

Laura Lee Greiner, BSc, MSc, PhD

Assistant Professor
Swine Production and Nutrition
Department of Animal Science
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Education

Degree		Institution	Year
Postdoctoral Training	Microbiology	University of Iowa	2004
Ph. D.	Animal Science - Nutrition	Iowa State University	2001
MSc.	Animal Science - Nutrition	Iowa State University	1999
BSc	Animal Science with honors	Iowa State University	1996

Record of Professional Experience

Assistant Professor – Iowa State University (2018 – Present)

Nutrition Director – Carthage Veterinary Service, Ltd. (2016 – 2018)

Director of Research – Carthage Innovative Swine Solutions (2005 – 2016)

Postdoctoral Fellowship, University of Iowa (2002 – 2004)

Research

Peer Reviewed Journal Articles

- Helm, E., J. Ross, J. F. Patience, S. M. Lonergan, E. Huff-Lonergan, **L. Greiner**, L. M. Reeve, C. Hastad, E. K. Arkfeld, and N. K. Gabler. Nutritional approaches to slow late finishing pig growth: implications on carcass composition and pork quality. *J. Anim. Sci.* 2021. 99(1). <https://doi.org/10.1093/jas/skaa368>
- Humphrey, D., S. Becker, J. Lee, K. Haydon, and **L. Greiner**. Evaluation of a novel threonine source for nursery pig diets. *J Translational Anim Sci.* Txaa182. 2020. <https://doi.org/10.1093/tas/txaa182>
- Greiner, L.**, P. Srichana, J.L. Usry, C. Neill, G.L. Allee, J. Connor, K.J. Touchette, and C.D. Knight. Lysine (protein) requirements of lactating sows. *Trans. J. Anim. Sci.* 2020.
- Smith, B., B.C. Ramirez, S.J. Hoff, and **L.L. Greiner***. Pilot scale assessment of a novel farrowing creep area supplementary heat source. *Animals* 2019, 9(11):996.
- Greiner, L.#**, A. Graham, M. Goncalves, U. Orlando, and K.J. Touchette. Evaluation of the optimal standardized ileal digestible threonine:lysine ratio in lactating sow diets. *J Anim Sci.* 2019, 97(7):2972-2978.
- Greiner, L.#**, A. Graham, M. Goncalves, U. Orlando, and K.J. Touchette. Evaluation of the optimal standardized ileal digestible valine:lysine ratio in lactating sow diets. *J Anim Sci.* 2019, 97(7):2965-2971.

2. Puls, C.L., J.M. Hammer, K. Eggers, A. Graham, B. Knopf, **L. Greiner**, S.N. Carr. Effects of two feeding periods of tiamulin fed in combination with chlortetracycline for control and treatment of swine respiratory and enteric disease and subsequent growth performance of growing-finishing pigs. *J Translational Anim Sci.* 2019, 3(1):113-122.
1. Arend, L.S., R.V. Knox, **L.L. Greiner**, A. Graham, J.F. Connor. Effects of feeding melatonin during proestrus and early gestation to gilts and parity 1 sows to minimize effects of seasonal infertility. *J Anim Sci.* 2019, 97(11):4635-4646.

Peer Reviewed Journal Articles prior to Iowa State University

20. **Greiner, L.[#]**, P. Srichana, J.L. Usry, C. Neill, G.L. Allee, J. Connor, K.J. Touchette, and C.D. Knight. The use of feed-grade amino acids in lactating sow diets. *J Anim Sci Biotechnol.* 2018, 9:3.
19. **Greiner, L.[#]**, C. Neill, G.L. Allee, K.J. Touchette, and J. Connor. Evaluation of the optimal standardized ileal digestible tryptophan:lysine ratio in lactating sow diets. *J Translational Anim Sci.* 2017, 1(4):526-532.
18. Lowe, J., R. McCann, and **L. Greiner**. Factors that influence mechanical transmission of Porcine Reproductive and Respiratory Syndrome Virus at slaughter plant lairage. *J Swine Health and Prod.* 2017, 25(1):19-23.
17. Knox, R.V., J. Shen, **L.L. Greiner** and J.F. Connor. Effect of timing of relocation of replacement gilts from group pens to individual stalls before breeding on fertility and well-being. *J Anim Sci.* 2016, 94(12):5114-5121.
16. Song, Q., S. Stone, D. Drebes, L.L. **Greiner**, C.M. Dvorak, and M.P. Murtaugh. Characterization of anti-porcine epidemic diarrhea virus neutralizing activity in mammary secretions. *Virus Res.* 2016, 226:85-92.
15. **Greiner, L.[#]** Evaluation of the likelihood of detection of porcine epidemic diarrhea virus or porcine delta coronavirus ribonucleic acid in areas within feed mills. *J Swine Health and Prod.* 2016, 24(4):198-204.
14. **Greiner, L.[#]**, C. Neill, G. L. Allee, X. Wang, J. Connor, K. Touchette, and J. L. Usry. The feeding of dried distillers' grain with solubles to lactating sows. *J Anim Sci* 2015, 93:1-7.
13. Wedekind, K.J., J.A. Coverdale, T.R. Hampton, C.A. Atwell, R.H. Sorbet, J. Lunnemann, R.J. Harrell, **L. Greiner**, N.K. Keith, J.L. Evans, J. Zhao, and C.D. Knight. Efficacy of an equine joint supplement, and the synergistic effect of its active ingredients (chelated trace minerals and natural eggshell membrane), as demonstrated in equine, swine and an osteoarthritis rat model. *Open Access Animal Physiology*, 2015 (7):13-27.
12. Hidalgo D.M., R.M. Friendship, **L. Greiner**, R. Manjarin, M.R. Amezcua, J.C. Dominguez, and R.N. Kirkwood. Influence of gonadotrophin-induced first estrus on gilt fertility when mating at a fixed breeding weight. *Repro Dom Anim*, 2014,49: 899–902.
11. Hildago, D.M., R.M. Friendship, **L. Greiner**, R. Manjarin, M.R. Amezcua, J. C. Dominguez, and R.N. Kirkwood. Influence of lactation length and gonadotrophins administered at weaning on fertility of primiparous sows. *Anim Repro Sci J.* 2014, 149(3-4):245-248.
10. Knox, R., J. Salak-Johnson, M. Hopgood, **L. Greiner**, and J. Connor. Effect of day of mixing gestating sows on measures of reproductive performance and animal welfare. *J Anim Sci.*, 2014, 92:1698-1707.
9. **Greiner, Laura L., MSc, PhD**; Connor, Joseph F, DVM, MSc; Jennifer L. Patterson, MSc; Audrey C. Cameron, Taylor A. Smith, Aline B. Kummer, Rydell L. Schott, George R. Foxcroft, PhD, The effect of gonadotrophin treatment at weaning on primiparous sow performance, *J. Swine Health Prod.*, 2010, (18)4:196-199.
8. Patterson, J., A. Cameron, T. Smith, A. Kummer, R. Schott, **L. Greiner**, J. Connor, and G.R. Foxcroft. Responses to exogenous gonadotrophin treatment in contemporary weaned sows. *Soc Reprod Fertil Suppl.* 66-303-304.
7. Daines, D. A., M. Bothwell, J. Furrer, W. Unrath, K. Nelson, J. Jarisch, N. Melrose, **L. Greiner**, M. Apicella, and A. Smith, *Haemophilus influenzae* luxS mutants form a biofilm and have increased

