CV of Su A Lee, November 2024

Su A Lee (sualee2@illinois.edu)

EDUCATION

Ph. D. (Aug. 2016 to Feb. 2020) Department of Animal Sciences, University of Illinois at Urbana-Champaign, IL, USA Advisor: Hans H. Stein, Ph.D.

Master of Science (March 2014 to Feb. 2017) Department of Animal Science and Technology, Konkuk University, Korea Advisor: Beob Gyun Kim, Ph.D.

Bachelor of Science (March 2010 to February 2014) Department of Animal Science and Technology, Konkuk University, Korea

PROFESSIONAL EXPERIENCE

Research Scientist (November 2024 to present)

Department of Animal Sciences, University of Illinois at Urbana-Champaign, IL, USA

Postdoctoral Research Associate (February 2020 to November 2024)

Department of Animal Sciences, University of Illinois at Urbana-Champaign, IL, USA

Research Assistant

August 2016 to February 2020: Department of Animal Sciences, University of Illinois at Urbana-Champaign, IL, USA

September 2013 to August 2016: Konkuk University, Seoul, Republic of Korea

Teaching Assistant

Fall 2014 and 2015: Animal Nutrition (Konkuk University, Seoul, Republic of Korea)

Spring 2014: Swine Science (Konkuk University, Seoul, Republic of Korea)

PEER-REVIEWED PUBLICATION (46)

1. **Lee, S. A.**, C. S. Park, and B. G. Kim. **2024**. A novel procedure for estimating energy digestibility of feedstuffs fed to pigs. *Animal Feed Science and Technology*. Accepted with revision.
2. Kim, Y., **S. A. Lee**, and H. H. Stein. **2024**. Determination of energy values in pistachio shell powder and soybean hulls fed to gestating and lactating sows. *Translational Animal Science*. Accepted.
3. Mallea, A. P., C. D. Espinosa, **S. A. Lee**, M. A. Cristobal, L. J. Torrez-Mendoza, and H. H. Stein. **2024**. Dietary supplementation of valine, isoleucine, and tryptophan may overcome the negative effects of excess leucine in diets for weanling pigs containing corn fermented protein. *Animal Feed Science and Technology*. 15:125. doi:10.1186/s40104-024-01082-9

4. Ibagon, J. A., **S. A. Lee**, C. M. Nyachoti, and H. H. Stein. **2024**. Standardized total tract digestibility of phosphorus in field peas fed to growing pigs is increased by microbial phytase, but particle size and origin of field peas do not affect digestibility of phosphorus. *Animal Feed Science and Technology*. 315:116044. doi:10.1016/j.anifeedsci.2024.116044
5. Ruiz-Arias, N. C., **S. A. Lee**, and H. H. Stein. **2024**. Standardized ileal digestibility of amino acids and concentration of metabolizable energy in three sources of corn protein fed to weanling pigs. *Animal Feed Science and Technology*. 313:115985. doi:10.1016/j.anifeedsci.2024.115985
6. **Lee**, **S. A.**, D. A. Rodriguez, and H. H. Stein. **2024**. Pelleting and particle size reduction of corn increase net energy and digestibility of fiber, protein, and fat in corn-soybean meal diets fed to group-housed pigs. *Journal of Animal Science and Biotechnology*. 15:52. doi:10.1186/s40104-024-01004-9
7. M. E. Nelson, **S. A. Lee**, and H. H. Stein. **2024**. Effects of different protein sources in low-phosphorus diets on calculated basal endogenous loss of phosphorus by growing pigs. *Animal Feed Science and Technology*. 310:115927. doi:10.1016/j.anifeedsci.2024.115927
8. J. A. Ibagon, **S. A. Lee**, and H. H. Stein. **2024**. Influence of particle size and origin of field peas on apparent ileal digestibility of starch and amino acids and standardized ileal digestibility of amino acids when fed to growing pigs. *Translational Animal Science*. 8:txae008. doi:10.1093/tas/txae008
9. **Lee**, **S. A.**, Lagos, L. V., L. A. Merriman, and H. H. Stein. **2023**. Board Invited Review: Digestibility of calcium in calcium-containing ingredients and requirements for digestible calcium by growing pigs. *Journal of Animal Science*. 101: skad328. doi:10.1093/jas/skad328
10. J. A. Ibagon, **S. A. Lee**, and H. H. Stein. **2023**. Metabolizable energy and apparent total tract digestibility of energy and nutrients differ among samples of sunflower meal and sunflower expellers fed to growing pigs. *Journal of Animal Science*. 101:skad117. doi:10.1093/jas/skad117
11. **Lee**, **S. A.**, D. A. Lopez, and H. H. Stein. **2023**. Invited review: Mineral composition and P digestibility in feed phosphates fed to pigs and poultry. *Animal Bioscience*. 36:167-174. doi:10.5713/ab.22.0322
12. D. A. Lopez, **S. A. Lee**, and H. H. Stein. **2022**. Effects of microbial phytase on standardized total tract digestibility of phosphorus in feed phosphates fed to growing pigs. *Journal of Animal Science*. 100:skac350. doi:10.1093/jas/skac350
13. **Lee**, **S. A.**, L. J. Torres-Mendoza, and H. H. Stein. **2022**. Effects of 25-hydroxycholecalciferol (25-OH-D_3) and 1-hydroxycholecalciferol (1-OH-D_3) on serum bone

biomarkers and calcium and phosphorus balance and concentrations of energy in diets without or with microbial phytase fed to sows in late gestation. *Journal of Animal Science.* 100:skac299. doi: 10.1093/jas/skac299

