Gary Allee Symposium

Chair: Dustin Kendall, Prestage Farms, Inc
Sponsor:
Grand Ballroom

8:00 AM Welcome - Changing Consumer/Customer Demands, Opportunities for Nutritionists.

8:05 AM Challenges of shifting consumer demand in the pork processing industry.
C. Kaster, Smithfield Foods, Kansas City, MO

8:50 AM Electronic Sow Feeding (ESF): The Lemonade of Pen Gestation.
T. D. Parsons*, Department of Clinical Studies, School of Veterinary Medicine, University of Pennsylvania, Kenneth Square, PA

9:30 AM Crate-free sow housing and electronic feeding systems – a value proposition for improved sow nutrition.
O. F. Mendoza* and A. M. Gaines, The Machhoffs, LLC, Carlyle, IL

10:05 AM Break.

10:15 AM Exploring connections between metabolic profiles, stress responses and immune function.
J. A. Carroll*, N. C. Burdick Sanchez, and P. R. Broadway, USDA-ARS, Livestock Issues Research Unit, Lubbock, TX

11:00 AM Production Specific Marketing Programs: What Do They Mean for Nutritionists and How Do We Adapt?.
M. J. Bertram*, First Choice Livestock, Urbandale, IA

11:45 AM Panel Discussion.

11:55 AM Concluding Remarks.

David H. Baker Amino Acid Symposium

Chair: Nathalie L. Trottier, Michigan State University
Sponsor:
320

1:00 PM Welcoming Remarks.

1:05 PM David H. Baker: A Study in Academic Scholarship.
R. A. Easter*, University of Illinois at Urbana-Champaign, Mahomet, IL

1:45 PM Comparison of the effects of reduced CP, amino acid supplemented diets on growth performance in swine.
C. E. Vonderohe*, K. M. Mills†, M. D. Asmus†, E. R. Otto-Tice†, C. V. Maxwell†, B. T. Richert†, and J. S. Radcliffe†,
†Purdue University, West Lafayette, IN; †Department of Animal Science, Division of Agriculture, University of Arkansas, Fayetteville, AR

2:00 PM Quantifying variable amino acid efficiencies in lactating sows.
R. R. White†*, S. Zhang†, N. Regmi†, and N. L. Trottier†, †Virginia Tech, Blacksburg, VA; †Michigan State University, East Lansing, MI
2:15 PM | Citrulline and de novo arginine synthesis in perinatal and young pigs.
J. C. Marini¹,², U. Agarwal¹, J. C. Didelija¹, B. Stoll³, and D. G. Burrin², 'USDA-ARS Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX, 2Section of Critical Care Medicine, Baylor College of Medicine, Houston, TX

2:55 PM | Break.

3:10 PM | An update on modeling dose response relationships: accounting for correlated data structures and heterogeneous variance in linear and non-linear mixed models.
M. A. D. Goncalves, N. M. Bello¹, S. S. Dritz, M. D. Tokach, J. M. DeRouchey, J. C. Woodworth, and R. D. Goodband, Kansas State University, Manhattan, KS

3:50 PM | Effects of standardized ileal digestible valine:lysine ratio on growth performance of 25- to 45-kg pigs under commercial conditions.
M. A. D. Goncalves¹, M. D. Tokach¹, S. S. Dritz¹, N. M. Bello¹, K. J. Touchette², R. D. Goodband¹, J. M. DeRouchey¹, and J. C. Woodworth¹, 1Kansas State University, Manhattan, KS, 2Ajinomoto Heartland, Inc., Chicago, IL

4:05 PM | Determination of lysine adequacy on a population basis for growing pigs.

4:20 PM | New Technologies Shaping Amino Acid Utilization in Animals.
P. J. Moughan*, Riddet Institute, Massey University, Palmerston North, New Zealand

Animal Behavior, Housing & Well-Being Symposium I

Chair: Jennifer A. Brown, Prairie Swine Centre
Sponsor: 302-303

8:30 AM | Welcoming Remarks.

8:40 AM | The Role of Breeding in Positive Welfare Change.

9:25 AM | Implementing animal well-being technologies, U.S. producer perspective.
A. E. DeDecker*, Smithfield Hog Production Division, Rose Hill, NC

10:10 AM | Break.

