# CASSANDRA KATHERINE JONES

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### **EMPLOYMENT**

2012 - Present Assistant Professor of Feed Technology

Department of Grain Science & Industry Kansas State University, Manhattan

Appointment: 40% research, 40% teaching, 20% outreach

### **EDUCATION**

2009 - 2012	Doctor of Philosophy in Nutritional Sciences
	Iowa State University, Ames, Iowa
	Dissertation Title: Characterizing the fallback pig
2007 - 2009	Master of Science in Animal Science
	Kansas State University, Manhattan, Kansas

Thesis Title: Effects of dietary enzymes or specialty proteins on nursery pig performance

2004 - 2007 Bachelor of Science in Agriculture

Kansas State University, Manhattan, Kansas

Major: Animal Sciences & Industry

### **TEACHING**

**TEVAL Raw Score Report Summary Evaluation Scale of 1 (low) to 5 (high)** 

Courses	<b>TEVAL Evaluation Items</b>	2012	2013	2014	2015	2016
	Number of Students:	132	107	117	109	
GRSC 101 Introduction to	(1) Teaching Effectiveness	4.2	4.6	4.6	4.7	
Grain Science (Fall)	(11) Increased Desire to Learn	4.1	4.3	4.5	4.4	
	(14) Amount Learned in Course	4.2	4.4	4.4	4.5	
	Number of Students:		10	18	23	21
GRSC 661/561 Qualities of	(1) Teaching Effectiveness		4.6	4.7	4.6	4.9
Feed Ingredients (Spring)	(11) Increased Desire to Learn		4.7	4.7	4.4	4.7
	(14) Amount Learned in Course		4.8	4.7	4.5	4.9
GRSC 790 Principles and	Number of Students:			9		17
Analytical Methods in	(1) Teaching Effectiveness			5.0		4.9
Animal Feed Safety (Even	(11) Increased Desire to Learn	4.8				4.8
Spring)	(14) Amount Learned in Course	4.8				4.8

## **Supervision of Undergraduate Research**

Ashton Yoder, FSM<sup>1,2,3,4</sup>; Wyatt Ross, FSM; Ethan Franz, ASI<sup>1,2</sup>; Maithili Mane, FSM; Julie Kalivoda, ASI<sup>4</sup>; Ericka Manring, FSM; Cole Rickabaugh, FSM; Shelby Droddy, AGEC<sup>1</sup>; Ira Parsons, FSM<sup>1,4</sup>; Savannah Stewart, FSM<sup>2,3</sup>; Sarah Mathe, FSM<sup>2</sup>; Larisa Sica, ASI<sup>2</sup>, Dianna Zamora, Garden City CC<sup>2,4</sup>

<sup>1</sup>Presented at Gamma Sigma Delta Undergraduate Research Showcase; <sup>2</sup>Presented at Regional/National Meeting; <sup>3</sup>Peer-Reviewed Manuscript Author, <sup>4</sup>Later Attended/Plans to Attend Graduate/Professional School

**Advising:** Academic advisor for 27 current undergraduate students, led restructuring of program advising assignments; leader of program recruitment, prospective student visits, orientation, activities. Program enrollment has increased by 25% during since 2012, including 100% increase in female enrollment. Individual advising score of 4.00/4.00 in all years assessed: 2012, 2013, and 2014.

**Supervision of Graduate Degree Candidates** 

Student Name	Degree	Starting Date	Graduation or Estimated Date	Present Position
Landon Lewis	MS	Aug-12	Graduated 2014	Phibro Animal Health
Grace Bokelman	MS	Aug-13	Graduated 2015	NUTRIQUEST
Roger Cochrane <sup>1,2</sup>	MS	Jan-14	Graduated 2015	Ph.D. Student - KSU
Andrea Jeffrey <sup>3</sup>	MS	Jun-14	May 2016	
Loni Schumacher <sup>2</sup>	MS	Oct-14	May 2016 (with Dritz, VDPAM)	
Mary Muckey <sup>4</sup>	MS	Jun-15	May 2017	
Roger Cochrane <sup>5</sup>	PhD	Aug-15	May 2018	

<sup>&</sup>lt;sup>1</sup>Department Outstanding M.S. Student, International Ingredients Pinnacle Award for outstanding graduate research contribution in the area of feed ingredients; <sup>2</sup>Timothy R. Donoghue Graduate Program Scholar; <sup>3</sup>AR Association of Food Protection First Place Poster Presentation; <sup>4</sup>AR Association of Food Protection Third Place Poster Presentation; <sup>5</sup>K-State Presidential Doctoral Scholarship for outstanding students researching in one of the research strength areas at K-State

### **Member on Graduate Degree Candidate Committees**

Jonathon Wilson, Ph.D., Jon De Jong, Ph.D., Shelby DeNoya, M.S., Morgan Gray, M.S., Alaina Mooney, M.S., Analena Simmons, M.S., Julie Kalivoda, M.S., Marut Saensukjaroenphon, M.S., Isabella Alvarenga, M.S.

### RESEARCH

### **Peer-Reviewed Journal Publications (20)**

- 1. De Jong, J.A., R.D. Goodband, J.M. DeRouchey, M.D. Tokach, S.S. Drtiz, J.C. Woodworth, C.K. Jones, and C.R. Stark. 2016. Effects of wheat source and particle size in meal and pelleted diets on finishing pig growth performance, carcass characteristics, and nutrient digestibility. J. Anim. Sci. *Accepted*.
- 2. Zhu, L., C.K. Jones, Q. Guo, L.L. Lewis, C.R. Stark, and S. Alavi. 2016. An evaluation of total starch and starch gelatinization methodologies in pelleted swine feed. *Accepted*.
- 3. <u>Schumacher, L.L.</u>, J.C. Woodworth, **C.K. Jones**, Q. Chen, J. Zhang, P.C. Gauger, C.R. Stark, R.G. Main, R.A. Hesse, M.D. Tokach, and S.S. Dritz. 2016. Minimum infectious dose of porcine epidemic diarrhea virus in a feed matrix. Amer. J. Vet. Res. *Accepted*.
- 4. Dee, S., C. Neill, T. Clement, E. Nelson, A. Singrey, J. Christopher-Hennings, C.K. Jones, R.A. Cochrane, G. Patterson, and G. Spronk. Modeling the transboundary risk of feed ingredients. contaminated with porcine epidemic diarrhea virus. BMC Vet. Rsrch. 12:51-63.
- 5. <u>Cochrane, R.A.</u>, S.S. Dritz, J.C. Woodworth, C.R. Stark, A.R. Huss, and C.K. Jones. 2016. Feed mill biosecurity plans: A systematic approach to prevent biological pathogens in swine feed. J. Swine Health Prod. 26(3):154-164.
- 6. <u>Cochrane, R.A.</u>, A.R. Huss, G.C. Aldrich, C.R. Stark, and **C.K. Jones**. 2016. Evaluating chemical mitigation of *Salmonella* typhimurium in animal feed ingredients. J. Food Protect. 79(4):672-676.
- 7. <u>Huss, A.R.</u>, R.A. Cochrane, C.R. Stark, and **C.K. Jones**. 2015. Evaluation of biological pathogen decontamination protocol for animal feed mills. J. Food Protect. 78(9):1682-1688.