14. Nelson, M. E., **S. A. Lee**, Y. Dersjant-Li, J. C. Remus, and H. H. Stein. **2022**. Microbial phytase reduces basal endogenous loss of calcium in pigs fed diets containing phytate phosphorus at commercial levels. *Journal of Animal Science*. 98:skac280. doi:10.1093/jas/skac280
15. **Lee**, **S. A.**, and H. H. Stein. **2022**. Short communication: Apparent ileal digestibility of amino acids is not likely affected by increasing calcium from deficient to over sufficient concentration in diets fed to pigs. *Animal Feed Science and Technology*. 292:115436. doi:10.1016/j.anifeedsci.2022.115436
16. **Lee**, **S. A.**, J. Y. Ahn, and B. G. Kim. **2022**. Digestible and metabolizable energy concentrations in cereal grains and byproduct ingredients fed to growing pigs. *Animal Feed Science and Technology*. 292:115408. doi:10.1016/j.anifeedsci.2022.115408
17. **Lee**, **S. A.**, and H. H. Stein. **2022**. Effects of dietary levels of calcium and phosphorus and 1-alpha-hydroxycholecalciferol (1-α-OH-D_3) on digestibility and retention of calcium and phosphorus and concentration of digestible energy in diets fed to sows in late-gestation. *Canadian Journal of Animal Science.* 102:184-188. doi:10.1139/cjas-2021-0018
18. **Lee**, **S. A.**, M. R. Bedford, and H. H. Stein. **2021**. Comparative digestibility and retention of calcium and phosphorus in normal- and high-phytate diets fed to gestating sows and growing pigs. *Animal Feed Science and Technology*. 280:115084. doi:10.1016/j.anifeedsci.2021.115084
19. Ibagon, J. A., **S. A. Lee**, and H. H. Stein. **2021**. Sunflower expellers have greater ileal digestibility of amino acids than sunflower meal, but there are only minor variations among different sources of sunflower meal when fed to growing pigs. *Journal of Animal Science*. 99:skab198. doi:10.1093/jas/skab198
20. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2021**. Growth performance and carcass quality is not different between pigs fed diets containing cold-fermented low-oil distillers dried grains with solubles (DDGS) and pigs fed conventional DDGS, but pelleting improves gain to feed ratio regardless of source of DDGS. *Journal of Animal Science*. 99:skab129. doi:10.1093/jas/skab129
21. Lagos, L. V., **S. A. Lee**, M. R. Bedford, and H. H. Stein. **2021**. Reduced concentrations of limestone and monocalcium phosphate in diets without or with microbial phytase did not

influence gastric pH, fecal score, or growth performance, but reduced bone ash and serum albumin in weanling pigs. *Translational Animal Science.*5:txab115. doi:10.1093/tas/txab115

22. **Lee**, **S. A.**, Lagos, L. V., M. R. Bedford, and H. H. Stein. **2021**. Quantities of ash, Ca, and P in metacarpals, metatarsals, and tibia are better correlated with total body bone ash in growing pigs than ash, Ca, and P in other bones. *Journal of Animal Science*. 99:skab149. doi:10.1093/jas/skab149
23. Lagos, L. V., **S. A. Lee**, M. R. Bedford, and H. H. Stein. **2021**. Formulation of diets for pigs based on a ratio between digestible calcium and digestible phosphorus results in reduced excretion of calcium in urine without affecting retention of calcium and phosphorus compared with formulation based on values for total calcium. *Journal of Animal Science*. 99:skab138. doi: 10.1093/jas/skab138
24. **Lee**, **S. A.**, C. S. Park, and B. G. Kim. **2021**. Novel two-slope equations to predict amino acid concentrations using crude protein concentration in soybean meal. *Agriculture*. 11:280. doi: 10.3390/agriculture11040280
25. **Lee**, **S. A.**, L. Blavi, D. M. D. L. Navarro, and H. H. Stein. **2021**. Addition of hydrochloric acid to collection bags or collection containers did not change basal endogenous losses or ileal digestibility of amino acid in corn, soybean meal, or wheat middlings fed to growing pigs. *Animal Bioscience*. 34:1632-1642. doi:10.5713/ab.20.0838
26. Lagos, L. V., **S. A. Lee**, M. R. Bedford, and H. H. Stein. **2021**. Formulating diets based on digestible calcium instead of total calcium does not affect growth performance or carcass characteristics, but microbial phytase ameliorates bone resorption caused by low calcium in diets fed to pigs from 11 to 130 kg. *Journal of Animal Science*. 99:skab057. doi:10.1093/jas/skab057
27. Rodriguez, D. A., **S. A. Lee**, M. R. C. de Godoy, and H. H. Stein. **2020**. Extrusion of soybean hulls does not increase digestibility of amino acids or concentrations of digestible and metabolizable energy when fed to growing pigs. *Translational Animal Science*. 4:txaa169. doi:10.1093/tas/txaa169
28. Archs Toledo, J. L., **S. A. Lee**, M. L. McGhee, G. G. Mateos, and H. H. Stein. **2020**. Intrinsic phytase in hybrid rye increases the digestibility of phosphorus in corn and soybean meal in diets fed to growing pigs. *Journal of Animal Science*. 98:skaa295. doi:10.1093/jas/skaa295
29. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2020**. Digestibility of amino acids, but not fiber, fat, and energy, is greater in cold-fermented, low-oil distillers dried grains with solubles (DDGS) compared with conventional DDGS fed to growing pigs. *Journal of Animal Science*. skaa297. doi:10.1093/jas/skaa297

30. M. Cristobal, J. Acosta, **S. A. Lee**, and H. H. Stein. **2020**. A new source of high-protein distillers dried grains with solubles (DDGS) has greater digestibility of amino acids and energy, but less digestibility of phosphorus, than de-oiled DDGS when fed to growing pigs. *Journal of Animal Science*. 98:skaa200. doi:10.1093/jas/skaa200
31. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2020**. Digestibility of amino acids and concentrations of metabolizable energy and net energy are greater in high-shear dry soybean expellers than in soybean meal when fed to growing pigs. *Journal of Animal Science*. 98:skaa215. doi:10.1093/jas/skaa215
32. **Lee, S. A.**, L. V. Lagos, M. R. Bedford, and H. H. Stein. **2020**. Increasing calcium from deficient to adequate concentration in diets for gestating sows decreases digestibility of phosphorus, and reduces serum concentration of a bone resorption biomarker. *Journal of Animal Science*. 98:skaa076. doi:10.1093/jas/skaa076
33. Rodriguez, D. A., **S. A. Lee**, C. K. Jones, J. Htoo, and H. H. Stein. **2020**. Digestibility of amino acids, fiber, and energy by growing pigs, and concentrations of digestible and metabolizable energy in yellow dent corn, hard red winter wheat, and sorghum may be influenced by extrusion. *Animal Feed Science and Technology*. 268:114602. doi:10.1016/j.anifeedsci.2020.114602
34. Oliveira, M. S. F., M. K. Wiltafsky, **S. A. Lee**, W. B. Kwon, and H. H. Stein. **2020**. Concentrations of digestible and metabolizable energy and amino acid digestibility by growing pigs may be reduced by autoclaving soybean meal. *Animal Feed Science and Technology*. 269:114621. doi:10.1016/j.anifeedsci.2020.114621
35. Kim, B. G., **S. A. Lee**, K. R. Park, and H. H. Stein. **2020**. At least 3 days of adaptation are required before indigestible markers (chromium, titanium, and acid insoluble ash) are stabilized in the ileal digesta of 60-kg pigs, but values for amino acid digestibility are affected by the marker. *Journal of Animal Science*. 98:skaa027. doi:10.1093/jas/skaa027
36. **Lee, S. A.**, J. Y. Ahn, A. R. Son, and B. G. Kim. **2019**. Standardized ileal digestibility of amino acids in cereal grains and co-products in growing pigs. *Asian-Australasian Journal of Animal Sciences*. 33:1148-1155. doi:10.5713/ajas.19.0449
37. **Lee, S. A.**, L. V. Lagos, C. L. Walk, and H. H. Stein. **2019**. Standardized total tract digestibility of calcium varies among sources of calcium carbonate, but not among sources of dicalcium phosphate, but microbial phytase increases calcium digestibility in calcium carbonate. *Journal of Animal Science*. 97:3440-3450. doi:10.1093/jas/skz176
38. Lagos, L. V., **S. A. Lee**, G. Fondevila, C. L. Walk, M. R. Murphy, J. J. Loor, and H. H. Stein. **2019**. Influence of the concentration of dietary digestible calcium on growth performance,

