

2015 Midwest Meeting Symposia

BILLY DAY SYMPOSIUM: HISTORY AND CURRENT STATUS OF SOME MILESTONES IN SWINE REPRODUCTION RESEARCH

Tuesday, March 17; 1:30-5:00 pm

- **Control of the estrous cycle, ovulation, time of insemination and subsequent farrowing in swine.**
*S. K. Weibel^{*1} and R. R. Kraeling², ¹JBS United, Inc., Sheridan, IN, ²L&R Research Associates, Watkinsville, GA*
- **In vitro maturation and fertilization.**
H. Funahashi^{}, Okayama University, Okayama, Japan*
- **Evolution and adoption of artificial insemination (A.I.) in the U.S.**
W. Flowers^{}, North Carolina State University, Raleigh*
- **Non-surgical embryo transfer in pigs.**
E. A. Martinez^{}, C. Cuello, I. Parrilla, J. L. Vazquez, J. M. Vazquez, J. ROCA, and M. A. Gil, University of Murcia, MURCIA, Spain*

BREEDING AND GENETICS: FUNCTIONAL GENOMICS

Tuesday, March 17; 8:30 am – 12:00 pm

- **The value of a systems biology approach in cattle nutrition.**
J. C. McCann^{} and J. J. Looor, University of Illinois, Urbana-Champaign, Urbana*
- **Adventures in next generation sequencing of transcriptomes and genomes.**
J. F. Taylor^{}, P. C. Tizioto, N. V. Grupioni, J. Kim, J. E. Decker, and R. D. Schnabel, University of Missouri, Columbia*
- **Beef cattle metabiomes and their relationships with economically important phenotypes.**
P. R. Myer^{}, J. E. Wells, T. P. L. Smith, L. A. Kuehn, and H. C. Freetly, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE*
- **Mass spectrometry based proteomics and metabolomics: Phenotyping in the post-genomics era.**
C. D. Broeckling^{} and J. E. Prenni, Colorado State University, Fort Collins*
- **Metabolomic differences in early and late lactation first-parity gilts.**
L. A. Rempel^{} and J. R. Miles, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE*
- **Annotation of functional regulatory elements in livestock species.**
*H. Zhou^{*1}, P. J. Ross¹, I. Korf¹, M. E. Delany¹, H. Cheng², J. F. Medrano¹, A. L. Van Eenennaam¹, C. W. Ernst³, and C. K. Tuggle⁴, ¹University of California-Davis, Davis, ²USDA-ARS Avian Disease and Oncology Laboratory, East Lansing, ³Genetics Program, Michigan State University, East Lansing, ⁴Bioinformatics and Computational Biology Program, Department of Animal Science, Iowa State University, Ames*

DAVID H. BAKER AMINO ACID SYMPOSIUM

Monday, March 16; 1:00 – 5:00 pm

- **The influence and consequences of free versus protein bound amino acids on the efficacy of analytical methods.**
*T. P. Mawhinney**, University of Missouri - Columbia, Columbia, MO
- **Effect of feed-grade amino acid supplementation in reduced crude protein (RCP) diets formulated on a NE basis on performance and carcass characteristic of growing-finishing pigs.**
*J. K. Apple^{*1}, C. V. Maxwell¹, T. C. Tsai¹, H. J. Kim¹, D. G. Cook¹, K. J. Touchette², J. E. Thomson³, J. Less⁴, and J. J. Chewning⁵*, ¹Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, ²Ajinomoto Heartland, Inc., Chicago, IL, ³Evonik Degussa Corp, Kennesaw, GA, ⁴Archer Daniels Midland Co, Decatur, IL, ⁵Swine Research Services, Inc., Springdale, AR
- **Impact of reduced dietary crude protein concentration with crystalline amino acid supplementation on lactation performance and ammonia emission of sows housed under thermo neutral and thermal heat stress environments.**
*D. Chamberlin^{*1}, W. J. Powers¹, D. W. Rozeboom¹, T. M. Brown-Brandl², S. Erwin¹, C. Walker¹, and N. L. Trottier¹*, ¹Michigan State University, East Lansing, ²USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE
- **Leucine supplementation to improve the efficiency of utilization of dietary protein for lean growth.**
*T. A. Davis**, D. A. Columbus, R. Manjarin, and M. L. Fiorotto, USDA/ARS Children's Nutrition Research Center, Dept. Pediatrics, Baylor College of Medicine, Houston, TX
- **Amino acid nutrition of lactating dairy cows: Applying the concept of Ideal Protein.**
*C. G. Schwab**, Schwab Consulting, LLC, Boscobel, WI
- **Amino Acid Nutrition and Immunophysiology.**
*R. N. Dilger**, University of Illinois, Urbana
- **Lactation performance in sows fed diets with graded levels of crystalline amino acids as substitute for crude protein at lysine requirement.**
D. Chamberlin, D. W. Rozeboom, S. Erwin, and N. L. Trottier*, Michigan State University, East Lansing