- 8. <u>A.D. Yoder</u>, R.S. Beyer, and **C.K. Jones**. 2015. The effects of drought affected grain and carbohydrase inclusion in starter diets on broiler chick performance. J. Appl. Poult. Sci. 24:177-185
- 9. <u>Lewis, L.L.</u>, C.R. Stark, A.C. Fahrenholz, J.R. Bergstrom, and **C.K. Jones**. 2015. Evaluation of conditioning time and temperature on gelatinized starch and vitamin retention in a pelleted swine diet. J. Anim. Sci. 93:615-619.
- 10. Pilcher, C.M., C.K. Jones, M. Schroyen, A.J. Severin, J.F. Patience, C.K. Tuggle, and J.E. Koltes. 2015. Transcript profiles in longissimus dorsi muscle and subcutaneous adipose tissue: A comparison of pigs with different post-weaning growth rates. J. Anim. Sci. 93:2134-2143.
- 11. **Jones, C.K.**, E.L. Frantz, A. Bingham, J.R. Bergstrom, J.M. DeRouchey, and J.F. Patience. 2015. Effects of drought-affected corn and non-starch polysaccharide enzyme inclusion on nursery pig growth performance. J. Anim. Sci. 93:1703-1709.
- 12. <u>Lewis, L.L.</u>, C.R. Stark, A.C. Fahrenholz, M.A.D. Goncalves, J.M. DeRouchey, and **C.K. Jones**. 2015. Effects of pelleting conditioner retention time on nursery pig growth performance. J. Anim. Sci. 93:1098-1102.
- 13. **Jones, C.K.,** M.D. Tokach, J.L. Usry, C.R. Neill, and J.F. Patience. 2014. Evaluating lysine requirements of nursery pigs fed low protein diets with different sources of non-essential amino acids. J. Anim. Sci. 92:3460-3470.
- 14. **Jones, C.K.,** D.M. Madson, R.G. Main, N. K. Gabler, and J.F. Patience. 2014. Poor weaning transition ADG is not correlated with pathological or immunological markers of enteric disease during a PRRSV outbreak. J. Anim. Sci. 92:2568-2577.
- 15. **Jones**, C.K., and J.F. Patience. 2014. Variation in nutrient digestibility and energy intake are key contributors to differences in post-weaning growth performance. J. Anim. Sci. 92:2105-2115.
- 16. **Jones, C.K.**, N. K. Gabler, R.G. Main, and J.F. Patience. 2012. Characterizing growth and carcass composition differences in pigs with varying weaning weights and post-weaning performance. J. Anim. Sci. 90:4072-4080.
- 17. Sulabo, R.C., C.K. Jones, M.D. Tokach, R.D. Goodband, S.S. Dritz, D.R. Campbell, B.W. Ratliff, J.M. DeRouchey, and J.L. Nelssen. 2011. Factors affecting storage stability of various commercial phytase sources. J. Anim. Sci. 89:4262-4271.
- 18. **Jones, C.K.**, M.D. Tokach, S.S. Dritz, B.W. Ratliff, N.L. Horn, R.D. Goodband, J.M. DeRouchey, R.C. Sulabo, and J.L. Nelssen. 2010. Efficacy of different commercial phytase enzymes and development of an available phosphorus release curve for *Escherichia coli*-derived phytases in nursery pigs. J. Anim. Sci. 88:3631-3644.
- 19. **Jones, C.K.**, J.R. Bergstrom, M.D. Tokach, J.M. DeRouchey, R.D. Goodband, J.L. Nelssen, and S.S. Dritz. 2010. Efficacy of commercial enzymes in diets containing various concentrations and sources of dried distillers grains with solubles for nursery pigs. J. Anim. Sci. 88:2084-2091.
- 20. **Jones, C.K.**, J.M. DeRouchey, J.L. Nelssen, M.D. Tokach, S.S. Dritz, and R.D. Goodband. 2010. Effects of fermented soybean meal and specialty animal protein sources on nursery pig performance. J. Anim. Sci. 88:1725-1732.

### **Inventions**

 Jones, C.K., R.A. Cochrane, J.C. Woodworth, S.S. Dritz. Chemical mitigants in animal feed and feed ingredients U.S. Patent No. US2015061564, International Application Number PCT/US15/61564.

## **Peer-Reviewed Abstracts Presented or Submitted (66)**

1. Dee, S., C. Neill, T. Clement, A. Singrey, J. Christopher-Hennings, E. Nelson, G. Spronk, G. Patterson, R. Cochrane, and C.K. Jones. 2016. Modeling the transboundary risk of feed ingredients contaminated with porcine epidemic diarrhea virus. International Pig Veterinary Society Congress.