10:25 AM | Engineering solutions to address challenges to animal well-being.
A. R. Green*, University of Illinois at Urbana-Champaign, Urbana, IL

11:10 AM | Six questions for veterinarians.
J. Deen*, Dept. of Veterinary Population Medicine, University of Minnesota, St. Paul, MN

Breeding and Genetics Symposium

Chair: Juan P. Steibel, Department of Animal Science, Michigan State University
Sponsor: 304-305

8:30 AM | Welcoming Remarks.
8:35 AM Genomic prediction using a model based on haplotype clusters.  
S. D. Kachman*, University of Nebraska - Lincoln, Lincoln, NE

9:10 AM Break.

9:20 AM Advances in Genomic Selection and GWA.  
I. Misztal*, University of Georgia, Athens, GA

9:55 AM Discovery of QTL using a QTL-Effects Model in a Multi-Generational Pedigree.  
R. L. Fernando¹, J. Zeng², H. Cheng², D. Hubier³, A. Wolfe³, D. J. Garrick³, and J. C. M. Dekkers⁴, ¹Iowa State University, Ames, IA, ²Iowa State University, Ames, IA, ³Hy-Line International, Dallas Center, IA, ⁴Massey University, Palmerston North, New Zealand

10:30 AM Modeling Networks for Prediction and Causal Inference in Quantitative Genetics and Genomics.  
G. J. M. Rosa*, University of Wisconsin-Madison, Madison, WI

David Schingoethe Symposium

Chair: Daryl H Kleinschmit, Zinpro Corporation  
Sponsor: 306-307

8:30 AM Modifying the composition of milk to increase marketability.  
D. J. Schingoethe*, South Dakota State University, Brookings, SD

9:10 AM The History, Mechanism, and Modification of Milk Fat Synthesis in Ruminants.  
K. J. Harvatine*, Penn State University, State College, PA

9:50 AM Milk composition and synthesis in dairy goats and sheep.  
M. Rovai¹ and G. Caja², ¹South Dakota State University, Brookings, SD, ²Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain

10:30 AM Physiological and molecular mechanisms associated with performance, immunometabolic status, and liver function in transition dairy cows fed rumen protected methionine or choline.  
Z. Zhou¹, M. Vailati Riboni¹, O. Bulgari¹, E. Trevisi¹, T. A. Garrow¹, J. K. Drackley¹, P. Cardoso¹, D. N. Luchini¹, and J. J. Loor¹, ¹University of Illinois, Urbana, IL, ²Università Cattolica del Sacro Cuore, Piacenza, Italy, ³Adisseo S.A.S., Alpharetta, GA

11:00 AM Control of bovine pyruvate carboxylase expression by saturated and unsaturated fatty acids and impact on fatty acid metabolism.  
K. E. Boesche³, S. L. Koser, and S. S. Donkin, Purdue University, West Lafayette, IN

11:30 AM Postpartum protein nutrition for dairy cows.  
W. D. Weich¹, K. F. Kalscheur¹, and D. P. Casper¹, ¹South Dakota State University, Brookings, SD, ²USDA-ARS Dairy Forage Research Center, Madison, WI

Growth, Development, Muscle Biology and Meat Science Symposium

Chair: Chad Alan Stahl, F.A.C.T.S.  
Sponsor: 318-319

8:30 AM Use of Visible and Near Infrared Spectroscopy to Predict Beef and Pork Quality.  
S. D. Shackelford¹, D. A. King, and T. L. Wheeler, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE
J. K. Apple*1 and J. W. S. Yancey*2, 1Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, 2Department of Animal Science, University of Arkansas, Fayetteville, AR

10:00 AM [tab] 142 [tab] Differentiating Lamb Flavor.
D. R. Woerner*, T. W. Hoffman, J. D. Tatum, and K. E. Belk, Colorado State University, Fort Collins, CO

Harlan Ritchie Symposium

Chair: W. J. Sexten, Certified Angus Beef LLC
Sponsor:
312-313


R. J. Rasby*1, J. M. Warner*2, K. H. Jenkins*3, and T. J. Klopfenstein*2, 1Department of Animal Science, University of Nebraska, Lincoln, NE, 2University of Nebraska, Lincoln, NE, 3University of Nebraska, Scottsbluff, NE


10:05 AM [tab] Break.