- virulence, *Microbial Pathogenesis*, 2005, 39:87-96.
6. Jurcisek, J., **L. Greiner**, H. Watanabe, A. Zaleski, M. A. Apicella, and L. Bakaletz, Role of sialic acid and complex carbohydrate biosynthesis in biofilm formation by nontypeable *Haemophilus influenzae* in the chinchilla middle ear, *Infection and Immunity*, 2005, 73:3210-3218.
 5. **Greiner, L. L.**, J. L. Edwards, J. Shao, C. Rabinak, D. Entz, and M. A. Apicella, Biofilm Formation by *Neisseria gonorrhoeae*. *Infection and Immunity*, 2004, 73:1964-1970.
 4. **Greiner, L.L.**, H. Watanabe, N. J. Phillips, J. Shao, A. Morgan, A. Zaleski, B. W. Gibson and M. A. Apicella, Nontypeable *Haemophilus influenzae* strain 2019 produces a biofilm containing N-acetylneuraminic acid that may mimic sialylated O-linked glycans, *Infection and Immunity*, 2004, 72:4249-4260.
 3. **Greiner, L.L.**[#], T.S. Stahly, and T.J. Stabel. 2001, Effect of dietary soy daidzein on pig growth and viral replication during a viral challenge, *J. Anim Sci.*, 2001, 79:3113-3119.
 2. **Greiner, L.L.**[#], T.S. Stahly, and T.J. Stabel, Effect of dietary soy genistein on pig growth and viral replication during a viral challenge, *J. Anim Sci.*, 2000, 79:1272-1279.
 1. **Greiner, L.L.**[#], T.S. Stahly, and T.J. Stabel, Quantitative relationship of systemic virus concentration on growth and immune response in pigs, *J. Anim Sci.*, 2000, 78:2690-2695.

Book Chapters

1. **Greiner, L.** “Mammary uptake of metabolites and requirements of energy and amino acids of hyperprolific sows” in the Novus book Nutrition of Hyperprolific Sows.

Peer Reviewed Abstracts

12. Smith, B., B. Ramirez, S. Hoff, and **L. Greiner**. *Effective environment temperature comparison of two supplemental heat sources on a commercial sow farm*. American Society of Agricultural and Biological Engineering Annual Meeting. July 2020.
11. Humphrey, D., S. Becker, K. Haydon, and **L. Greiner**^{*}. *Evaluation of a novel threonine source for nursery pig diets*. Midwest American Society of Animal Science. March 2020.
10. **Greiner, L.** *Nutrition and Feeding of the Modern Hyperprolific Sow*. Midwest American Society of Animal Science. March 2020.
9. **Greiner, L.** *Understanding today’s sow and challenging ourselves for the future*. Midwest American Society of Animal Science. March 2020.
8. Smith, B., B. Ramirez, **L. Greiner**^{*}. *Novel creep area heat source impact on pre-wean mortality occurrence*. Midwest American Society of Animal Science. March 2020.
7. Silva, G., R. Thompson, B. Knopf, **L. Greiner**, J. Soto, C.M. Vier, N. Lu and U.A.D. Orlando. *Effects of metabolizable energy and standardized ileal digestible lysine levels on lactating sow and litter performance*. Midwest American Society of Animal Science. March 2020.
6. Yan, Y., **L. Greiner**, D. Nelson, L. Baumgard, J. Ross, S. Becker. *Predef (isoflupredone acetate) post-partum in sows may reduce inflammation*. American Associate of Swine Veterinarians. March 2020.
5. Farkas, A., L. Ochoa, **L. Greiner**. *Evaluate the effects of different natural planned exposure (NPE) strategies on the shedding of Rotavirus A, B, C and pre-wean morbidity and mortality in an endemic sow farm*. American Association of Swine Veterinarians. March 2019.
4. Thompson, R., C. Boessen, B. Knopf, **L. Greiner**, and K. Haydon. Abstract #181. Evaluation of feeding arginine in gestation and lactation on sow and litter performance. Midwest American Society of Animal Science. March 2019.
3. Thompson, R., A. Graham, B. Knopf, **L. Greiner** and S. Jalukar. Abstract #180. Evaluation of soluble concentrated yeast product on sow and litter performance. Midwest American Society of Animal Science. March 2019.
2. **Greiner, L.**, A. Graham, and B. Knopf. Abstract #582809. Effect of avilamycin on nursery pig performance and health. Midwest American Society of Animal Science. March 2019.

1. Thompson, R., B. Knopf, **L. Greiner**, and J. Bergstrom. Abstract #147. Effects of added dietary Zn and Cu or an essential oils blend in a nursery feeding program. Midwest American Society of Animal Science. March 2019.