- 2. <u>Muckey, M.B.</u>, A.R. Huss, and C.K. Jones. 2016. The evaluation of surface disinfectants to reduce *Salmonella* contamination on animal food manufacturing surfaces. J. Anim. Sci. 99(E2)168.
- 3. Kalivoda, J.R., C.K. Jones, and C.R. Stark. 2016. Effects of grain particle size and separation fraction on ground corn flowability. J. Anim. Sci. 99(E2)167.
- 4. De Jong, J.A., J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.C. Woodworth, C.K. Jones, C.R. Stark, H.E. Williams, L. McKinney, G. Smith, and B. Haberl. Effects of feed truck unloading and swine barn feed line location on pellet quality and nutrient segregation. American Society of Animal Science Midwest Meeting. J. Anim. Sci. 99(E2)166. *Midwest American Society of Animal Science Young Scholars Award*.
- 5. De Jong, J.A., J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.C. Woodworth, C.K. Jones, C.R. Stark, C.L. Bradley, J.A. Loughmiller, and J.R. Bergstrom. Stability of commercial phytase products under increasing thermal conditioning temperatures. J. Anim. Sci. 99(E2)214.
- 6. De Jong, J.A., J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.C. Woodworth, **C.K. Jones**, C.L. Bradley, J.A. Loughmiller, and J.R. Bergstrom. Stability of commercial phytase products stored under different environmental conditions. J. Anim. Sci. 99(E2)241.
- 7. <u>Huss, A.R.</u>, L.L. Schumacher, R.A. Cochrane, E. Poulsen, J. Bai, J.C. Woodworth, S.S. Dritz, C.R. Stark, and **C.K. Jones**. Proof-of-concept methods to sanitize a feed mill contaminated with Porcine Epidemic Diarrhea Virus. J. Anim. Sci. 99(E2)217.
- 8. <u>Huss, A.R.</u>, A. Deliephan, J.C. Fuller, and C.K. **C.K. Jones**. Coating dog kibble with a commercial liquid acidifier reduces the risk of *Salmonella* cross-contamination. J. Anim. Sci. 99(E2)216.
- 9. Cochrane, R.A., M. Saesukjaroenphon, S.S. Dritz, J.C. Woodworth, A.R. Huss, C.R. Stark, J.M. DeRouchey, R.D. Goodband, J. Bai, Q. Chen, J. Zhang, P.C. Gauger, R.G. Main, and C.K. Jones. Evaluating the inclusion level of medium chain fatty acids to reduce the risk of PEDV in feed and spray-dried animal plasma. J. Anim. Sci. 99(E2)107.
- 10. Schumacher, L.L., R.A. Cochrane, C.E. Evans, J.R. Kalivoda, J.C. Woodworth, C.R. Stark, C.K. Jones, Q. Chen, R.G. Main, J. Zhang, P.C. Gauger, S.S. Dritz, and M.D. Tokach. 2016. Evaluating the effect of manufacturing porcine epidemic diarrhea virus (PEDV)-contaminated feed on subsequent feed mill environmental surface contamination. J. Anim. Sci. 99(E2)164.
- Schumacher, L.L., R.A. Cochrane, J.C. Woodworth, C.R. Stark, C.K. Jones, Q. Chen, R.G. Main, J. Zhang, P.C. Gauger, S.S. Dritz, and M.D. Tokach. 2016. Utilizing feed sequencing to decrease the risk of porcine epidemic diarrhea virus (PEDV) cross-contamination during feed manufacturing. J. Anim. Sci. 99(E2)163. National Pork Board Swine Innovation Award for Research.
- 12. Gebhardt, J.T., M.D. Tokach, J.C. Woodworth, J.M. DeRouchey, R.D. Goodband, K.F. Coble, C.R. Stark, C.K. Jones, and S.S. Dritz. Effects of grinding corn thorugh a 2-, 3-, or 4-high roller mill on milling characteristics, finishing pig growth performance, and carcass characteristics. J. Anim. Sci. 99(E2)126. First Place Ph.D. Poster Presentation.
- 13. Gebhardt, J.T., J.A. De Jong, M.D. Tokach, J.C. Woodworth, J.M. DeRouchey, R.D. Goodband, K.F. Coble, C.R. Stark, C.K. Jones, and S.S. Dritz. Effects of grinding corn through a 2-, 3-, or 4-high roller mill on pig performance and feed preference of nursery pigs. J. Anim. Sci. 99(E2)215.
- 14. <u>Sica, L.G.</u>, R.A. Cochrane, J.C. Woodworth, S.S. Dritz, C.R. Stark, and **C.K. Jones**. 2016. Effects of commercial formaldehyde inclusion and lysine level on pig performance of nursery pigs. J. Anim. Sci. 99(E2)410.
- 15. <u>Jeffrey, A.M.</u>, G.C. Aldrich, A.R. Huss, C. Knueven, and **C.K. Jones**. 2016. Effect of a dry acidulant coating on the palatability of dry extruded dog food. J. Anim. Sci. 99(E2)242.
- 16. <u>Zamora, D.F.</u>, A.R. Huss, A. Deliephan, and **C.K. Jones**. 2016. The effects of a dry acidulant on *Salmonella* contamination in poultry feed. Emerging Researchers National Conference in STEM.

- 17. Cochrane, R.A., L.L. Schumacher, S.S. Dritz, J.C. Woodworth, C.K. Jones, A.R. Huss, C.R. Stark, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.F. Bai, Q. Chen, J.Q. Zhang, P.C. Gauger, and R.G. Main. 2016. Effect of thermal mitigation of Porcine Epidemic Diarrhea Virus. American Association of Swine Veterinarians Annual Meeting.
- 18. Dee, S., C. Neil, A. Singrey, R. Cochrane, C. Jones, J. Christopher-Hennings, and E. Nelson. 2016. Modelling transboundary risk of PEDV: introduction of the virus to the US from China via contaminated feed ingredients in the presence or absence of treatment. American Association of Swine Veterinarians Annual Meeting.
- 19. <u>Huss, A.R.</u>, M.B. Muckey, A. Deliephan, G.C. Aldrich, and C.K. Jones. 2015. Rendered animal fats as a potential carrier of *Salmonella* into pet food and animal feeds: a preliminary study. AR Association of Food Protection Symposium.
- 20. <u>Muckey, M.B.</u>, A.R. Huss, C. Knueven, and C.K. Jones. 2015. Preliminary research evaluating a dry granular product for decontamination of *Salmonella* in pet food and feed manufacturing facilities. AR Association of Food Protection Symposium.
- 21. <u>Jeffrey, A.M.</u>, **C.K. Jones**, C.G. Aldrich, A.R. Huss, and C. Knueven. 2015. Time and dry acidulant addition substantially reduce *Salmonella* concentration in extruded dog food. J. Anim. Sci. 91(E2)504.
- 22. <u>Cochrane, R.A.</u>, A.R. Huss, and **C.K. Jones**. 2015. Evaluating the efficacy of chemicals to mitigate *Salmonella* cross contamination in rendered protein meals. J. Anim. Sci. 91(E2)787.
- 23. <u>Huss, A.R.</u>, R.A. Cochrane, A. Deliephan, C.R. Stark, and C.K. Jones. 2015. Reduction of biological hazards in animal feed mills via a decontamination protocol. J. Anim. Sci. 91(E2)T172...
- 24. <u>Jeffrey, A.M.</u>, C.K. Jones, C.G. Aldrich, A.R. Huss, and C. Knueven. 2015. Identifying sources of *Salmonella* contamination in animal feed and pet food facilities.. Anim. Sci. 91(E2)W95.
- 25. <u>Yoder, A.D.</u>, G.E. Bokelman, and **C.K. Jones**. 2015. Effects of corn particle size and diet form on nursery pig growth performance. J. Anim. Sci. 91(E2)T74.
- 26. Saensukjaroenphon, M., C. Fahrenholz, C.K. Jones, D. Stone, I. Parsons, and C.R. Stark. 2015. Effect of salt particle size and extended mixing times on the mixing uniformity of a corn-soy swine diet. J. Anim. Sci. 91(E2)282.
- 27. Mooney, A., C.G. Aldrich, **C.K. Jones**, and S.Alavi. 2015 The effect of processing and elevated storage temperature on Omega-3 fatty acid stability in pet food. J. Anim. Sci. 91(E2)W103.
- 28. Kalivoda, J.R., C.K. Jones, and C.R. Stark. 2015. Effect of sieving methodology on determining particle size of ground corn, sorghum, and wheat by sieving. J. Anim. Sci. 91(E2)123.
- 29. Gray, M., C.G. Aldrich, C.K. Jones, and M. Gibson. 2015. The impact of rendered protein meal level of oxidation on shelf life and acceptability in extruded pet foods. J. Anim. Sci. 91(E2)W105.
- 30. Trible, S.D., C.G. Aldrich, and **C.K. Jones**. 2015. Effects of thiamin type, species meat versus livers, and sulfite addition on water-soluble B-vitamins in a canned cat diet. J. Anim. Sci. 91(E2)W97.
- 31. Schumacher, L.L., J.C. Woodworth, J. Zhang, P.C. Gauger, R.G. Main, S.S. Dritz, R.A. Cochrane, and C.K. Jones. 2015. Determining the minimum infectious dose of Porcine Epidemic Diarrhea Virus in a feed matrix. J. Anim. Sci. 93(E2)160.
- 32. **Jones, C.K.**, C.R. Stark, S.S. Dritz, A.R. Rigdon, and J.C. Woodworth. 2015. Recent research into feed processing and biosafety. J. Anim. Sci. 932(E2)161.
- 33. <u>Cochrane, R.</u>, S. S. Dritz, J. C. Woodworth, and **C. K. Jones**. 2015. Evaluating chemical mitigation of PEDv in swine feed and ingredients. J. Anim. Sci. 92(E2)090.
- 34. <u>Bokelman, G. E., K. F. Coble, C. R. Stark, J. C. Woodworth, M. D. Tokach, S. Alavi, and C. K. Jones.</u> 2015. Using extreme thermal processing to improve nutrient utilization of diets for finishing pigs. J. Anim. Sci. 92(E2)142.
- 35. <u>Jeffrey, A. M.</u>, C. K. Jones, C. G. Aldrich, A. Rigdon, and C. Kneuven. 2015. Effects of dry acidulant coating on Salmonella contamination in commercial kibble. J. Anim. Sci. 92(E2)417.