EXTENSION – DAIRY SYMPOSIUM: STRATEGIES TO IMPROVE DAIRY CATTLE HEALTH, WELFARE AND PERFORMANCE

Tuesday, March 17; 1:30 – 5:00 pm

- **Colostrum: Its effect on cattle health and performance.**
*P. S. Erickson**, University of New Hampshire, Durham, NH
- **Calf growth and feed intake associations with milk yield.**
*D. L. Beam^{*1}, K. J. Stalder¹, A. J. Heinrichs², and C. D. Dechow²*, ¹Iowa State University, Ames, ²Pennsylvania State University, University Park
- **Serotonin: A new player in hypocalcemia.**
*L. L. Hernandez** and J. Laporta, University of Wisconsin-Madison, Madison
- **Holistic approach for the identification, risk assessment and mitigation of mycotoxins' impact in ruminant.**
*A. Yiannikouris**, Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech, Nicholasville, KY

- **A nutritional strategy to help control digital dermatitis in growing animals.**
*A. Gomez¹, D. Döpfer², J. DeFrain¹, D. H. Kleinschmit¹, D. J. Tomlinson¹, and M. Socha^{*1}, ¹Zinpro Corporation, Eden Prairie, MN, ²School of Veterinary Medicine, University of Wisconsin, Madison*
- **Chromium for dairy cattle: An essential nutrient.**
K. J. Herrick^{}, K. E. Griswold, P. W. Rounds, A. Duffield, and D. O'Connor, Kemin Industries, Inc., Des Moines, IA*
- **Relationship between early lactation body condition score and mid-lactation feed efficiency in primiparous Holstein cows.**
*L. C. Hardie^{*1}, M. J. VandeHaar², and D. M. Spurlock¹, ¹Iowa State University, Ames, ²Michigan State University, East Lansing*

GARY ALLEE SYMPOSIUM: IMPACT OF FDA GUIDANCE'S 209 AND 213 ON THE SWINE INDUSTRY

Monday, March 16; 8:00 am – 12:00 pm

- **Use it and lose it: The dilemma of antibiotic resistance development.**
E. Topp^{}, Agriculture and Agri-Food Canada, London, ON, Canada*
- **Antibiotic resistance in the swine industry.**
P. R. Davies^{}, University of Minnesota, St. Paul*
- **What FDA guidance 213 and the veterinary feed directive mean on the farm.**
E. A. Wagstrom^{}, National Pork Producers Council, Washington, DC*
- **Identifying potential alternatives to antibiotics.**
H. K. Allen^{}, T. Looft, J. Trachsel, T. A. Casey, and T. B. Stanton, USDA National Animal Disease Center, Ames, IA*
- **The paradigm of restricted antimicrobial use: Swine production in the EU.**
T. van Kempen^{}, North Carolina State University, Raleigh; Nutreco R&D, Boxmeer, Netherlands*
- **Use of antibiotics in swine production in the light of new FDA guidelines.**
C. J. Rademacher^{}, Murphy-Brown, LLC, Ames, IA*

HARLAN RITCHIE SYMPOSIUM: HAVE WE ENTERED A NEW ERA IN BEEF PRODUCTION

Tuesday, March 17; 8:30 am – 12:00 pm

- **Trends to watch in cattle nutrition.**
G. P. Lardy^{}, North Dakota State University, Fargo*
- **Cow herd investment opportunities during a period of prosperity.**
W. J. Sexten^{}, Division of Animal Sciences, University of Missouri, Columbia*
- **New innovations in how we sell beef.**
B. E. Wasser^{}, National Cattlemen's Beef Association, Centennial, CO*
- **Tracking beef industry dollars.**
N. Speer^{}, Bowling Green, KY*