Peer Reviewed Abstracts prior to Iowa State University

91. Graham, A., B. Knopf, F.B. Sandberg, K.T. Soltwedel, M.R. Bible, and **L. Greiner**. Abstract #349. Evaluation of a fenugreek extract fed to sows from 90 days of gestation through lactation on sow and litter performance. Midwest American Society of Animal Science. March 2018.
90. Ochoa, L. A. Graham, **L. Greiner**, B. Knopf, M.A.D. Goncalves, W. Cast, and U.A.D. Orlando. Abstract #344. Evaluation of supplementation of potassium chloride and choline chloride in high feed grade amino acid finishing diets. Midwest American Society of Animal Science. March 2018.
89. Boessen, C., A. Graham, **L. Greiner**, B. Knopf, K.J. Touchette, M.A.D. Goncalves, and U.A.D. Orlando. Abstract #317. The standardized ileal digestible valine:lysine requirement in lactating sows. Midwest American Society of Animal Science. March 2018.
88. Graham, A., **L. Greiner**, M.A.D. Goncalves, U.A.D. Orlando and K. Touchette. Abstract #312. Lysine requirement of lactating sows-revisited. Midwest American Society of Animal Science. March 2018.
87. Graham, A., **L. Greiner**, B. Knopf, M.A.D. Goncalves, W. Cast, and U.A.D. Orlando. Abstract #286. Evaluation of the lactose level and organic acid inclusion in newly weaned pigs. Midwest American Society of Animal Science. March 2018.
86. Graham, A., B. Knopf, M.A.D. Goncalves, U.A.D. Orlando and **L. Greiner**. Abstract #208. Evaluation of the standardized ileal digestible total sulfur amino acid:lysine requirement for 14-27 kg PIC nursery pigs. Midwest American Society of Animal Science. March 2018.
85. Ochoa, L., **L. Greiner**, and T. Pacion. Abstract #119. Feed as a vehicle for PRRS virus transmission and the effects of formaldehyde on porcine reproductive and respiratory virus in feed: proof of concept. Midwest American Society of Animal Science. March 2018.
84. Ochoa, L., **L. Greiner**, J. Connor, J. Waddell and E. Fano. Short summary on the low prevalence of PCV2 on pigs at birth. American Association of Swine Veterinarians Annual Meeting. March 2018.
83. Ochoa, L., **L. Greiner**, J. Connor, and T. Pacion. Effects of PICV2 viremia level of piglets at birth on the efficacy of PCV2 vaccine against exposure to PCV2-b determined by viremia levels and growth rate of pigs. American Association of Swine Veterinarians Annual Meeting. March 2018.
82. Smith, M., J. Waddell, G. Hartsook, A. Lower, **L. Greiner** and L. Ochoa. Litter porcine reproductive and respiratory syndrome (PRRS) status at processing and relationship to PRRS status at weaning using different pools of sampling tissues. American Association of Swine Veterinarians Annual Meeting. March 2018.
81. Hardebeck, O., L. Ochoa, **L. Greiner** and J. Connor. Understanding the impact of farrowing induction on pigs born alive. American Association of Swine Veterinarians Annual Meeting. March 2018.
80. Tarasuik, G., L. Ochoa, M. Jansen, **L. Greiner** and A. Farkas. Comparison of oral fluids versus tonsil swabs to diagnose *Mycoplasma hyosynoviae* infection prior to onset of clinical signs. American Association of Swine Veterinarians Annual Meeting. March 2018.
79. Lawrence, B., T. Loeffler, Y. Ma, and **L. Greiner**. Mineral source matters conception to market. American Association of Swine Veterinarians Annual Meeting. March 2018.
78. **Greiner, L.**, A. Graham, K.J. Touchette, M.A.D. Goncalves, U.A.D. Orlando, and J. Connor. Abstract #240. Threonine:Lysine ratio requirement in lactating sows. Midwest American Society of Animal Science. March 2017.
77. Graham, A., T. Hall., L. Ochoa, **L. Greiner**, M.A.D. Goncalves, U.A.D. Orlando, and J. Connor. Abstract #239. Effect of dietary calcium inclusion rate in diets for lactating sows. Midwest American Society of Animal Science. March 2017.
76. Ochoa, L., A. Graham, B. Knopf, **L. Greiner**, and J. Connor. Abstract #280. Evaluation of SID lys:ME ratios in grow-finishing pigs. Midwest American Society of Animal Science. March 2017.
75. Ochoa, L., R.J. Harrell, A. Graham, M. Bienhoff, B. Kremer, J.A. Loughmiller, and **L. Greiner**. Abstract #294. Effect of feeding formaldehyde treated feed to pigs throughout the growing period on

- amino acid utilization from synthetic Lys or protein sources.* Midwest American Society of Animal Science. March 2017.
74. Graham, A., B. Knopf, **L. Greiner**, M.A.D Goncalves, U.A.D. Orlando, and J. Connor. *Abstract #301. Evaluation of the lysine requirement of 11-23 kg nursery pigs.* Midwest American Society of Animal Science. March 2017.
 73. Knox, A., L. Ochoa, and **L. Greiner**. *Correlating sampling methods to porcine circovirus type w (PCV2) viremia status of sows and piglets in a sow herd with or without PCV2 revaccination during gestation.* American Association of Swine Veterinarians Annual Meeting. March 2017.
 72. **Greiner, L.**, J. Connor, B. Knopf, A. Graham, L. Ochoa and R. Harrell. *Evaluation of nutrient availability when using feed disinfection in nursery diets.* American Association of Swine Veterinarians Annual Meeting. March 2017.
 71. Bloemer, M., E. Jablonski, L. Ochoa, A. Lower, and **L. Greiner**. *Impact of sow parity on the influenza A (IAV-S) infection timing of the suckling pig in an endemic herd.* American Association of Swine Veterinarians Annual Meeting. March 2017.
 70. **Greiner, L.** and J. Connor. *Abstract # 070. Evaluation of Compost Bays to Test Positive for PEDv/PDCov on Clinically Active Farms.* International Pig Veterinary Society. June 2016.
 69. Lowe, J., R. McCann, **L. Greiner**, and B. Hollis. *Abstract #084 Factors that influence mechanical transmission of Porcine Reproductive and Respiratory Syndrome Virus at Slaughter Plant Lairage.* International Pig Veterinary Society. June 2016.
 68. Munoz, R., **L. Greiner**, J. Connor and J. Rice. *Abstract # Auditing a cleaning and disinfection trailer-transportation protocol with AccuPoint® Advanced.* International Pig Veterinary Society. June 2016.
 67. Arend, L., R. V. Knox, **L. Greiner**, A. Graham, and J. Connor. *Abstract #329. Effects of feeding melatonin during proestrus and early gestation in gilts and PI sows to minimize the effects of seasonal infertility.* Midwest American Society of Animal Science. March 2016.
 66. **Greiner, L.**, A. Graham, R. Harrell, B. Knopf, and J. Connor. *Abstract #151 Evaluation of copper source addition in the grow-finish phase.* Midwest American Society of Animal Science. March 2016.
 65. **Greiner, L.**, A. Graham, K. Touchette, and C. Neill. *Abstract #261 The evaluation of increasing lysine or feed amounts in late gestation on piglet birth weights.* Midwest American Society of Animal Science. March 2016.
 64. **Greiner, L.**, A. Graham, B. Knopf, R. Harrell, and Y. Ma. *Abstract #247 Effect of feeding protease at two soybean meal inclusion rates for nursery pigs.* Midwest American Society of Animal Science. March 2016.
 63. **Greiner, L.**, A. Graham, B. Knopf, R. Harrell, and J. Connor. *Abstract #250 Evaluation of bovine plasma in early nursery pig diets.* Midwest American Society of Animal Science. March 2016.
 62. Wurtz, T., **L. Greiner**, J. Waddell, E. Fano, and R. Edler. *Determining the prevalence of Mycoplasma hyopneumoniae colonization of weaned piglets from gilt litters.* American Association of Swine Veterinarians Annual Meeting. March 2016.
 61. **Greiner, L.** *Evaluation of the risk of a feed mill being contaminated with PEDV or PDCoV.* American Association of Swine Veterinarians Annual Meeting. March 2016.
 60. **Greiner, L.**, A. Graham, B. Knopf, and W. Plocher. *Abstract #233 Evaluating the effects of sodium sesquicarbonate in the grow-finish phase fed during summer months.* Midwest American Society of Animal Science. March 2016.
 59. **Greiner, L.**, J. Connor, B. Knopf, A. Graham, L. Ochoa, and B. Harrell. *Evaluation of nutrient availability when using feed disinfection in nursery diets.* American Association of Swine Veterinarians. March 2016.
 58. **Greiner, L.**, A. Graham, and K. J. Touchette. *Abstract #110. The tryptophan:lysine requirement of grow-finish pigs.* Midwest American Society of Animal Science. March 2015.
 57. **Greiner, L.**, A. Graham, M. Tegtmeier, K. J. Touchette, and S., Jungst. *Abstract #153. The determination of amount of feed grade lysine usage in lactating sows.* Midwest American Society of Animal Science. March 2015.