- 36. Cochrane, R., C. R. Stark, A. R. Huss, C. G. Aldrich, C. J. Knueven, J. Pitts, and C. K. Jones. 2015. Biological pathogen mitigation in animal feed using a dry acid powder. J. Anim. Sci. 92(E2)089.
- 37. Vesco, A.C., C.K. Jones, L.C. Grimes, T.H. Fountain, B.R. Faris, and A.K. Sexten. 2015. Determining growth performance implications on meat goat kids fed soybean hull or corn based pelleted diets. J. Anim. Sci. 92(E2)054.
- 38. Acosta, J. A., S. Gould, C. K. Jones, C. R. Stark, and J. F. Patience. 2015. Impact of particle size and grinding method on apparent total tract digestibility of energy in grower and finisher pigs. J. Anim. Sci. 92(E2)141.
- 39. De Jong, J. A., J. M. DeRouchey, M. D. Tokach, R. D. Goodband, S. S. Dritz, C. B. Paulk, J. C. Woodworth, C. K. Jones, and C. R. Stark. 2015. Effects of wheat source and particle size in pelleted diets on finishing pig growth performance and caloric efficiency. J. Anim. Sci. 92(E2)308.
- 40. De Jong, J. A., J. M. DeRouchey, M. D. Tokach, R. D. Goodband, J. C. Woodworth, C. K. Jones, C. R. Stark, J. A. Erceg, and L. McKinney. 2015. Formation of fines during the pelleted feed manufacturing process and the resulting differences in nutrient composition of fines and pellets. J. Anim. Sci. 92(E2)140.
- 41. <u>Mathe, S.L.</u>, C.W. Starkey, and **C.K. Jones**. 2015. Evaluating the correlation between water activity and percentage moisture in rendered protein meals. International Poultry Scientific Forum. P243.
- 42. Zhu, L., L. Lewis, C. K. Jones, Y. C. Shi, and S. Alavi. 2014. A comparative student on two testing methods for degree of gelatinization in pelleted swine feed. American Association of Cereal Chemists International Annual Meeting. Accepted.
- 43. DeNoya, S., C. G. Aldrich, and C. K. Jones. 2014. Effects of processing on water soluble B-vitamins in a canned cat diet. J. Anim. Sci. 92(E2)0183.
- 44. Gray, M., C. G. Aldrich, and C. K. Jones. 2014. Evaluation of common analysis methods for oxidation in rendered protein meals used to produce pet foods. J. Anim. Sci. 92(E2)0186.
- 45. Mooney, A., C. G. Aldrich, C. K. Jones, and S. Alavi. 2014. The effect of extrusion and elevated storage temperatures on vitamin retention in pet food. J. Anim. Sci. 92(E2)0182.
- 46. Simmons, A., T. Zhou, M. Remund, T. Putarov, S. Alavi, C. G. Aldrich, C. K. Jones, and E. Maichel. 2014. Use of gelatin as a strengthening agent in dry extruded pet food. J. Anim. Sci. 92(E2)0978.
- 47. <u>Yoder, A. D.</u>, C.W. Ross, **C.K. Jones**, A.C. Bingham, R.S. Beyer, and C.G. Aldrich. 2014. Implications of drought stress on corn or sorghum utilization in broiler chicks. J. Anim. Sci. 92(E2)243.
- 48. <u>Lewis, L.L.</u>, **C.K. Jones**, A.C. Fahrenholz, C.R. Stark, M.A. Gonclaves, and J.M. DeRouchey. 2014. Effects of conditioning motor speed and diet form on growth performance of 12-21 kg nursery pigs. J. Anim. Sci. 92(E2)157.
- 49. <u>Bokelman, G.E.</u>, J.R. Kalivoda, C.K. Jones, M.D. Tokach, J.M. DeRouchey, and C.R. Stark. 2014. Effects of corn particle size and diet form on growth performance of 6-22 kg nursery pigs. J. Anim. Sci. 92(E2)158.
- 50. <u>Frantz, E., H.L. Frobose, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J.R. Bergstrom, and C.K. Jones.</u> 2014. Effects of drought-affected corn and non-starch polysaccharide enzymes on nursery pig performance. J. Anim. Sci. 92(E2)234.
- 51. <u>Pilcher, C.M.</u>, **C.K. Jones**, M. Schroyen, J.E. Koltes, A.J. Severin, J.F. Patience, and C.K. Tuggle. 2014. Gene expression profiling of longissiumus dorsi and adipose tissue in pigs with differing post-weaning growth rate. J. Anim. Sci. 92(E2)110.
- 52. Hancock, J.D., M.E. Morts, R.S. Beyer, and C.K. Jones. 2013. Maintaining High Quality Swine and Poultry Diets with Non-Traditional Ingredients. J. Anim. Sci. 91(E2)504.

