Disease for Practitioners Conference XVII. p54.
8. **Y. Liu** and J. E. Pettigrew. Dietary Effects on Health. 2009. Beijing International Symposium on Improvement of Feed efficiency through Biotechnology.

PROFESSIONAL MEMBERSHIPS

The American Society of Animal Science

The American Society of Nutrition