bone mineralization, plasma calcium, and abundance of genes involved in intestinal absorption of calcium in pigs from 11 to 22 kg fed diets with different concentrations of digestible phosphorus. *Journal of Animal Science and Biotechnology*. 10:47. doi:10.1186/s40104-019-0349-2

39. **Lee, S. A.**, L. V. Lagos, C. L. Walk, and H. H. Stein. **2019**. Basal endogenous loss, standardized total tract digestibility of calcium in calcium carbonate, and retention of calcium in gestating sows change during gestation, but microbial phytase reduces basal endogenous loss of calcium. *Journal of Animal Science*. 97:1712-1721. doi:10.1093/jas/skz048
40. C. D. Espinosa, **S. A. Lee**, and H. H. Stein. **2019**. Digestibility of amino acids, energy, acid hydrolyzed ether extract, and neutral detergent fiber, and concentration of digestible and metabolizable energy in low-oil distillers dried grains with solubles fed to growing pigs. *Transitional Animal Science*. 3:662-675. doi:10.1093/tas/txz025
41. Liu, Y., C. D. Espinosa, J. J. Abelilla, G. A. Casas, L. V. Lagos, **S. A. Lee**, W. B. Kwon, J. K. Mathai, D. M. D. L. Navarro, N. W. Jaworski, and H. H. Stein. **2018**. Non-antibiotic feed additives in diets for pigs. *Animal Nutrition*. 4:113-125. doi:j.aninu.2018.01.007
42. **Lee, S. A.**, G. A. Casas, and H. H. Stein. **2018**. The level of feed intake does not influence digestibility of calcium and phosphorus in diets fed to gestating sows, but gestating sows have reduced digestibility of calcium and phosphorus compared with growing gilts. *Canadian Journal of Animal Science*. 98:591-594. doi:10.1139/cjas-2017-0144
43. **Lee, S. A.**, and B. G. Kim. **2017**. Classification of copra meal and copra expellers based on ether extract concentration and prediction of energy concentrations in copra byproducts. *The Journal of Animal and Plant Sciences.* 27:34-39.
44. **Lee, S. A.**, H. Jo, C. Kong, and B. G. Kim. **2017**. Use of digestible rather than total amino acid in diet formulation increases nitrogen retention and reduces nitrogen excretion from pigs. *Livestock Science*. 197:8-11. doi:10.1016/j.livsci.2016.12.013
45. **Lee, S. A.**, C. Kong, O. Adeola, and B. G. Kim. **2016**. Different coefficients and exponents for metabolic body weight in a model to estimate individual feed intake for growing-finishing pigs. *Asian-Australasian Journal of Animal Sciences*. 29:1756-1760. doi:10.5713/ajas.16.0420
46. Chung, S. H., A. R. Son, **S. A. Lee**, and B. G. Kim. **2014**. Effects of dietary tomato processing byproducts on pork nutrient composition and loin quality of pigs. *Asian Journal of Animal and Veterinary Advances.* 9:775-781. doi: 10.3923/ajava.2014.775.781

BOOK CHAPTER (2)

1. **Lee, S. A.**, and H. H. Stein. **2023**. Digestibility and Availability of Nutrients in Feed Ingredients. In: L. I. Chiba, editor, Sustainable Swine Nutrition. 2nd rev. ed. doi:10.1002/9781119583998.ch19
2. Lancheros, J. P., C. D. Espinosa, **S. A. Lee**, M. S. Oliveira, and H. H. Stein. **2023**. Fiber in Swine Nutrition. In: L. I. Chiba, editor, Sustainable Swine Nutrition. 2nd rev. ed. doi:10.1002/9781119583998.ch14

EXTENSION PUBLICATION (16)

1. Ruiz-Arias, N. C., **S. A. Lee**, and H. H. Stein. **2024**. Full-fat soybeans: Valuable source of energy, digestible P for pigs. National Hog Farmer, On-line edition, Oct. 31, 2024. https://www.nationalhogfarmer.com/livestock-management/full-fat-soybeans-valuable-source-of-energy-digestible-p-for-pigs?utm_rid=CPG02000001091307&utm_campaign=90805&utm_medium=email&elq2=2197fcdefda944c38a2539172d1fe2a1&sp_eh=93c23439fad829f254ccbc5f9b8450c8bc072aaf6feb79698cc61745a18bd9d4
2. Cristobal, M., **S. A. Lee**, and H. H. Stein. **2024**. Diet protein concentration does not influence net energy. National Hog Farmer, On-line edition, August 29, 2024. https://www.nationalhogfarmer.com/livestock-management/diet-protein-concentration-does-not-influence-net-energy?utm_rid=CPG02000003678644&utm_campaign=88886&utm_medium=email&elq2=a1da3e9735f14915a11f44d674410c12&sp_eh=a3cfe6561c4fa80e3987579b10a9cea06d5ea17c989bc1878d3909755aa1e6c1
3. Ruiz-Arias, N. C., **S. A. Lee**, and H. H. Stein. **2024**. Is there a nutritional diefference in full-fat soybeans fed to growing pigs? National Hog Farmer, On-line edition, Feb. 29, 2024. https://www.nationalhogfarmer.com/livestock-management/is-there-a-nutritional-difference-in-full-fat-soybeans-fed-to-growing-pigs-?NL=NHF-001&Issue=NHF-001_20240229_NHF-001_590&sfvc4enews=42&cl=article_1_b&utm_rid=CPG02000001091307&utm_campaign=83175&utm_medium=email&elq2=31da3bdda954480c99d6991872fb3484&sp_eh=93c23439fad829f254ccbc5f9b8450c8bc072aaf6feb79698cc61745a18bd9d4
4. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2023**. Pelleting of diets for pigs improves feed efficiency. National Hog Farmer, On-line edition, September 28, 2023. https://www.nationalhogfarmer.com/livestock-management/pelleting-of-diets-for-pigs-improves-feed-efficiency?NL=NHF-001&Issue=NHF-001_20230928_NHF-001_718&sfvc4enews=42&cl=article_2&utm_rid=CPG02000001091307&utm_campaign=7