- 53. **Jones, C.K.**, D.M. Madson, R.G. Main, N.K. Gabler, and J.F. Patience. 2012. Periweaning failure to thrive syndrome in nursery pigs is associated with gastrointestinal lesions, but not enteric pathogens. J. Anim. Sci. 90(E3)580.
- 54. **Jones, C.K.**, N.K. Gabler, and J.F. Patience. 2012. Porcine periweaning failure to thrive syndrome is driven by poor appetite and nutrient digestibility, but not ileal morphology or absorptive capacity. XII International Symposium on Digestive Physiology of Pigs Program and Book of Abstracts. p. 55-56.
- 55. **Jones, C.K.** and J.F. Patience. 2012. Post-weaning transition ADG can serve as a tool to manage within-barn variation. J Anim. Sci. 90(E1)184.
- 56. **Jones, C.K.**, J.A. Acosta, M.D. Tokach, J.L. Usry, C.R. Neill, and J.F. Patience. 2011. Feed efficiency of 7- to 16-kg pigs is maximized when additional Lys is supplied by L-Lys·HCl instead of intact protein, but is not affected when diets are supplemented with differing sources of NEAA nitrogen. J. Anim. Sci. 89(E1)439.
- 57. **Jones, C.K.**, R.G. Main, N.K. Gabler, and J.F. Patience. 2011. Both weaning weight and postweaning growth performance affect nutrient digestibility and energy utilization in pigs. J. Anim. Sci. 89(E2)131.
- 58. **Jones, C.K.**, N.K. Gabler, R.G. Main, and J.F. Patience. 2011. Irrespective of differences in weaning weight, feed efficiency is not different among pigs with varying average daily gain. J. Anim. Sci. 89(E2)81.
- 59. Patience, J.F., A.L. Chipman, and C.K. Jones. 2011. Impact of a fermented soybean meal product and/or a candida utilis yeast product on nutrient utilization and growth performance of weanling pigs. J. Anim. Sci. 89(E2)112.
- 60. Patience, J.F., A.L. Chipman, C.K. Jones, and T. Scheer. 2011. Varying corn particle size distribution affects the digestibility of energy for the growing pig. J. Anim. Sci. 89(E2)127.
- 61. Pilcher, C.M., A. Greco, C.R. Hurburgh, G.P. Munkvold, C.K. Jones, and J.F. Patience. Determining the energy digestibility of mold-damaged corn selected for low mycotoxin content in finishing pigs. J. Anim. Sci. 89(E1)755.
- 62. **Jones, C.K.**, M.D. Tokach, R.D. Goodband, S.S. Dritz, D.R. Campbell, B.W. Ratliff, J.M. DeRouchey, and J.L. Nelssen. 2010. Stability of various commercial phytase sources. J. Anim. Sci. 88(E3)117.
- 63. **Jones, C.K.**, M.D. Tokach, B.W. Ratliff, N.L. Horn, S.S. Dritz, R.D. Goodband, J.M DeRouchey, and J.L. Nelssen. 2009. Efficacy of varying phytase levels and development of a P release curve. J. Anim. Sci. 87(E3)65.
- 64. **Jones, C.K.**, J.M. DeRouchey, J.L. Nelssen, M.D. Tokach, S.S. Dritz, and R.D. Goodband. 2009. Effects of PepSoyGen (PSG) and Dried Porcine Solubles 50 (DPS 50) on nursery pig performance. J. Anim. Sci. 87(E3)101.
- 65. **Jones, C.K.**, J.R. Bergstrom, M.D. Tokach, J.M. DeRouchey, J.L. Nelssen, S.S. Dritz, and R.D. Goodband. 2009. Effects of commercial enzymes in diets containing dried distillers' grains with solubles (DDGS) on nursery pig performance. J. Anim. Sci. 87(E3)83.
- 66. **Benz, C.K.**, M.D. Tokach, C.J. Groesbeck, S.S. Dritz, R.D. Goodband, J.L. Nelssen, J.M. DeRouchey. 2006. A Comparison of Bygholm Feed Sieve to standard particle-size analysis techniques. J. Anim. Sci. 84(E2)52.

# **Awarded Grants, Gifts, and Contracts** (\$2.6 mil. total + \$1.9 mil. USDA in process; \$1.6 mil. as PI) *Primary investigator*

- 1. Assessing the effects of medium chain fatty acids and fat sources on PEDV infectivity. National Pork Board. Co-PI: R. Cochrane, A. Huss, J. Woodworth, S. Dritz, C. Stark, R. Goodband, M. Tokach, J. DeRouchey.
- 2. Compilation of a Food Safety Preventive Controls Animal Food Training Curriculum. United States Department of Health and Human Services. Co-PI: C. Stark and B. Miller. 2015-2018.

- 3. Evaluation of Amasil NA and pelleting to mitigate Salmonella in a broiler diet. BASF Corporation. Co-PI: C. Stark. 2015-2016.
- 4. Evaluating the effects of conditioning temperature and probiotic levels on resulting probiotic stability. Kay Dee, LLC. Co-PI: C. Stark. 2015-2016.
- 5. Evaluating the effects of Magnesium-Mica on pellet quality and aflatoxin concentration in animal feeds. Micro-Lite, LLC. Co-PI: C. Stark. 2015-2016.
- 6. Creation of a Porcine Epidemic Diarrhea Virus factsheet for pork producers. National Pork Board. 2015-2016.
- 7. Preliminary evaluation of a chemical additive to mitigate *Salmonella* in kibble. Metabolic Technologies, Inc. Co-PI: A. Huss. 2015-2016. Organization and development of an online curriculum to train qualified individuals based on content adapted from the current Rendering Code of Practice. National Renderers Association. Co-PI: B. Miller. 2015-2017.
- 8. Evaluating the effects of pelleting temperature on enzyme stability. Dyadic International, Inc. 2015-2016.
- 9. Evaluating alternative chemical mitigants to prevent PEDv recontamination of swine feed and ingredients. United States Department of Agriculture and National Pork Board Joint Funding Directive. Co-PI:C. Stark, A. Huss, R. Main, P. Gauger, J. Zhang, J. Woodworth, M. Tokach, and S. Dritz. 2015-2016.
- 10. Feed and petfood safety and global competitiveness of U.S. Grain and Feed. USDA National Institute of Food and Agriculture. Co-PI: G. Aldrich, R. Ambrose, D. Maier, J. DeRouchey, and M. Tokach. 2012-2017.
- 11. Developing video training modules for feed mill biosecurity from Porcine Epidemic Diarrhea Virus. PIC International. Co-PI: S. Dritz, J. Woodworth, and C. Stark. 2014-2015.
- 12. Evaluating the effects of betaGRO on broiler growth performance and breast meat yield. NUTRIQUEST. Co-PI: C. Stark, R. Beyer. 2014-2015.
- 13. Post-contamination chemical mitigation strategies to control PEDv in feed and feed ingredients. National Pork Board. Co-PI: M. Tokach, C. Stark, J. Bai, R. Hesse, and S. Dritz. 2014-2015.
- 14. Evaluating the use of long-term conditioning or extrusion to extract nutrients from low energy feedstuffs. National Pork Board. Co-PI: C. Stark, M. Tokach, J. Woodworth, J. DeRouchey. 2014-2015.
- 15. Start-up validation of the Cargill Feed Safety Research Center. College of Agriculture. Co-PI; C. Stark. 2014-2015.
- 16. Assessing the efficacy of chemical treatment to control *Salmonella* in rendered protein meals. Fats and Proteins Research Foundation. Co-PI: G. Aldrich, A. Rigdon. 2014-2015.
- 17. Food safety inspection training for bulk agricultural product handling and processing. United States Health & Human Services Food & Drug Administration. Co-PI: D. Maier, L. McKinney. 2012-2014. (PI during FY13 and FY14).
- 18. Effects of HP 300 on pelletability and pellet quality in early swine diets. Hamlet Proteins. Co-PI: C. Stark. 2013-2014.
- 19. Evaluating the effects of Novasil Plus on pelletability and pellet quality in early swine diets. BASF. Co-PI: C. Stark. 2013-2014.
- 20. ADVANCE Distinguished Lecture Series. Kansas State University ADVANCE. 2013.
- 21. Strategies for eliminating *Salmonella* in animal feeds. Jones-Hamilton. Co-PI: G. Aldrich, K. Channaiah. 2012-2014.
- 22. Determining the stability and homogeneity of Amasil NA for regulatory approval in United States swine and poultry feed. BASF. 2012-2013.
- 23. Demonstrating the improved profitability of cereal grains during drought conditions to the poultry industry through further processing and Roxazyme G2 enzyme inclusion. DSM Nutritional Products. 2012-2013.