56. Graham, A., K. J. Touchette, S. Jungst, M. Tegtmeier, J. Connor, and **L. Greiner**. *Abstract# 145. Impact of feeding level postweaning on wean to estrus interval, conception and farrowing rates and subsequent farrowing performance*. Midwest American Society of Animal Science. March 2015.
55. Shen, J., **L. Greiner**, J. Connor, and R. Knox. *Effect of timing and gilt relocation from group pens to individual stalls on measures of fertility and well-being*. American Association of Swine Veterinarians Annual Meeting. March 2015.
54. Greiner, L. J. Connor, A. Graham, J. Mellor, and J. Lowe. *Evaluation of a PED vaccine on piglet mortality and sow immunity*. American Association of Swine Veterinarians. March 2015.
53. Drebes, D., **L. Greiner**, E. Nelson, M. Murtaugh, D. King, and J. Connor. *The effect of translactational antibodies on preweaning mortality in a porcine epidemic diarrhea virus exposed herd*. American Association of Swine Veterinarians. March 2015.
52. Johnson, H., **L. Greiner**, A. Lower, J. Prickett, J. Waddell, and J. Lowe. *Evaluation of diagnostic sampling types to evaluate porcine epidemic diarrhea virus shedding status after known exposure to replacement gilts*. American Association of Swine Veterinarians. March 2015.
51. **Greiner., L.**, D. Classen, N. Eddy, and J. Connor. *Abstract O163. Understanding PEDv timeline of exposure based on clinical findings*. International Pig Veterinary Society (IPVS) Congress. June 2014.
50. **Greiner, L.**, R. Barrett, A. Graham, and J. Connor. *The evaluation of narasin in grow-finish swine diets*. International Pig Veterinary Society (IPVS) Congress. June 2014.
49. **Greiner, L.**, J. Remus, D. D. Hall, R. D. Boyd, R. J. Harrell and J. Connor. *Abstract 146. The impact of natural betaine to lactating sows during periods of heat stress*. Midwest American Society of Animal Science. March 2014.
48. Matthews, N., **L Greiner**, C. R. Neill, S. Jungst, B. Fields, R. C. Johnson, and A. Sosnicki. *Abstract 335. Effect of feed form (mash vs. pellets) and ractopamine on pork fat quality*. Midwest American Society of Animal Science meeting. March 2014.
47. Daniels, A., **L. Greiner**, and D. King. *Evaluation of PRRSV contamination of drivers' boots and foot pedals during feed truck deliveries*. American Association of Swine Veterinarians. March 2014.
46. O'Connor, C., J. Connor, D. Classen, and **L Greiner**. *The evaluation of PRRSV transfer via tattooing in the suckling piglet*. American Association of Swine Veterinarians. March 2014.
45. Cowles, B., **L. L. Greiner**, D. Neuberger, G. P. Nitzel, and D. M. Amodie. *Comparative Evaluation of One and Two dose PCV/M.hyo Vaccination Protocols in Swine Challenged with PCV and M. hyo*. American Association of Swine Veterinarians. March 2014.
44. Cowles, B., **L. L. Greiner**, D. Neuberger, G. P. Nitzel, and D. M. Amodie. *Comparative Evaluation of One and Two dose PCV/M.hyo Vaccination Protocols in Swine Challenged with PCV and M. hyo*. Allen D. Lemman Swine Conference. September 2013.
43. **Greiner, L.**, R. Barrett, and J. Connor. *The impact of immunological castration on wean to finish body weight variation*. Allen D. Lemman Swine Conference. September 2013.
42. **Greiner, L.**, Z. Jiang, C. Neill, J. Connor, and G. Allee. *Abstract O049. Evaluation of tryptophan to lysine ratio in sow lactation diets*. Midwest American Society of Animal Science meeting. March 2013.
41. **Greiner, L.**, Z. Jiang, C. Neill, J. Connor, and G. Allee. *Abstract O077. Evaluation of various inclusion rates of dried distillers grain with solubles in sow lactation diets*. Midwest American Society of Animal Science meeting. March 2013.
40. Shelton, N. W., J.L. Nelssen, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. M. DeRouchey, **L. L. Greiner**, J. Connor, and J. C. Woodworth. *Abstract P090. Effects of dietary L-carnitine and chromium picolinate on sow reproductive performance*. Midwest American Society of Animal Science meeting. March 2013.
39. Johnson, L., **L. Greiner**, D. King, D. Classen. *Poster 5. Two whole-herd vaccinations as mitigation of influenza virus in breed-to-wean farms*. American Association of Swine Veterinarians Annual Meeting. March 2013.
38. Fombelle, W., **L. Greiner** and J. Waddell. *Poster 26: Evaluating the persistence of PRRSV in prior exposed vasectomized teaser boars, mature gilts, and young sows within a breeding herd*. American Association of Swine Veterinarians Annual Meeting. March 2013.
37. Hopgood, M., **L. Greiner**, J. Connor, J. Salak-Johnson, R. Knox. *Abstract #656. Effect of Day of*