9625&utm_medium=email&elq2=4e9f7d1bf4e4452cb88326a11305f4a1&sp_eh=93c23439fad829f254ccbc5f9b8450c8bc072aaf6feb79698cc61745a18bd9d4

5. Cristobal, M., **S. A. Lee**, and H. H. Stein. **2023**. Evaluation of soybean expellers fed to growing pigs. National Hog Farmer, On-line edition, March 23, 2023. https://www.nationalhogfarmer.com/nutrition/evaluation-soybean-expellers-fed-growing-pigs?NL=NHF-001&Issue=NHF-001_20230323_NHF-001_745&sfvc4enews=42&cl=article_1_b&utm_rid=CPG02000001091307&utm_campaign=75240&utm_medium=email&elq2=6a1d6083375d4b6c804889ead6488bf7&sp_eh=93c23439fad829f254ccbc5f9b8450c8bc072aaf6feb79698cc61745a18bd9d4&fbclid=IwAR1NN3T6lLOcNfdCaj1aDrFma_vzz3YrKdh32fQi7QMlplWCVQ4ywBAH9xY
6. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2022**. Microbial phytase impact on digestibility energy in growing pigs. National Hog Farmer, On-line edition, Dec. 30, 2022. https://www.nationalhogfarmer.com/feed/microbial-phytase-impact-digestibility-energy-growing-pigs?NL=NHF-001&Issue=NHF-001_20221229_NHF-001_232&sfvc4enews=42&cl=article_1_b&utm_rid=CPG02000000083983&utm_campaign=73317&utm_medium=email&elq2=40daca5432874e37bf011f1879db2cc1&sp_eh=931ac62eabf9f1f047fe05a1b4c0d972f1a71b202e6eb4d86b7cfbedc83f86e0
7. **Lee, S. A.**, D. A. Rodrigues, and H. H. Stein. **2022**. Water source placement does not impact energy, nutrient digestibility. National Hog Farmer, On-line edition, September 29, 2022. https://www.nationalhogfarmer.com/nutrition/water-source-placement-does-not-impact-energy-nutrient-digestibility?NL=NHF-001&Issue=NHF-001_20220929_NHF-001_489&sfvc4enews=42&cl=article_2_b&utm_rid=CPG02000003678644&utm_campaign=71307&utm_medium=email&elq2=042f2cb64ac84da5a61e1bb8eb10187f&sp_eh=a3cfe6561c4fa80e3987579b10a9cea06d5ea17c989bc1878d3909755aa1e6c1
8. **Lee, S. A.**, and H. H. Stein. **2022**. Calcium and phosphorus in late gestation. January, 2022. https://informamarkets.turtl.co/story/61c36ffef55a63203db963ab/page/5
9. **Lee, S. A.**, and H. H. Stein. **2021**. Ca, P digestibility values aren't always accurate for formulating sow diets. August 16, 2021. https://www.porkbusiness.com/news/hog-production/ca-p-digestibility-values-arent-always-accurate-formulating-sow-diets?mkt_tok=ODQzLVlHQi03OTMAAAF_ano7GaNwXVt7cWtlNJ_BNhKI_5CllhjVipbGdiKrBFzWwAY4mNSSOejylVuVcdP9KWven4irlx9NpIbfzO6kUNokyIzfOtuwN5IVV3rlg5xhDWtiqA

10. **Lee, S. A.**, D. A. Rodrigues, and H. H. Stein. **2021**. Net energy of U.S. soybean meal greater than previously estimated. National Hog Farmer, On-line edition, March 24, 2021. https://www.nationalhogfarmer.com/agenda/net-energy-us-soybean-meal-greater-previously-estimated
11. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2020**. Nutrition Know-How: High-Shear Dry Soybean Expellers. Pork Magazine, Aug. 2020. https://www.porkbusiness.com/search?fulltext=article+nutrition+know+how+high+shear+dry+soybean+expellers
12. Archs Toledo, J. L., **S. A. Lee**, and H. H. Stein. **2020**. Is the phosphorus in rye more digestible? Pork Magazine, April 8, 2020. https://www.agweb.com/article/phosphorus-rye-more-digestible-pigs
13. Cristobal, M., **S. A. Lee**, L. Blavi, and H. H. Stein. **2019**. Alternative nutrition strategies to control post-weaning diarrhea. Farm Journal's Pork. Oct. 28, 2019. https://www.porkbusiness.com/article/alternative-nutrition-strategies-control-post-weaning-diarrhea
14. **Lee, S. A.**, and H. H. Stein. **2019**. Balance calcium effect on phosphorus in late-gestation sows' diets. National Hog Farmer, On-line edition, August 29, 2019. https://www.nationalhogfarmer.com/nutrition/balance-calcium-effect-phosphorus-late-gestation-sows-diets?NL=NHF-001&Issue=NHF-001_20190829_NHF-001_12&sfvc4enews=42&cl=article_1&utm_rid=CPG02000001091307&utm_campaign=41731&utm_medium=email&elq2=e15043ed3085481bb81a5329c2307100
15. **Lee, S. A.**, L. V. Lagos, and H. H. Stein. **2019**. Grow-Finish diet formulation. National Hog Farmer, Blue Print Issue, From Farrow to Finish. April, 2019. Pages 20-22.
16. **Lee, S. A.**, and H. H. Stein. **2019**. Digestibility, retention of Ca and P changes during gestation. National Hog Farmer, On-line edition, January 31, 2019. https://www.nationalhogfarmer.com/nutrition/digestibility-retention-ca-and-p-sows-changes-during-gestation?NL=NHF-001&Issue=NHF-001_20190131_NHF-001_810&sfvc4enews=42&cl=article_1&utm_rid=CPG02000001091307&utm_campaign=35406&utm_medium=email&elq2=e275c05d9176432aaee7e85ebfa1b572

PROCEEDINGS & NON-PEER REVIEWED PUBLICATION (8)

1. Stein, H. H., C. J. Munoz, and **S. A. Lee**. 2023. Factors affecting net energy values of diets fed to group housed and ad libitum fed growing pigs. *XXXVIII Specialization Course FEDNA*, Madrid, Dec. 13-14, 2023. Pages 213-223.