### Co-investigator

- 1. Assessing PEDV infectivity of samples collected from a PEDV contaminated feed. National Pork Board and Iowa State University. PI: P. Gauger, J. Woodworth, C. Jones, S. Dritz, R. Main, and J. Zhang. 2015-2016.
- 2. Evaluating the effects of chemical treatments to reduce the likelihood of PEDV transmission by feed manufacturing equipment. National Pork Board. PI: J. Woodworth. Co-PI: C. Jones, S. Dritz, C. Stark, R. Goodband, M. Tokach, J. DeRouchey. 2015-2016.
- 3. Feed and Dairy Student Team China. U.S. Soybean Export Council. PI: C. Campabadal Teran. Co-PI: M. Brouk, B. Miller, H. O'Neil, C. Stark, and C. Jones. 2015-2016.
- 4. Determining the impact of Vevovital and/or CRINA as potential PEDv mitigation strategies as determined by PCR analysis and bioassay. DSM Nutritional Products. PI: J. Woodworth, Co-PI: S. Dritz, C. Jones, J. DeRouchey, M. Tokach, B. Goodband.
- 5. Novel feed processing methods of cold pelleting and find ground corn segregation to maximize feed efficiency, nutrient utilization, and economic return. National Pork Board. PI: C. Stark. Co-PI: C. Jones, J. DeRouchey, J Woodworth, M. Tokach, A. Huss, and K. Ambrose. 2015-2016.
- 6. Improving wireless access to livestock teaching and research facilities. Kansas State University Academic Excellence Fund. PI: M. Tokach. Co-PI: D. Davis, J. Stevenson, J. Drouillard, C. Carson, C. Jones, and S. Dritz. 2014-2015.
- 7. Utilizing feed sequencing as a biosecurity intervention for preventing PEDV cross contamination in the feed manufacturing process. National Pork Board. PI: J. Woodworth. Co-PI: C. Stark, R. Main, J. Zhang, C. Jones, P. Gauger, S. Dritz, and M. Tokach.
- 8. Swine teaching and research center feeders equipment grant. Kansas State University Academic Excellence Fund. PI: J. DeRouchey. Co-PI: M. Tokach, C. Jones, and S. Dritz. 2014-2015.
- 9. Determining the impact of conditioning time and temperature in pelleted diets on PEDv. National Pork Board. PI: J. Woodworth. Co-PI: M. Tokach, J. DeRouchey, R. Goodband, C. Jones, C. Stark, R. Hesse, and S. Dritz. 2014-2015.
- 10. Should producers invest in 2-high, 3-high, or 4-high roller mills? National Pork Board. PI: M. Tokach. Co-PI: J. Woodworth, J. DeRouchey, R. Goodband, C. Stark, C. Jones, and S. Dritz. 2014-2015.
- 11. Introducing new profit streams for grain sorghum: milling characteristics and inclusion considerations for use in pet foods. United Sorghum Checkoff Program. PI: G. Aldrich. Co-PI: F. Churchill, C. Jones, C. Miller, and J. Hancock. 2013-2015.
- 12. Continuing expansion of the Department of Grain Science and Industry's Distance Learning Program Stand Alone Minor Programs. Division of Continuing Education. PI: H. Dogan. Co-PI: J. Faubion, D. Krishock, M. Moore, K. Ambrose, and C. Jones. 2012-2014
- 13. Evaluating moderate to severe feed processes in light of increasing use of wheat in swine diets. National Pork Board. PI: M. Tokach. Co-PI: C. Paulk, J. De Jong, J. DeRouchey, C. Jones, and R. Goodband. 2013-2014.
- 14. Maximizing Kansas soybean utilization by determining the economic and growth implications when including soy hulls and soybean meal in pelleted growing kid diets. Kansas Soybean Commission. PI: B. Faris. Co-PI: A. Sexten, C. Jones. 2013-2014.
- 15. Cochran Program on Animal Production and Management. USDA. PI: C. Campabadal. Co-PI: C. **Jones**, D. Maier, and C. Stark. 2013-2014.
- 16. Evaluation of techniques used to extend shelf-life and methods for analysis of rendered protein meals in pet foods. Fats and Proteins Research Foundation. PI: G. Aldrich. Co-PI: C. Jones, L. McKinney, and R. Ambrose. 2012-2014.
- 17. Development of an online training course for advanced feed safety and associated quality protocols. American Feed Industry Association. PI: B Miller. Co-PI: C. Jones, C. Campabadal, and H. Cook. 2012-2013

### **Books, Book Chapters, and Factsheets**

- 1. Preventive Controls for Animal Food Exercise Workbook. Jones, C.K., C.R. Stark, B.M. Miller, and A.C. Fahrenholz, eds. Illinois: Food Safety Preventive Controls Alliance, 2016. Electronic.
- 2. <u>Cochrane, R.A.</u> and **C.K. Jones**. *The Role of PEDV in Feed: Current Knowledge and Understanding*. National Pork Board. Des Moines, IA: In-House Publishing, 2016. Print.
- 3. Feed Pelleting Reference Guide. Jones, C.K., C.R. Stark, and A.C. Fahrenholz, eds. Illinois: WATT Ag Net, 2014. Electronic.
- 4. Neil, C.R., J.M. DeRouchey, and C.K. Jones. Feed Manufacturing. In: *PIC Nutrient Specifications Manual 2013*. PIC USA. Hendersonville, TN: In-House Publishing, 2013. Print.