NONRUMINANT NUTRITION SYMPOSIUM: FEED INGREDIENT BIOSAFETY

Wednesday, March 18; 8:30 am – 12:00 pm

- **Biosecurity in the global feed industry.**
W. H. Turlington^{}, R. S. Sellers, and J. G. Newman, American Feed Industry Association, Arlington, VA*
- **FSMA partnership in animal feed safety.**
K. E. Klommmhaus^{}, US FDA CVM, Des Moines, IA*
- **Safety of feed ingredients derived from animal by-products.**
D. L. Meeker^{}, National Renderers Association, Alexandria, VA*
- **Current technologies to control pathogens in feed.**
K. E. Richardson^{}, Anitox, Lawrenceville, GA*
- **Determining the minimum infectious dose of porcine epidemic diarrhea virus in a feed matrix.**
*L. L. Schumacher^{*1}, J. C. Woodworth¹, J. Zhang², P. C. Gauger², Q. Chen², M. Welch², H. Salzebrenner², J. Thomas², R. Main², S. S. Dritz¹, R. A. Cochrane¹, and C. K. Jones¹,
¹Kansas State University, Manhattan, ²Iowa State University, Ames*
- **Recent research into feed processing and biosafety.**
C. K. Jones^{}, C. R. Stark, S. S. Dritz, A. R. Rigdon, and J. C. Woodworth, Kansas State University, Manhattan*
- **An epidemiological investigation of porcine-origin feed ingredients and the occurrence of porcine epidemic diarrhea on Midwestern United States pork farms.**
*E. J. Neumann¹, M. A. Ackerman², C. Troxel³, and R. L. Moser^{*4}, ¹Epi-Insight Limited, Palmerston North, New Zealand, ²Swine Veterinary Services PC, Greensburg, IN, ³JBS United, Inc, Sheridan, IN, ⁴JBS United, Inc., Sheridan, IN*

PHYSIOLOGY SYMPOSIUM: FOLLICLE DEVELOPMENT, SPERM, EMBRYO MORTALITY AND MATERNAL EFFECTS ON CARCASS QUALITY

Wednesday, March 18; 8:30 am – 12:00 pm

- **Specific sugars on oviduct cells bind porcine sperm and regulate sperm calcium and lifespan.**
D. J. Miller^{}, S. Machado, E. Pedroso-Silva, and G. Kadirvel, University of Illinois, Urbana-Champaign, Urbana*
- **Regulation of FSH target genes in ovarian granulosa cells requires input from the WNT signaling pathway.**
J. Hernandez Gifford^{}, Oklahoma State University, Stillwater*
- **Embryonic mortality: Novel models for predicting the loss.**
*K. G. Pohler^{*1}, J. A. Green¹, M. H. Pereira², R. G. Peres², J. L. M. Vasconcelos², and M. F. Smith¹, ¹University of Missouri, Columbia, ²UNESP - FMVZ, Botucatu, Brazil*
- **Just a walk in the park: How maternal activity may be linked to carcass quality in pigs.**
K. A. Vonnahme^{} and E. P. Berg, North Dakota State University, Fargo*

RUMINANT NUTRITION SYMPOSIUM: FEED EFFICIENCY AND RESIDUAL FEED INTAKE IN RUMINANT NUTRITION

Tuesday, March 17; 1:30 – 5:00 pm

- **Integrating genomic and phenotypic biomarkers for RFI with nutrition models to improve the prediction of growth performance in beef cattle.**
G. E. Carstens^{} and L. O. Tedeschi, Texas A&M University, College Station*
- **Using residual feed intake as a tool to improve dairy feed efficiency.**
*M. J. VandeHaar^{*1} and D. M. Spurlock², ¹Michigan State University, East Lansing, ²Iowa State University, Ames*
- **The role of the rumen and its microbial population in feed efficiency.**
K. A. Johnson^{}, Washington State University, Pullman*
- **Relationship of residual feed intake (Metabolic Efficiency) to post-ruminal metabolism in beef cattle.**
*M. S. Kerley^{*1}, W. J. Sexten², and A. M. Meyer², ¹University of Missouri, Columbia, ²Division of Animal Sciences, University of Missouri, Columbia*