2. **Lee, S. A.**, and H. H. Stein. **2023**. Advantages of Higher Soybean Meal Diets for Pigs. *In: Proc. 22nd Annual Midwest Swine Nutrition Conference,* Danville, IN, USA, Sep. 7, 2023. Pages 41-46.
3. **Lee, S. A.**, D. A. Rodrigues, and H. H. Stein. **2022**. Interactive effects of pelleting and particle size reduction of corn on net energy and digestibility of nutrients in corn-soybean meal diets fed to growing pigs. The 6th Mini-symposium on Precision Nutrition for Swine. December 21, 2022.
4. **Lee, S. A.**, and H. H. Stein. **2022**. Vitamin D and vitamin D metabolites impact on calcium and phosphorus balance in gestating sows. *In: Proc. 21st Annual Midwest Swine Nutrition Conference,* Danville, IN, USA, Sep. 8, 2022. Pages 39-43.
5. **Lee, S. A.**, L. V. Lagos, and H. H. Stein. **2019**. Digestible calcium and digestible phosphorus in swine diets. *In: Proc. London Swine Conference,* London, ON, Canada, March 26-27, 2019. Pages 63-72.
6. **Lee, S. A.**, L. V. Lagos, and H. H. Stein. **2018**. Effect of dietary calcium on growth performance of growing pigs. *XXXIV Specialization Course FEDNA,* Madrid, Nov. 22-23, 2018. Pages 173-184.
7. **Lee, S. A.**, L. V. Lagos, and H. H. Stein. **2018**. Digestible phosphorus and digestible calcium for growing pigs. *China Swine Industry Symposium, Shanghai, China*, Oct. 24-25, 2018.
8. Liu, Y., C. D. Espinosa, J. J. Abelilla, G. A. Casas, L. V. Lagos, **S. A. Lee**, W. B. Kwon, J. K. Mathai, D. M. D. L. Navarro, N. W. Jaworski, and H. H. Stein. **2016**. Non-antibiotic feed additives in diets for pigs. *Proceedings of 2016 Chinese Swine Industry Symposium*, Shanghai, China. p. 263-281.

INVITED PRESENTATIONS (12)

1. **Lee, S. A.**, and H. H. Stein. **2024**. Choice white grease equivalence of fat emulsifier in diets fed to growing pigs. In: Exclusive Webinar, Feedstuffs, August 27, 2024.
2. **Lee, S. A.**, and H. H. Stein. **2024**. Ca and P digestibility and the interactions with phytase and vitamin D in growing pigs and gestating sows. In: Taiwan Phytate Conference, Tainan, Taiwan, May 22, 2024.
3. **Lee, S. A. 2024**. Swine Feed Efficiency: Use of Pelling in Pig Diets. In: The Swine Nutrition Blackbelt Podcast Ep. 119. May 16, 2024. https://www.wisenetix.com/blog/the-swine-nutrition-blackbelt-dr-su-a-lee-swine-feed-efficiency-ep-119

4. **Lee, S. A.**, and H. H. Stein. **2023**. Ca and P digestibility and requirements for pigs. *In: Seminar at Feeding Standard For Nonruminants (course),* Konkok Univ., Seoul, Korea, Nov. 28, 2023.
5. **Lee, S. A.**, and H. H. Stein. **2023**. Ca and P digestibility and requirements for pigs. *In: DSM Workshop,* Navegantes, Santa Catarina, Brazil, Oct. 9, 2023.
6. **Lee, S. A.**, and H. H. Stein. **2023**. Advantages of Higher Soybean Meal Diets for Pigs. *In: Proc. 22nd Annual Midwest Swine Nutrition Conference,* Danville, IN, USA, Sep. 7, 2023. Pages 41-46.
7. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2023**. Description of a novel indirect calorimeter and net energy in diets fed to group-housed pigs. Konkuk Univ., Seoul, Korea, Feb. 16, 2023.
8. **Lee, S. A.**, D. A. Rodrigues, and H. H. Stein. **2022**. Interactive effects of pelleting and particle size reduction of corn on net energy and digestibility of nutrients in corn-soybean meal diets fed to growing pigs. *In: the 6th Mini-symposium on Precision Nutrition for Swine,* Konkuk Univ., Seoul, Korea, Dec. 21, 2022
9. **Lee, S. A.**, and H. H. Stein. **2020**. Digestibility of Ca and P in feed ingredients fed to gestating sows and growing pigs. *In: the 4th Mini-symposium on Precision Nutrition for Swine,* Konkuk Univ., Seoul, Korea, Dec. 18, 2020
10. **Lee, S. A**., and H. H. Stein. **2019**. Effects of graded levels of phytase on digestibility of nutrients, growth performance, and bone ash in corn and soybean meal based diets fed to pigs. *In: 80th Minnesota Nutrition Conference*, Mankato, MN, Sep. 18-19, 2019. p. 25. (Abstr.)
11. **Lee, S. A**., and H. H. Stein. **2019**. New approaches about utilization of Ca and P in feed ingredients fed to pigs. *In: 32nd CBNA Annual Meeting*, Brazil, Sep. 12-14, 2019.
12. **Lee, S. A.**, C. L. Walk, and H. H. Stein. **2018**. Calcium digestibility in feed ingredients by pigs. Konkuk Univ., Seoul, Korea, Aug. 28, 2018.

ABSTRACTS/PRESENTATIONS (59)

1. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2024**. Effects of high fibre on gas production and net energy in diets fed to group-housed pigs. *In: 75th Annual Meeting of the EAAP,* Florence, Italy, Sep. 1-5, 2024. Page 830. (Abstr.)
2. Ibagon, J. A., **S. A. Lee**, and H. H. Stein. **2024**. Empirical validation of implementing high energy in soybean meal: soybean oil equivalence of soybean meal in diets fed to growing

pigs. *In: 75th Annual Meeting of the EAAP,* Florence, Italy, Sep. 1-5, 2024. Page 829. (Abstr.)