### **EXTENSION/OUTREACH**

### **Extension Publications (28)**

- 1. <u>Bokelman, G.E., K.F. Coble, C.R. Stark, J.C. Woodworth, M.D. Tokach, and C.K. Jones.</u> Evaluation of extreme thermal processing methods to improve nutrient utilization of low-energy diets for finishing pigs. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 2. <u>Bokelman, G.E.,</u> J.A. De Jong, J.R. Kalivoda, A.D. Yoder, C.R. Stark, J.C. Woodworth, and C.K. **Jones**. Finley grinding cereal grains in pelleted diets offers little improvement in nursery pig growth performance. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 3. <u>Bokelman, G.E., S.C.</u> Stewart, A.L. Baldridge, J.C. Woodworth, S.S. Dritz, J.R. Kalivoda, C.R. Stark, and **C.K. Jones**. Evaluating the accuracy of the 3-sieve particle size analysis method compared to the 12-sieve method. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 4. <u>Cochrane, R.A.,</u> L.G. Sica, J.C. Woodworth, S.S. Dritz, C.R. Stark, and **C.K. Jones.** Effects of commercial formaldehyde inclusion and Lys level on pig performance of 35- to 50-lb nursery pigs. 2015 Kansas State University Swine Day, KS Agric, Exp. Stn. Res. 1:7.
- 5. <u>Cochrane, R.A.,</u> S.S. Dritz, J.C. Woodworth, A.R. Huss, C.R. Stark, R.A. Hesse, J. Zhang, M.D. Tokach, J.F. Bai, and **C.K. Jones**. Evaluating chemical mitigation of Porcine Epidemic Diarrhea Virus in Swine Feed and Ingredients. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 6. <u>Cochrane, R.A.,</u> L.L. Schumacher, S.S. Dritz, J.C. Woodworth, A.R. Huss, C.R. Stark, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, J. Bia, Q. Chen, J. Zhang, P.C. Gauger, R.G. Main, and **C.K. Jones**. Effect of thermal mitigation of Porcine Epidemic Diarrhea Virus-Contaminated Feed. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 7. Schumacher, L.L., R.A. Cochrane, J.C. Woodworth, C.R. Stark, C.K. Jones, R.G. Main, J. Zhang, P.C. Gauger, S.S. Dritz, and M.D. Tokach. Utilizing feed sequencing to decrease the risk of Porcine Epidemic Diarrhea Virus cross-contamination during feed manufacturing. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 8. <u>Schumacher, L.L.,</u> R.A. Cochrane, J.C. Woodworth, C.R. Stark, C.K. Jones, R.G. Main, J. Zhang, P.C. Gauger, S.S. Dritz, and M.D. Tokach. Evaluating the effect of manufacturing PEDV-contaminated feed n subsequent feed mill environmental surface contamination. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 9. Schumacher, L.L., R.A. Cochrane, J.C. Woodworth, C.R. Stark, C.K. Jones, R.G. Main, J. Zhang, P.C. Gauger, S.S. Dritz, and M.D. Tokach. Determining the minimum infectious dose of Porcine Epidemic Diarrhea Virus in a Feed Matrix. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 10. Kalivoda, J.R., C.K. Jones, and C.R. Stark. Effects of varying methodologies on grain particle size analysis. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 11. Gebhardt, J.T., K.F. Coble, M.D. Tokach, J.M. DeRouchey, R.D. Goodband, J.C. Woodworth, C.R. Stark, C.K. Jones, and S.S. Dritz. Effects of grinding corn through a 2-, 3-, or 4-high roller

- mill on milling characteristics, and finishing pig growth performance and carcass characteristics. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 12. Gebhardt, J.T., J.A. De Jong, M.D. Tokach, J.C. Woodworth, J.M DeRouchey, R.D. Goodband, K.F. Coble, C.R. Stark, C.K. Jones, and S.S. Dritz. Effects of grinding corn through a 2-, 3-, or 4-high roller mill on pig performance and feed preference of 25- to 50-lb nursery pigs. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 13. De Jong, J.A., J.M. DeRouchey, B. Habert, H. Williams, M.D. Tokach, R.D. Goodband, J.C. Woodworth, S.S. Dritz, C.R. Stark, L. McKinney, C.K. Jones, and D. Van Otterloo. Effects of feed truck RPM on pellet quality, unloading speed, and feed line location on pellet quality and nutrient segregation. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 14. De Jong, J.A., J.C. Woodworth, J.M. DeRouchey, M.D. Tokach, R.D. Goodband, S.S. Dritz, C.K. Jones, and C.R. Stark. Stability of four commercial phytase sources under increasing conditioning temperature. 2015 Kansas State University Swine Day. KS Agric. Exp. Stn. Res. 1:7.
- 15. <u>Lewis, L.L.</u>, **C.K. Jones**, A.C. Fahrenholz, M.A.D. Gonclaves, C.R. Stark, and J. M. DeRouchey. Feed Processing Parameters and their Effects on Nursery Pig Growth. Kansas State University Swine Research 2013:81-89. KS Agric. Exp. Stn. #13-1092.
- 16. **Jones, C.K.**, E.L. Franz, H.L. Frobose, J.M. DeRouchey, R.D. Goodband, M.D. Tokach, and J. R. Bergstrom. Effects of Roxazyme G2G and/or Ronozyme VP enzyme inclusion on growth performance of nursery pigs fed normal or drought-stressed corn. Kansas State University Swine Research 2013:90-94. KS Agric. Exp. Stn. #13-1092.
- 17. **Jones, C.K.,** N.K. Gabler, and J.F. Patience. 2012. Post-weaning failure to thrive in pigs is associated with increased organ weights and possible anemia, but not changes in intestinal function. Iowa State University Animal Industry Report. AS-Leaflet-R2734.
- 18. **Jones, C.K.** and J.F. Patience. 2012. Birth weight and post-weaning failure to thrive affect subsequent growth performance, but not nursery nutrient digestibility or carcass composition of pigs. Iowa State University Animal Industry Report. AS-Leaflet-R2733.
- 19. **Jones, C.K.** and J.F. Patience. 2012. Feed efficiency in nursery pigs is maximized when additional Lys is supplied by L-Lys·HCl instead of intact protein, but not affected by differing NEAA nitrogen sources. Iowa State University Animal Industry Reports. AS-Leaflet-R2735.
- 20. **Jones, C.K.,** N.K. Gabler, R.G. Main, and J.F. Patience. 2011. Both weaning weight and post-weaning growth performance affect nutrient digestibility and energy utilization in pigs. Iowa State University Animal Industry Report. AS-Leaflet-R2654.
- 21. **Jones, C.K.,** N.K. Gabler, R.G. Main, and J.F. Patience. 2011. Irrespective of differences in weaning weight, feed efficiency is not different among pigs with varying average daily gain. Iowa State University Animal Industry Report. AS-Leaflet-R2652.
- 22. Greco, A., C.R. Hurburgh, G.P. Munkvold, J.F. Patience, C.K. Jones, and C.M. Pilcher. 2011. Defining the feeding value of moldy corn selected for low mycotoxin content. Iowa State University Animal Industry Report. AS-Leaflet-R2656.
- 23. Sulabo, R.C., C.K. Jones, M.D. Tokach, R.D. Goodband, S.S. Dritz, D.R. Campbell, B.W. Ratliff, J.M. DeRouchey, and J.L. Nelssen. 2010. Factors affecting storage stability of various commercial phytase sources. Kansas State University Swine Research 2010:273-289. KS Agric. Exp. Stn. #10-1038.
- 24. Jones, C.K., M.D. Tokach, R.D. Goodband, J.L. Nelssen, S.S. Dritz, J.M. DeRouchey, and D. McKilligan. 2009. An evaluation of Peptone as a specialty protein source in diets for nursery pigs. Kansas State University Swine Research 2009:80-89. KS Agric. Exp. Stn. #9-1020.
- Jones, C.K., M.D. Tokach, B.W. Ratliff, N.L. Horn, S.S. Dritz, R.D. Goodband, J.M DeRouchey, and J.L. Nelssen. 2009. Efficacy of varying phytase levels and development of a P release curve. Kansas State University Swine Research 2009:106-121. KS Agric. Exp. Stn. #9-1020.