- Mixing Gestating Sows on Measures of Reproduction and Animal Well-being*. National American Society of Animal Science Meetings. July 2011.
36. Zhao, J., **L. Greiner**, G. Allee, M. Vazquez-Anon, C. D. Knight, R. J. Harrell. *Abstract #W212. Improved Retention Rates and Reduced Culling for Lameness for Sows Fed a Chelated Trace Mineral Blend*. National American Society of Animal Science Meetings. July 2011.
 35. Zhao, J., **L. Greiner**, G. Allee, M. Vazquez-Anon, C. D. Knight, R. J. Harrell. *Abstract #W213. A Blend of Chelated Trace Minerals Improved Sow Cumulative Reproduction and Farrowing Rate*. National American Society of Animal Science Meetings. July 2011.
 34. **Greiner, L.L.**, J.A. Soto, J.F. Connor, G.L. Allee. *Effect of increasing feeding levels in sows during late gestation on piglets birth weights*. Midwest American Society of Animal Science Annual Meeting. March 2011. p. 86.
 33. **Greiner, L.L.**, J. Usry, C. Neill, N. Williams, J. Soto, J. Connor, and G. Allee. *The evaluation of lysine requirements in third parity lactation sow diets*. Midwest American Society of Animal Science Annual Meeting. March 2011. p. 64.
 32. **Greiner, L.L.**, J. Usry, C. Neill, N. Williams, J. Soto, J. Connor, and G. Allee. *The use of crystalline amino acids in lactating sow diets*. Midwest American Society of Animal Science Annual Meeting. March 2011. pp. 64-65.
 31. **Greiner, L.L.**, J. Matthews, C. Neill, N. Williams, G. Allee, J. Connor, S. Jungst, and A. Sosnicki. *Determination of the SID lysine requirement of the 7 to 12 kilogram pig under commercial conditions*. Midwest American Society of Animal Science Annual Meeting. March 2011. p. 62.
 30. Connor, J.F., **L. Greiner**, J. A. Soto, and G.L. Allee. *Effect of increasing feeding levels in sows during late gestation on piglets birth weights*. Midwest American Society of Animal Science Annual Meeting. March 2011.
 29. **Greiner, L.**, J. Lowe. *The Influence of Fetal PCV2 Infection on Lifetime Performance and Vaccine Efficacy*, CRWAD Annual Meeting. 2010.
 28. **Greiner, L.**, R. Hinson, G. Allee, A. Yersin, A. Lamptey, and B. Kremer. *Effect of Chromium Propionate Supplementation of Growth Performance and Carcass Traits from Wean to Finish Pigs*. Midwest American Society of Animal Science. March 2010.
 27. Zhao, J., **L. Greiner**, M. Vazquez-Anon, C. D. Knight, R. J. Harrell. *Abstract #W233. Improved Piglet Birth Weight by Feeding Sows an Organic Trace Mineral Blend*. National American Society of Animal Science Meetings. July 2010.
 26. Zhao J, **L. Greiner**, N. Keith, M. Vazquez-Anon, C. D. Knight, and R. J. Harrell. *Improved Retention Rates and Reduced Culling for Lameness for Sows Fed a Chelated Trace Mineral Blend*, Allen D. Lemman Swine Conference. September 2010.
 25. Connor J, J. Crenshaw, J. Campbell, L. Russell, **L. Greiner**, and J. Soto. *Effect of spray-dried plasma fed during gestation on pig performance at weaning*. Allen D. Lemman Swine Conference. September 2010.
 24. Connor, J., K. Greiner, **L. Greiner**, and J. Lowe. *Comparison of Mycoplasma Hyopneumoniae Vaccination Regimens in Pigs Under Mhyo Pressure*. American Association of Swine Veterinarians. March 2010.
 23. Reiman, J., C. Folkerts, **L. Greiner**, J. Lowe, J. Connor, and R. White. *Bacterial infection of the navel cord blood clot in neonatal piglets: prevalence and clinical outcomes*. American Association of Swine Veterinarians. March 2010.
 22. Allee, G. L., **L. Greiner**, J.L. Ursy and N. Williams. *The Use of Crystalline Amino Acids in Sow Lactation Diets*. Midwest American Society of Animal Science. March 2009.
 21. **Greiner, L.**, J. Soto, J. Connor, G.L. Allee, J.L. Usry, and Noel Williams. *The Evaluation of Feeding Lactating Sows on Grams of Lysine Compared to Percent of Lysine in the Diet*. American Society of Animal Science Midwest Baker Symposium. March 2009.
 20. **Greiner, L. L.**, J. Patterson, G. Foxcroft, A. Cameron, T. Smith, A. Kummer, R. Schott, J. Connor, and C. Francisco. *The Effect of PG600 at Weaning on Sow Performance*, International Conference On Pig Reproduction (ICPR). 2009.
 19. Connor, J., J. Patterson, A. Cameron, T. Smith, A. Kummer, A. Schott, **L. Greiner**, and G. Foxcroft. *Responses to Exogenous Gonadotrohin Treatment in Contemporary Weaned Sows*. International Conference On Pig Reproduction (ICPR). 2009.

18. **Greiner, L.**, K. Greiner, J. Connor, K. Erlandson, S. Wu, and J. Barban. *Suvaxyn PCV2 One Dose Field Efficacy comparison Carthage Studies 1 and 5*. Allen D. Leman Conference. September 2009.
17. **Greiner, L.**, K. Greiner, J. Connor, and J. Soto. *Evaluation of Standard Deviation Associated with Piglet Weaning Weights Between 18 and 21 Days of Age*. American Association of Swine Veterinarians. March 2009.
16. **Greiner, L.**, J. Connor, J. Soto, and G. L. Allee. *Inclusion of Fat in Sow Lactation Diets Containing Dry Distillers Grain with Solubles*. American Association of Swine Veterinarians. March 2009.
15. **Greiner, L.**, J. Connor, X. Wang, and G. L. Allee. *The Feeding of Dry Distillers Grain with Solubles to Lactating Sows*. American Association of Swine Veterinarians. March 2009.
14. Connor, J., E. Schilling, **L. Greiner**, and J. Lowe. *Efficacy of Intensive Neonatal Piglet Care on Umbilical Hernias and Joint Infections*. American Association of Swine Veterinarians. March 2009.
13. Connor, J., J. Patterson, A. Cameron, T. Smith, A. Kummer, R. Schott, **L. Greiner**, and G. Foxcroft. *The Effect of PG600 at Weaning on Weaned Primiparous Sow Performance*. Banff Pork Seminar. February 2009.
12. Connor, J., K. Greiner, **L. Greiner**, K. Erlandson, S. Wu, and J. Barban. *Suvaxyn[®] PCV2 One Dose Field Efficacy Comparison Carthage Study I*. Allen D. Leman Conference. September 2008.
11. **Greiner, L.**, J. Connor, X. Wang, and G. L. Allee. *The Feeding of Dry Distillers Grain with Solubles to Lactating Sows*. Midwest American Society of Animal Science. March 2008. *J. Anim. Sci.* Vol. 86, E-Suppl. 3, 97.
10. Srichana, P., J.L. Usry, C.D. Knight, **L. Greiner**, and G.L. Allee. *Lysine requirement of lactating primiparous sows*. Midwest American Society of Animal Science. March 2007. *J. An. Sci.*, 2007, 84:Supplement 2, p. 180.
9. Srichana, P., J.L. Usry, C.D. Knight, **L. Greiner**, and G.L. Allee. *The use of crystalline amino acids in lactating primiparous sows diets*. Midwest American Society of Animal Science. March 2007. *J. An. Sci.*, 2007, 84:Supplement 2, p. 182.
8. **L. L. Greiner**, and M. A. Apicella. *Incorporation of Sialic Acid into Nontypeable Haemophilus influenzae Biofilm*. American Society of Microbiology Meeting. 2004.
7. **L. L. Greiner**, H. Watanabe, N. J. Phillips, J. Shao, B. W. Gibson, A. Morgan, and M. A. Apicella. *Nontypeable Haemophilus influenzae 2019 produces a biofilm containing sialic acid which may mimic mucin O-linked glycans*. Midwest Pathogenesis Meeting. 2004.
6. J. Jurcisek, **L. Greiner**, A. Zaleski, M. A. Apicella, J. Cowan, J. Shao, and L. O. Bakaletz. *Role of sialic acid and carbohydrate biosynthesis in biofilm formation by Nontypeable Haemophilus influenzae in the microenvironment of the chinchilla middle ear*. Midwest Pathogenesis Meeting. 2004.
5. M. A. Apicella, **L. L. Greiner**, and H. Watanabe. *Regulation and Biosynthesis of the Biofilm of Nontypeable Haemophilus influenzae*. American Society of Microbiology Meeting. 2003.
4. **Greiner, L.L.**, A. Zaleski, J. M. Cowan, and M. A. Apicella. *The role of the lipooligosaccharide synthesis gene (lsg) locus in Haemophilus influenzae airway epithelial cell adherence*. Midwest Pathogenesis Meeting. 2002.
3. **Greiner, L.L.**, A. Zaleski, J. M. Cowan, and M. A. Apicella. *The role of the lipooligosaccharide synthesis gene (lsg) locus in Haemophilus influenzae airway epithelial cell adherence*. Microbiology Departmental Meeting, University of Iowa. 2002.
2. **Greiner, L.L.**, T.S. Stahly, and T.J. Stabel, *Effects of dietary soy genistein on pig growth and immune response in virally challenged pigs*. Midwest American Society of Animal Science. 1999. *J. An. Sci.*, 1999, 77:Supplement 1, p. 46.
1. Stahly, T.S., B.T. Kremer, and **L.L. Greiner**, *Effect of dietary protein source (casein vs soy) on rate and efficiency of growth in pigs experiencing minimal and moderate exposure*. Midwest American Society of Animal Science. 1998. *J. An. Sci.*, 1998, 76:Supplement 1, p. 181.