3. Marshall, C. M., **S. A. Lee**, and H. H. Stein. **2024**. Feed preference of weanling pigs fed diets containing extruded corn ground to different particle sizes. *Journal of Animal Science*. 102(Suppl. 3):234-235. doi:10.1093/jas/skae234.272
4. Marshall, C. M., **S. A. Lee**, and H. H. Stein. **2024**. Interactive effects of extrusion and particle size reduction of corn on metabolizable energy by weanling pigs. *Journal of Animal Science*. 102(Suppl. 3):261-262. doi:10.1093/jas/skae234.299
5. Cristobal, M., **S. A. Lee**, A. P. Mallea, L. J. Torres-Mendoza, C. M. Parsons, and H. H. Stein. **2024**. Diet protein concentration does not influence dietary net energy by group housed growing pigs offered ad libitum access to feed. *Journal of Animal Science*. 102(Suppl. 3):250-251. doi:10.1093/jas/skae234.288
6. **Lee, S. A.**, and H. H. Stein. **2024**. Effects of increasing dietary protein concentration on digestibility of amino acids by growing pigs. *Journal of Animal Science*. 102(Suppl. 2):92-93. (Abstr.) doi:10.1093/jas/skae102.104
7. Kim, Y., **S. A. Lee**, and H. H. Stein. **2024**. Concentrations of energy in pistachio shell powder fed to gestating sows and lactating sows. *Journal of Animal Science*. 102(Suppl. 2):90-91. (Abstr.) doi:10.1093/jas/skae102.102
8. Ruiz-Arias, N. C., **S. A. Lee**, and H. H. Stein. **2024**. Standardized ileal digestibility of amino acids and concentration of metabolizable energy in three sources of corn protein fed to weanling pigs. *Journal of Animal Science*. 102(Suppl. 2):94-95. (Abstr.) doi: 10.1093/jas/skae102.106
9. Ibagon, J. A., **S. A. Lee**, H. H. Stein, and C. M. Nyachoti. **2024**. Reduction of particle size of field peas increases net energy and digestibility of starch when fed to growing pigs. *Journal of Animal Science*. 102(Suppl. 2):97-98. (Abstr.) doi:10.1093/jas/skae102.109
10. Nelson, M. E., **S. A. Lee**, C. L. Walk, and H. H. Stein. **2024**. Effects of source of calcium carbonate and microbial phytase on standardized total tract digestibility of calcium by growing pigs. *Journal of Animal Science*. 102(Suppl. 2):158-159. (Abstr.) doi:10.1093/jas/skae102.175
11. Cristobal, M., **S. A. Lee**, L. J. Torres-Mendoza, A. P. Mallea, C. M. Parsons, and H. H. Stein. **2024**. Effect of feeding intact protein from soybean meal instead of crystalline amino acids on energy and nitrogen balance by growing pigs. *Journal of Animal Science*. 102(Suppl. 2):283-284. (Abstr.) doi:10.1093/jas/skae102.322.

12. Cristobal, M., **S. A. Lee**, A. P. Mallea, L. J. Torres-Mendoza, J. P. Acosta, C. M. Parsons, and H. H. Stein. **2024**. Effect of feeding intact protein from soybean meal instead of crystalline amino acids on growth performance, protein synthesis, and immune response of growing pigs. *Journal of Animal Science*. 102(Suppl. 2):45-46. (Abstr.) doi:10.1093/jas/skae102.054
13. Mallea, A. P., **S. A. Lee**, M. Cristobal, L. J. Torres-Mendoza, and H. H. Stein. **2024**. Supplementation of valine, isoleucine, and tryptophan may overcome the negative effects of dietary excess leucine in high protein corn protein when fed to weanling pigs. *Journal of Animal Science*. 102(Suppl. 2):34-35. (Abstr.) doi:10.1093/jas/skae102.041
14. **Lee, S. A.**, D. A. Rodriguez, C. B. Paulk, and H. H. Stein. **2023**. Effects of pelleting and particle size reduction of corn on digestibility of starch, amino acids, fibre and fat, and concentration of net energy in corn-soybean meal diets fed to group-housed pigs. *2023 APSA Conference, Brisbane, Australia. Animal – Science Proceedings*. 14:857-858. (Abstr.) doi:10.1016/j.anscip.2023.09.042
15. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2023**. Interactive effects of pelleting and particle size reduction of corn on net energy and digestibility of nutrients in corn-soybean meal diets fed to group-housed pigs. *Journal of Animal Science*. 101(Suppl. 2):185-186. (Abstr.) doi:10.1093/jas/skad341.204
16. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2023**. Interactive effects of pelleting and particle size reduction of corn on ileal digestibility of starch and amino acids in corn-soybean meal diets fed to pigs. *Journal of Animal Science*. 101(Suppl. 2):186-187. (Abstr.) doi:10.1093/jas/skad341.205
17. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2023**. Concentration of net energy in corn without or with microbial phytase fed to group-housed pigs. *Journal of Animal Science*. 101(Suppl. 2):151-152. (Abstr.) doi:10.1093/jas/skad341.169
18. Lopez, D. A., **S. A. Lee**, and H. H. Stein. **2023**. Effects of microbial phytase on standardized total tract digestibility of phosphorus in feed phosphates fed to growing pigs. *Journal of Animal Science*. 101(Suppl. 2):114-115. (Abstr.) doi:10.1093/jas/skad341.127
19. Cristobal, M., **S. A. Lee**, and H. H. Stein. **2023**. Effect of low protein diets fed to weanling pigs on growth performance, fecal score, and carcass characteristics. *Journal of Animal Science*. 101(Suppl. 2):290. (Abstr.) doi:10.1093/jas/skad341.330
20. Nelson, M. E., **S. A. Lee**, and H. H. Stein. **2023**. Effects of different protein sources containing highly digestible phosphorus on the basal endogenous loss of phosphorus. *Journal of Animal Science*. 101(Suppl. 2):80-81. (Abstr.) doi:10.1093/jas/skad341.089