- Jones, C.K., J.M. DeRouchey, J.L. Nelssen, M.D. Tokach, S.S. Dritz, and R.D. Goodband. 2008. Effects of PepSoyGen and Dried Porcine Solubles 50 on nursery pig diets. Kansas State University Swine Research 2008:52-61.
- 27. **Jones, C.K.,** J.R. Bergstrom, M.D. Tokach, J.M. DeRouchey, J.L. Nelssen, S.S. Dritz, and R.D. Goodband. 2008. Effects of commercial enzymes in diets containing dried distillers grains with solubles for nursery pig performance. Kansas State University Swine Research 2008:117-125. KS Agric. Exp. Stn. #8-1001.
- 28. *Benz, C.K.*, M.D. Tokach, C.N. Groesbeck, S.S. Dritz, J.L. Nelssen, R.D. Goodband, and J.M. DeRouchey. 2005. A comparison of Bygholm Feed Sieve to standard particle-size analysis techniques. Kansas State University Swine Research 2005:184-189. KS Agric. Exp. Stn. #5-964.

### **Invited Presentations** (19)

- 1. **Jones, C.K.** Food Safety Modernization Act and Veterinary Feed Directive A path for swine feed manufacturers. Des Moines, IA. 7 June 2016.
- 2. **Jones, C.K.** C.R. Stark, and A.C. Fahrenholz. Preventive Controls for Animal Food Lead Instructor Course. Raleigh, NC. 16-19 May 2016.
- 3. **Jones, C.K.** New research on microbial reduction and sanitization with dry acidifier. Pet Food Forum. Kansas City, MO. 29 April 2016.
- 4. Derouchey, J.M., and **C.K. Jones**. Food Safety Modernization Act High points for swine producers and swine feed manufacturers. Pipestone, MN. 9 February 2016.
- 5. **Jones, C.K.** The impact of acidulants on *Salmonella* mitigation. Pet Food Experience. Manhattan, KS. 29 October 2015.
- 6. **Jones, C.K.** The science of pelleting. International Feed Efficiency Conference on Swine. Omaha, NE. 21 October 2015.
- 7. **Jones, C.K.** Methods to reduce the risk of biological hazards in animal feed. National Renderers Association Annual Convention. Dana Point, CA. 20 October 2015.
- 8. **Jones, C.K.** Survival of PEDV in feed, feed ingredients, and interventions: Feed mitigation strategies. Allen D. Leman Swine Conference. St. Paul, MN. 21 September 2015.
- 9. **Jones**, C.K. Verification and validation procedures for an Animal Food Safety Plan. Rendering Code of Practice Seminar. Denver, CO. 25 June 2015.
- 10. **Jones, C.K.** An overview of an Animal Food Safety Plan. Rendering Code of Practice Seminar. Denver, CO. 24 June 2015.
- 11. Stark, C.R. and **C.K. Jones**. Feed processing to improve animal performance. Eastern nutrition conference. Montreal, QB, Canada. 13 May 2015.
- 12. **Jones, C.K.** Identifying the science of pelleting. Elanco Full Value Nutrition Forum. San Antonio, TX. 16 April 2015.
- 13. **Jones, C.K.** Addressing requirements of the VFD and FSMA. Elanco Full Value Nutrition Forum. San Antonio, TX. 15 April 2015.
- 14. **Jones, C.K.** Recent research into feed processing and biosafety. American Society of Animal Science Meetings. Des Moines, IA. 18 March 2015.
- 15. **Jones, C.K.** Utilizing prerequisite programs to prevent PEDv contamination in feed. University of Minnesota assessing biosecurity in the swine feed supply chain. Online webinar. 2 October 2014.
- Jones, C.K. The regulatory side of animal feed. How PEDv will change current practices. Carlos Pijoan SDEC Symposium at Allen D. Leman Swine Conference. St. Paul, MN. 19 September 2014.
- 17. **Jones, C. K.** Training FDA Inspectors for the Food Safety Modernization Act. Current Research in Grain Handling and Storage: Solving the New Challenges Facing the Grain Industry. Grain Elevator and Processing Society Exchange 2014. Omaha, NE. 24 February 2014.
- 18. Jones, C. K. Let's Talk Innovation. American Feed Industry Association Pet Food Conference.

Atlanta, GA. 28 January 2013.

19. **Jones, C.K.** "Gambles of On-Farm Manufacturing: Complying with Increasing Regulations." VitaPlus Swine Summit. Jackpot Junction, MN. 21 March 2013.

#### SERVICE

### University

- Undergraduate Program Committee: Instituted potential curriculum changes to Feed Science & Management curriculum, responsible for program Annual Progress Report on Student Learning.
- Scholarship Committee: Coordinates the annual awarding of approximately \$40,000 in scholarship funds to incoming and continuing students in Feed Science and Management. Increased scholarship awards by 10% during term on committee through active fundraising effort.
- Committee for Recruitment and Retention
- Distinguished Lecture Series Committee
- Feed Science Club Advisor: Oversees bi-monthly meetings and coordinates speakers and company presentations. Supervises participation in Open House, football parking, and annual philanthropy event. Coordinates and chaperones student participation at the International Production and Processing Expo in Atlanta, GEAPS Exchange, and Pet Food Forum. Club participation has grown 5 times during tenure as advisor.
- Graduate Program: Food Science Institute, Pathobiology

# **Professional**

- FAO/WHO External Expert Panel on Hazards Associated with Animal Feed
- U.S. Food & Drug Administration
  - Food Safety Preventative Controls Alliance: Alliance of government, academia, and industry participants tasked with providing guidance to the FDA and industry for the implementation of the Food Safety Modernization Act.
    - Editorial Subcommittee: Create training material for inspectors and investigators regarding Hazard Analysis and Risk-Based Preventive Controls for Animal Food.
    - Hazard Guidance Subcommittee: Tasked with identifying and assessing physical, chemical, and microbiological hazards in animal food.
  - Expert Panel on Estimating Changes in Hazard Rates in Animal Foods Due to the Animal Foods Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Food for Animals Rule
- American Feed Industry Association Feed Regulatory Committee