Extension

Non-Refereed Extension Publications

4. **Greiner, L.** Mammary uptake of metabolites and requirements of energy and amino acids of hyperprolific sows during lactation. *International Pig Topics*. 2020. Available at: http://www.positiveaction.info/pdfs/articles/pt35_3p9.pdf
3. **Greiner, L.** Increasing biosecurity? Don't forget to manage feed ingredients. *Pork*. 2020. Available at: <https://www.porkbusiness.com/news/hog-production/increasing-biosecurity-dont-forget-manage-feed-ingredients>
2. Gabler, N., J. Patience, **L. Greiner**, and J. Ross. Nutritional approaches to reduce growth rates and feed intake. *National Hog Farmer*. 2020. Available at: <https://www.nationalhogfarmer.com/nutrition/nutritional-approaches-reduce-growth-rates-and-feed-intake>
1. **Greiner, L.** Boost Finishing Feed Efficiency. *Pork*. 2020. Available at: <https://www.porkbusiness.com/article/boost-finishing-feed-efficiency>

Non-Refereed Extension Publications prior to Iowa State University

11. **Greiner, L.** Opportunities for managing risk related to animal protein use in swine diets. 2014. Available at: <https://www.nationalhogfarmer.com/business/opportunities-managing-risk-related-animal-protein-use-swine-diets>
10. **Greiner, L.** Gestation diet's impact on piglet birth weight. *National Hog Farmer*. 2013. Available at: <https://www.nationalhogfarmer.com/nutrition/gestation-diet-s-impact-pig-birth-weights>
9. **Greiner, L.**, Zhao, J., Harrell, R., Allee, G., Knight, C. Chelated trace minerals support sow reproduction, *Feedstuffs*, June 4, 2012.
8. **Greiner, Laura L.** Understanding Umbilical Hernia's, *National Hog Farmer Magazine*. 2012. Available at: <https://www.nationalhogfarmer.com/health/understanding-umbilical-hernias>
7. Gilt development program improves sow performance. *National Hog Farmer*. 2010. Available at: <https://www.nationalhogfarmer.com/genetics-reproduction/archive/setting-up-sow-success-0215>
6. Trials study divergent sow feeding systems. *National Hog Farmer*. 2009. Available at: <https://www.nationalhogfarmer.com/genetics-reproduction/sow-gilt/0715-study-divergent-feeding-systems>
5. Sow feeder a key piece of the 30 P/S/Y puzzle. *National Hog Farmer*. 2007. Available at: https://www.nationalhogfarmer.com/mag/farming_sow_feeder_key
4. **Greiner, L.L.**, T.S. Stahly, and T. Stanton. Evaluation of the antimicrobial activity of natural animal proteins/peptides in vitro. 2000 Iowa State Swine Research Report, pp. 67-71
3. **Greiner, L.L.**, T.S. Stahly, and T.J. Stabel. Effect of dietary soy genistein on pig growth and viral replication during a viral challenge. 2000 Iowa State Swine Research Report, pp. 42-49
2. Greiner, L.L., T.S. Stahly, and T.J. Stabel. Quantitative effect of porcine reproductive and respiratory syndrome virus on pig growth and immune response. 1998 Iowa State Swine Research Report, pp. 51-54
1. Stahly, T.S., B.T. Kremer, and L.L. **Greiner**. Effect of protein source (casein vs soy) on growth in antigen exposed pigs. 1998 Iowa State Swine Research Report, pp. 16-18

Conference Proceedings prior to Iowa State University

12. **Greiner, L.** Feeding the reproductive female and using metrics to predict performance. *China Leman Conference*, October 2017.
11. **Greiner, L.** Using nutrition as a tool during health challenges. *China Leman Conference*, October 2017.
10. **Greiner, L.** Mycotoxins and understanding their impact. *China Leman Conference*, October 2017.
9. **Greiner, L.** Nutritional and management challenges and solutions in ABF swine. *Canadian Nutrition Conference*, May 2017.
8. **Greiner, L.** Feeding the reproductive female. *China Leman Conference*, October 2016.
7. **Greiner, L.** Optimizing reproductive swine rations. *China Leman Conference*, October 2016.
6. **Greiner, L.** Seasonal infertility mitigation. *China Leman Conference*, October 2016.
5. **Greiner, L.** Practical approaches to managing rotavirus in suckling piglets, *Allen D. Leman Conference*. September 2016.
4. **Greiner, L.** Nutrition concepts for early-weaned PEDV pigs and nutrition-related welfare concerns,

- American Association of Swine Veterinarians Annual Meeting*, 2015, 9-10.
3. **Greiner, L.** The Truth on Our Own Terms – Best Utilization of Research Barns, *American Association of Swine Veterinarians Annual Meeting*, 2011, 13-14.
 2. **Greiner, L., Connor, J. F., DVM, MSc; J. F. Lowe, DVM, MSc**, Comparison of Mycoplasma Hypopneumoniae Vaccination, *American Association of Swine Veterinarians Annual Meeting*, 2011, 245-247.
 1. **Greiner, L.** Maximizing Today's Sow Performance with Nutrition, *AASV Annual Meeting*, 2010, 37-39.