21. Ibagon, J. A., **S. A. Lee**, C. M. Nyachoti, and H. H. Stein. **2023**. Effects of different sources and particle sizes of field peas on ileal digestibility of amino acids and starch by growing pigs. *Journal of Animal Science*. 101(Suppl. 2):187-188. (Abstr.) doi:10.1093/jas/skad341.206
22. **Lee, S. A.**, B. Jaramillo-Herrera, H. H. Stein. **2022**. Effects of level of calcium and phosphorus and supplemental vitamin D_3 on apparent total tract digestibility and retention of calcium and phosphorus in diets fed to sows in late-gestation. In press (24TH VITAMIN D WORKSHOP)
23. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2022**. Effects of different watering options on standardized ileal digestibility of amino acids and net energy in diets fed to growing pigs. *Journal of Animal Science*. 100(Suppl. 3):118. (Abstr.) doi: 10.1093/jas/skac247.227
24. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2022**. Determination of the net energy in soybean meal fed to group-housed pigs. *15th International Symposium on Digestive Physiology in Pigs*. *Animal – Science Proceedings* 13:178. doi:10.1016/j.anscip.2022.03.272
25. **Lee, S. A.**, D. A. Rodriguez, and H. H. Stein. **2022**. Digestibility of amino acids is not affected by increasing calcium from deficient to over-sufficient concentration in diets fed to pigs. *15th International Symposium on Digestive Physiology in Pigs*. *Animal – Science Proceedings* 13:178-179. doi:10.1016/j.anscip.2022.03.274
26. **Lee, S. A.**, and H. H. Stein. **2022**. Effects of increasing dose of a novel *E. coli* phytase on total tract digestibility of minerals and energy in pigs. *Journal of Animal Science*. 100(Suppl. 2):36-37. (Abstr.) doi:10.1093/jas/skac064.059
27. Ibagon, J. A., **S. A. Lee**, and H. H. Stein. **2022**. Digestibility of energy, dry matter, protein, and fat and concentration of metabolizable energy in sunflower meal and sunflower expellers fed to growing pigs. *Journal of Animal Science*. 100(Suppl. 2):41-42. (Abstr.) doi:10.1093/jas/skac064.064
28. Nelson, M. E., **S. A. Lee**, Y. Dersjant-Li, D. Velayudhan, J. C. Remus, and H. H. Stein. **2022**. Effects of phosphorus level and increasing phytase dose on basal endogenous loss of calcium and balance of phosphorus in pigs fed diets containing phytate P at commercial levels. *Journal of Animal Science*. 100(Suppl. 2):165-166 (Abstr.) doi:10.1093/jas/skac064.282
29. **S. A. Lee**, L. Blavi, D. M. D. L. Navarro, and H. H. Stein. **2021**. Addition of hydrogen chloride to collection bags or containers did not change basal endogenous losses or digestibility of amino acid in corn, soybean meal, or wheat middlings fed to growing pigs. *Journal of Animal Science*. 99(Suppl. 1):166-167. (Abstr.) doi:10.1093/jas/skab054.281

30. **S. A. Lee**, M. R. Bedford, and H. H. Stein. **2021**. The ash in metacarpals, metatarsals, and tibia is better correlated with total body bone ash than the ash in other bones of growing pigs. *Journal of Animal Science*. 99(Suppl. 1):46-47. (Abstr.) doi:10.1093/jas/skab054.080
31. J. A. Ibagon, **S. A. Lee**, and H. H. Stein. **2021**. Ileal digestibility of amino acids is greater in sunflower expellers than in sunflower meal when fed to growing pigs. *Journal of Animal Science*. 99(Suppl. 1):86-87. (Abstr.) doi:10.1093/jas/skab054.140
32. **Lee, S. A.**, and H. H. Stein. **2020**. Young Scholar Presentation: Digestibility of calcium and phosphorus in feed ingredients fed to gestating sows and growing pigs. *Journal of Animal Science*. 98(Suppl. 3):111. (Abstr.) doi:10.1093/jas/skaa054.188
33. **Lee, S. A.**, M. R., Bedford, and H. H. Stein. **2020**. Dietary calcium decreases digestibility of phosphorus in late gestating sows, but blood biomarkers may be used to predict bone formation and resorption. *Journal of Animal Science*. 98(Suppl. 3):105-106. (Abstr.) doi:10.1093/jas/skaa054.179
34. **Lee, S. A.**, and H. H. Stein. **2020**. Effects of dietary amino acid concentration on digestibility of amino acids in soybean meal and soy protein concentrate fed to growing pigs. *Journal of Animal Science*. 98(Suppl. 3):65-66. (Abstr.) doi:10.1093/jas/skaa054.118
35. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2020**. Digestibility of energy and nutrients and concentration of metabolizable energy in soybean expellers and soybean meal fed to growing pigs. *Journal of Animal Science*. 98(Suppl. 3):64-65. (Abstr.) doi:10.1093/jas/skaa054.116
36. Acosta, J., **S. A. Lee**, and H. H. Stein. **2020**. Ileal digestibility of amino acids in a new source of high-protein distillers dried grains with solubles fed to growing pigs. *Journal of Animal Science*. 98(Suppl. 3):148. (Abstr.) doi:10.1093/jas/skaa054.260
37. Cristobal, M., **S. A. Lee**, and H. H. Stein. **2020**. Concentrations of digestible and metabolizable energy and digestibility of phosphorus in a new source of high-protein distillers dried grains with solubles fed to growing pigs. *Journal of Animal Science*. 98(Suppl. 3):187-188. (Abstr.) doi:10.1093/jas/skaa054.331
38. **Lee, S. A**., and H. H. Stein. **2019**. Effects of graded levels of phytase on digestibility of nutrients, growth performance, and bone ash in corn and soybean meal based diets fed to pigs. *In: 80th Minnesota Nutrition Conference*, Mankato, MN, Sep. 18-19, 2019. p. 25. (Abstr.) Invited speaker.
39. **Lee, S. A**., and H. H. Stein. **2019**. New approaches about utilization of Ca and P in feed ingredients fed to pigs. *In: 32nd CBNA Annual Meeting*, Brazil, Sep. 12-14, 2019. Invited speaker.

40. Rodriguez, D. A., **S. A. Lee**, C. Jones, J. K. Htoo, and H. H. Stein. **2019**. Effects of extrusion on nutrient and energy digestibility in cereal grains fed to growing pigs. *In: 6th EAAP International Symposium on Energy and Protein Metabolism and Nutrition,* Belo Horizonte, Minas Gerais, Brazil, Sep. 9-12, 2019. Pages 185-186. (Abstr.)
41. **Lee, S. A.**, M. S. F. Oliveira, W. B. Kwon, and H. H. Stein. **2019**. Effects of heat treatment on digestibility of amino acids and concentration of metabolizable energy in soybean meal fed to pigs. Book of Abstracts. In: *1st International Feed Technology Congress*, Cologne, Germany. p. 33.
42. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2019**. Digestibility of amino acids, fiber, and energy, and concentrations of digestible and metabolizable energy in conventional and extruded yellow dent corn, wheat, and sorghum fed to growing pigs. Book of Abstracts. In: *1st International Feed Technology Congress*, Cologne, Germany. p. 16.
43. **Lee, S. A.**, C. L. Walk, and H. H. Stein. **2019**. Standardized total tract digestibility of Ca by growing pigs in different sources of calcium carbonate and dicalcium phosphate. *Journal of Animal Science* 97(Suppl. 2):173-174. (Abstr.)
44. **Lee, S. A.**, C. L. Walk, and H. H. Stein. **2019**. Basal endogenous loss, standardized total tract digestibility, and retention of Ca in sows change throughout gestation, but microbial phytase reduces basal endogenous loss of Ca by gestating sows. *Journal of Animal Science* 97(Suppl. 2):185-186. (Abstr.)
45. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2019**. Digestibility of amino acids, fiber, and energy, and concentrations of digestible and metabolizable energy in conventional and extruded yellow dent corn, wheat, and sorghum fed to growing pigs. *Journal of Animal Science* 97(Suppl. 2):85-86. (Abstr.)
46. **Lee, S. A.**, C. L. Walk, and H. H. Stein. **2018**. Sows in mid-gestation have reduced digestibility and retention of calcium and phosphorus compared with growing pigs. *14th International Symposium on Digestive Physiology in Pigs*. *Advances in Animal Biosciences* 9:S193-194.
47. **Lee, S. A.**, C. L. Walk, and H. H. Stein. **2018**. Comparative digestibility and retention of calcium and phosphorus by gestating sows and growing pigs fed low- and high-phytate diets without or with microbial phytase. *Journal of Animal Science* 96(Suppl. 2):83. (Abstr.)
48. **Lee, S. A.**, C. D. Espinosa, and H. H. Stein. **2018**. Digestibility of amino acids, energy, fat, and fiber and digestible and metabolizable energy in low-oil distillers dried grains with solubles fed to growing pigs. *Journal of Animal Science* 96(Suppl. 2):172-173. (Abstr.)

49. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2018**. Digestibility of amino acids, fiber, and fat and concentrations of digestible and metabolizable energy in two sources of distillers dried grains with solubles fed to growing pigs. *Journal of Animal Science* 96(Suppl. 2):173-174. (Abstr.)
50. Rodriguez, D. A., **S. A. Lee**, and H. H. Stein. **2018**. Effects of Dakota Gold and conventional distillers dried grains with solubles on wean to finish growth performance and carcass characteristics of pigs fed diets provided as pellets or in a meal form. *Journal of Animal Science* 96(Suppl. 2):141-142. (Abstr.)
51. Kim, B. G., **S. A. Lee**, and H. H. Stein. **2017**. Two days of adaptation period may be enough for measuring ileal AA digestibility using Cr or Ti as an indigestible index in swine diets. *Journal of Animal Science* 95 (Suppl. 4):44. (Abstr.)
52. **Lee, S. A.**, and B. G. Kim. **2016**. Use of crystalline amino acids in meal feeding does not affect nitrogen retention in growing pigs compared to protein-bound amino acids. *Journal of Animal Science* 94(Suppl. 5):461-462. (Abstr.)
53. **Lee, S. A.**, J. Y. Ahn, A. R. Son, and B. G. Kim. **2016**. Amino acid digestibility in feed ingredients fed to pigs. *Journal of Animal Science* 94(Suppl. 5):467-468. (Abstr.)
54. **Lee, S. A.**, C. S. Park, D. S. Nam, and B. G. Kim. **2016**. Prediction models for amino acid concentrations in soybean meal. *Proceedings of 2016 Annual Congress of Korean Society of Animal Science and Technology,* Seoul, Republic of Korea. vol. II p. 61.
55. **Lee, S. A.**, D. S. Nam, and B. G. Kim. **2016**. Classification of copra meal and copra expellers based on ether extract concentration and prediction of energy concentrations in copra byproducts. *Proceedings of 2016 Annual Congress of Korean Society of Animal Science and Technology,* Seoul, Republic of Korea. vol. II p. 210.
56. **Lee, S. A.**, C. Kong, and B. G. Kim. **2015**. Use of different exponent for metabolic body weight in a model to estimate individual feed intake for growing-finishing pigs. *Proceedings of 2015 Annual Congress of Korean Society of Animal Science and Technology,* Seoul, Republic of Korea. vol. II p. 58.
57. **Lee, S. A.**, C. Kong, and B. G. Kim. **2015**. The use of digestible amino acid rather than total amino acid in diet formulation reduces nitrogen excretion and increases nitrogen retention of pigs. *13th International Symposium on Digestive Physiology in Pigs*. Book of Abstracts. p. 243.
58. **Lee, S. A.**, J. Y. Ahn, C. S. Park, and B. G. Kim. **2014**. Prediction of gross, digestible, and metabolizable energy in feedstuffs fed to growing pigs. *Proceedings of 2014 Annual*

Congress of Korean Society of Animal Science and Technology, Hongcheon, Republic of Korea. vol II p. 61.

59. **Lee, S. A.**, C. S. Park, and B. G. Kim. **2014**. A novel procedure for predicting energy digestibility in feedstuffs fed to pigs. *Journal of Animal Science* 92 (Suppl. 2):146. (Abstr.)

TECHNICAL SKILLS

Experimentation with pigs

Growth performance experiments

Indirect calorimeter (net energy) experiments

Total tract digestibility experiments

Ileal digestibility experiments

In vitro digestibility assays (Boisen and Fernández, 1995; 1997)

Enzyme-linked immunosorbent assay

Statistical analysis

Proficient in a variety of statistical methods using SAS

: Analyzing models using fixed and random variables (PROC GLM, and MIXED of SAS) and regression analysis (PROC CORR, REG, and NLIN of SAS)

Proficient in a variety of statistical methods using R for modeling

Proficient in Microsoft Word, Excel, and Power Point

AWARD & SCHOLARSHIP

2023 International APSA Travel Scholarship Award

2023 Australasian Pig Science Association, Brisbane, Australia, November 2023

2020 Midwest Animal Science Young Scholar Award

2020 American Society of Animal Science, Omaha, NE, March 2020

2018-2019 Animal Sciences Graduate Student Fellowship Award

Graduate College, University of Illinois at Urbana-Champaign

2018 Wilson G. Pond Appreciation Club International Travel Award

2018 ASAS-CSAS Annual Meeting, Vancouver, BC, Canada, July 2018

Competitive Oral Presentation Award- 1st place

Mono-gastric Nutrition Division, Annual Congress of Korean Society of Animal Science and Technology, Seoul, Republic of Korea, June 2016

Competitive Oral Presentation Award- 2nd place

Mono-gastric Nutrition Division I, Annual Congress of Korean Society of Animal Science and Technology, Seoul, Republic of Korea, August 2015

Competitive Oral Presentation Award- 2nd place

Mono-gastric Nutrition Division, Annual Congress of Korean Society of Animal Science and Technology, Hongcheon, Republic of Korea, June 2014

Graduate Fellowship Awarded by Konkuk University

Fall 2013, Spring 2014, Fall 2014, and Spring 2015

Merit-based Scholarship Awarded by Konkuk University

Fall 2011, Spring 2012, Fall 2012, Spring 2013, and Fall 2013