Invited Talks

NATIONAL

3. **Greiner, L.L.** Nutritional deficiencies and toxicities. 2020. Kentucky Veterinarian Forum.
2. **Greiner, L.L.** Nutrition and Feeding of the Modern Hyperprolific Sow. 2020. Midwest American Society of Animal Science Gary Allee Symposium.
1. **Greiner, L.L.** Understanding Today's Sow and Challenging Ourselves for the Future. 2020. Midwest American Society of Animal Science Gary Allee Symposium.

INTERNATIONAL

5. **Greiner, L.L.** Feeding the hyperprolific sow and sow management. 2020. Novus. Virtual.
4. **Greiner, L.L.** Estimating nutrient requirements of lactating sows. 2020. Tonsity Series. Virtual.
3. **Greiner, L.L.** Sow Feeding Does and Don'ts Podcast. SwineIt Podcast. February 2020. >1,200 plays. <https://www.swineit.com/>
2. **Greiner, L.L.** Nutrition. 2020. Swine It – Elite Swine Nutritionist Program. Virtual. 11 individuals.
1. **Greiner, L.L.** Mammary Uptake of Metabolites and Requirements of Energy and Amino Acids of Hyperprolific Sows. 2020. Novus Nutrition of Hyperprolific Sows Forum, Dusseldorf, Germany.

Invited Talks prior to Iowa State University

REGIONAL

12. **Greiner, L.L.** "Understanding FSMA" 2017 Carthage Veterinary Service, Ltd. Twenty-sixth Annual Swine Health and Production Conference, Macomb, IL
11. **Greiner, L.L.** "Ractopamine Alternatives" 2017 Carthage Veterinary Service, Ltd. Twenty-sixth Annual Swine Health and Production Conference, Macomb, IL
10. **Greiner, L.L.** "Nutritional Tools for Feed Efficiency" 2016 Carthage Veterinary Service, Ltd. Twenty-sixth Annual Swine Health and Production Conference, Macomb, IL
9. **Greiner, L.L.** "Effect of Timing and Relocation of Replacement Gilts" and "PEDv – Shedding Duration, Immunity and Vaccine" 2015 Carthage Veterinary Service, Ltd. Twenty-fifth Annual Swine Health and Production Conference, Macomb, IL
8. **Greiner, L.L.** "Removing Animal Protein – Risks and Management" and "Diet Adjustments during a PRRS Outbreak" 2014 Carthage Veterinary Service, Ltd. Twenty-fourth Annual Swine Health and Production Conference, Macomb, IL
7. **Greiner, L.L.** "Lactation Feeding – What's Important" 2013 Carthage Veterinary Service, Ltd. Twenty-third Annual Swine Health and Production Conference, Macomb, IL
6. **Greiner, L.L.** "Feeding for Profitability" 2012 Carthage Veterinary Service, Ltd. Twenty-second Annual Swine Health and Production Conference, Macomb, IL
5. **Greiner, L.L.** "Effect Day of Mixing Gestating Sows" 2012 Carthage Veterinary Service, Ltd. Twenty-second Annual Swine Health and Production Conference, Macomb, IL
4. **Greiner, L.L.** "Farrowing Paradigm Shift – Challenging Historical Production Practices" 2011 Carthage Veterinary Service, Ltd. Twenty-first Annual Swine Health and Production Conference, Macomb, IL
3. **Greiner, L.L.** "Montessori School: Alternative Ingredients" 2010 Carthage Veterinary Service, Ltd. Twentieth Annual Swine Health and Production Conference, Macomb, IL

2. **Greiner, L.L.** “Go to a Cafeteria or Order in Restaurant? Which is Better for Gestating Sows?” 2009 Carthage Veterinary Service, Ltd. Nineteenth Annual Swine Health and Production Conference, Macomb, IL
1. **Greiner, L.L.** “When Cotton Candy and Corn Dogs Just Don’t Do It: Feeding the Lactating Sow” 2009 Carthage Veterinary Service, Ltd. Nineteenth Annual Swine Health and Production Conference, Macomb, IL

NATIONAL

7. **Greiner, L.L.** “Practical approaches to managing rotavirus in suckling piglets” 2016 Allen D. Leman Conference, St. Paul, MN.
6. **Greiner, L.L.** “Putting It All Together” 2012 American Association of Swine Veterinarians
5. **Greiner, L.L.** “The Truth on Our Own Terms – Best Utilization of Research Barns” 2011 American Association of Swine Veterinarians
4. **Greiner, L.L.** “Maximizing Today’s Sow Performance with Nutrition” 2010 American Association of Swine Veterinarians
3. **Greiner, L.L.** “Sow Feeding Systems: Matching the Feeding System to the Biology of the Sow” 2010 Leman Swine Conference, St. Paul, MN.
2. **Greiner, L.L.** “Impact of Nutrition on Sow Physiology” 2010 Midwest American Society of Animal Science Billy Day Symposium, Des Moines, IA.
1. **Greiner, L.L.** “Field Efficacy Comparison of Suvaxyn[®] PCV2 One Dose and Two Other Commercial PCV Vaccines: Carthage Trial Update” 2009 American Association of Swine Veterinarians

INTERNATIONAL

10. **Greiner, L.L.** “Nutrition requirement and management of nursery pigs: how to get to 32 kg in 70 days” 2016 Novus China Swine Academy, Beijing, China.
9. **Greiner, L.L.** “Nutritional and management strategies to optimize feed efficiency of grow-finish swine”, and Strategies of the weaned piglet: how to balance growth and gut health” 2016 Novus China Swine Academy, Beijing, China.
8. **Greiner, L.L.** “Strategies of the weaned piglet: how to balance growth and gut health” 2016 Novus China Swine Academy, Beijing, China.
7. **Greiner, L.L.** “Feeding the Reproductive Female” 2016 China Leman Conference, Nanjing, China.
6. **Greiner, L.L.** “Optimizing Reproductive Swine Rations” 2016 China Leman Conference, Nanjing, China.
5. **Greiner, L.L.** “Seasonal Infertility Mitigation” 2016 China Leman Conference, Nanjing, China.
4. **Greiner, L.L.** “Sow Amino Acid Requirements During Lactation” 2016 Eastern Canada Nutrition Conference, Quebec City, Canada
3. **Greiner, L.L.** “Update on Sow Nutrition” 2012 Swine Summit – Minnesota; North Carolina; Guelf, Canada.
2. **Greiner, L.L.** “Sow Nutrition” 2010 Swine Summit – Minnesota; North Carolina; Iowa; Guelf, Canada; Queretaro, Mexico; Guadalajara, Mexico
1. **Greiner, L.L.** Presenter to the 2009 World Pork Exposition “Value of Swine Research in Commercial Facilities”

Teaching

Primary Teaching Assignments

Animal Science 225: Swine Science. Sole Instructor 2019-2020. Taught in the Spring and Fall. 3 credit hours. Elective. Introduction to the principles, practices and decisions necessary when raising swine through a vertically integrated production cycle. Students have the ability to interact with swine during a lab period which is offered one day a week throughout the semester. The students learn skills such as boar

collection, animal breeding, farrowing, lactation, and growth and development as well as genetics and meat quality. A special project for the class allows the students to farrow and care for a sow and her litter for the period of one week while working on career skills such as group communication and leadership.

Animal Science 280-XF. On-line Basic Swine Science. Co Instructor with Dr Jodi Sterle (S' 2020). 2 credit hours. Elective. Can be taken Spring and Fall. Students learn the basic to swine production and swine science. Class is open to students in multiple universities.

Animal Science 380G. Nursey and Finisher Management. Sole Instructor. 1 credit hour. Elective. Can be taken in the Spring. Students learn the principles around nursery and finisher management. Class is open to students at multiple universities.

Animal Science 490-A. Independent Studies in Animal Science. Sole Instructor 2019-2020. (Section LG). 1 to 3 credit hours (repeatable for maximum of 6 credits). Elective. Can be taken Spring, Summer, and Fall. Open to juniors and seniors in animal science and dairy science showing satisfactory preparation for problems chosen. Individual topic conference and preparation of report.

Animal Science 490-H. Sole Instructor 2020. (Section LG). Cr. 1-3. Repeatable, maximum of 6 credits. F.S.SS. Prerequisite: *permission of the instructor*. Open to juniors and seniors in animal science and dairy science showing satisfactory preparation for problems chosen. Individual topic conference and preparation of report. A maximum of 6 credits of An S 490 may be applied toward the total credits required for graduation.

Animal Science 497. Undergraduate Teaching Experiences in Animal Science. Sole Instructor 2019-2020. (Section LG). Cr. 1-2. Repeatable, maximum of 4 times. F.S.SS. Prerequisite: permission of instructor. Development of oral and written communication skills of technical concepts in animal science. Emphasis on organizational skills, conducting activities and interpersonal communication skills. Responsibilities in a class under direct supervision of a faculty member. A maximum of 4 credits of An S 497 may be applied toward graduation.

Undergraduate posters (n=)

1. Holland, S. Evaluation of entero-mammary pathway in sows. Honors Project. 2020.

Graduate Student Advising

Currently serving as Major Professor on Program of Study (n = 3)
 Currently serving as Co Major Professor on Program of Study (n = 1)
 Currently Serving as Program of Study Committee Member (n = 3)
 Completed Program of Study Committee Member (n=2)

Preparing Future Faculty

Mentored (n=2)

Guest Class Lecturer/University Speaker

Class	Title	Title	Semester
ANS 320	Animal Feeds and Feeding	Feeding the Sow	Spring 2020
ANS 190	Livestock Handling	Swine PQA	Spring 2020
ANS 210	Career Preparation in Animal Science	Handling difficult situations in the workplace panel	Fall 2019
ANS 210	Career Preparation in Animal Science	Handling difficult situations in the workplace panel	Spring 2019

Block and Bridle Iowa State Corn Growers	Challenges and Opportunities in the Swine Industry The value of corn in the livestock industry	Spring 2018 Spring 2018
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Courses taken to improve teaching skills

3. *Project Based Learning Workshop*. Iowa State University CELT Course. 2020
2. *Engagement Strategies for Every Classroom*. Iowa State University CELT Seminar. 2019
1. *Navigating Controversial Topics in the Classroom*. Iowa State University CELT Seminar. 2019

Professional Practice

Departmental & Institutional Service

On-going

6. *ISU Feed Mill & Grain Science Complex - Feed Mill Management Team*. 2020-2021.
5. *Information Technology Committee*. 2020-2021.
4. *Curriculum Committee*. 2020-2021.
3. *Chuckwagon Breakfast/Graduate BBQ Committee*. 2019-2021.
2. *Roundup Committee*. 2019-2021.
1. *Seminar Committee*. 2019-2021.

Completed

3. *An S Dairy Assistant Faculty Search Committee*. 2020.
2. *An Sc Department Enhancement Program (DEP) Committee*. 2020.
1. *An Sc Department Chair Search Committee*. 2019-2020.

Clubs - Advising

4. *Block and Bridle Dog Show Advisor*, 2020. This is a committee within the main organization that sets up an annual dog show for local youth.
3. *Block and Bridle Jr. Advisor*, 2020. The Block and Bridle Club is one of the largest organizations at Iowa State. They have many interest groups that focus on different livestock species and have guest speakers approximately once a month to talk about topics associated with the animal agriculture industry. In addition, the club hosts many activities throughout the year for youth and others interested in livestock. <https://www.stuorg.iastate.edu/site/blockandbridleclub>
2. *Block and Bridle Swine Interest Group*, 2019-2020. This is a special interest group of the Block and Bridle Club. They organize a fall tour for members to visit both commercial production, agricultural businesses and show stock. The club invites a few guest speakers throughout the semester.
1. *Block and Bridle Philanthropy Advisor*, 2019-2020. This is a special interest group of the Block and Bridle Club. They focus on two projects a year. This year they cleaned up the Animal Science Department farms and packed meals for an organization called "Hunger Fight". The group was able to secure over \$5,000 to purchase food for those in need and organized one day during the fall to package 50,000 meals.

Professional Associations

2. American Association of Swine Veterinarians. 2009 to present.
1. American Society of Animal Science. 1997 to present

Awards, Honors and Recognition

7. Iowa State Research Excellence Award. Master's Thesis, 1999
6. Iowa State Miller Fellowship. 1997-2001
5. Golden Key National Honor Society. 1995-1996
4. Phi Kappa Phi. 1995-1996
3. Gamma Sigma Delta. 1995-1996
2. Alpha Zeta. 1994-1996
1. Iowa State University Honors Program. 1994-1996

Peer Review for Scientific Journals

4. Journal of Animal Science. 2017-2020
3. Journal of Swine Health and Production. 2017-2020
2. Animals. 2019-2020
1. Journal of Animal Science and Biotechnology. 2019-2020