11:05 AM [tab] • Transparency in the Food System: Communicating Science to the Consumer - The Center for Food Integrity, J.J. Jones.

Nonruminant Nutrition Symposium

Chair: Thomas E. Burkey, University of Nebraska
Sponsor:
316-317


8:50 AM [tab] 267 [tab] What is ‘gut health’ and how do you quantify/measure it?.
A. J. Moeser*, North Carolina State University, Raleigh, NC

B. K. Nielsen*1 and R. Cernat*2, 1Chr. Hansen A/S, Hørsholm, Denmark, 2Chr. Hansen A/S, Hoersholm, Denmark

R. T. Zijlstra*1, J. M. Fouhse*1, E. Beltranena*2, A. M. H. Le*3, and M. G. Gaenzle*3, 1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Forestry, Edmonton, AB, Canada, 3University of Alberta, Edmonton, AB, Canada

10:05 AM [tab] 270 [tab] Impact of different high fiber diets on intestinal cell proliferation and differentiation in finishing pigs.
Z. Huang*, P. E. Urriola, G. C. Shurson, and M. Saqui-Salces, Department of Animal Science, University of Minnesota, St. Paul, MN

Effects of dietary supplementation of phytobiotics on growth performance and health status of growing-finishing pigs.

* I. Park*, W. Parnsen, and S. W. Kim, North Carolina State University, Raleigh, NC

Lysozyme as an alternative to antibiotics in swine feed.

* W. T. Oliver* and J. E. Wells, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

Alternatives to antibiotics: biotechnological approach to deliver recombinant bioactive proteins.

* E. Huynh, C. F. M. de Lange, and J. Li*, University of Guelph, Guelph, ON, Canada

Animal Behavior, Housing, & Well-Being Symposium II

**Chair:**

**Sponsor:**

302-303

Opportunities for monitoring and improving animal welfare using precision dairy monitoring technologies.

* J. M. Bewley*, University of Kentucky, Lexington, KY

Improving Welfare, Health and Productivity in Pigs by Optimizing Adaptation.

* J. E. Bolhuis* and B. Kemp, Adaptation Physiology Group, Wageningen University, Wageningen, Netherlands

Extension - Dairy Symposium

**Chair:** Jill L. Anderson, South Dakota State University

**Sponsor:**

306-307

Midwest Dairy Processing Needs, Trends, and changes.

* V. V. Mistry*, South Dakota State University, Brookings, SD

Organic pasture versus conventional dairying – is there a difference in sustainability.

* B. J. Heins*, University of Minnesota West Central Research and Outreach Center, Morris, MN

Field observations of automated dairy calf feeding systems in the upper Midwest.

* N. B. Litherland and A. M. Hoskins, Vita Plus Corporation, Madison, WI

Key Factors Affecting Automated Milking System Performance.

* J. A. Salfer* and M. I. Endres, University of Minnesota, St. Cloud, MN, University of Minnesota, Saint Paul, MN

Effects of milk replacer feeding regimen to the pre-ruminant calf on crude protein utilization, digestibility, and growth.

* C. E. Chapman*, University of New Hampshire, Durham, NH

Potential Body Site Reservoirs for Coagulase Negative Staphylococcal Intramammary Infection in Heifers.

* P. R. F. Adkins* and J. R. Middleton, University of Missouri, Columbia, MO

Strategies for Programming the Lactation.

* A. J. Carpenter*, Department of Animal Sciences and Industry, Kansas State University, Manhattan, KS

Ruminant Nutrition Symposium
1:30 PM Welcoming Remarks.

1:35 PM Veterinary Feed Directive (VFD) and its Practical Considerations for the Beef Industry.  

2:20 PM Gut Bacterial Communities and Their Association with Production Parameters in Beef Cattle.  

3:05 PM Alternatives to Antibiotics.  
J. P. Schoonmaker*, Purdue University, West Lafayette, IN

Equine Welfare Symposium

Chair: Peggy A. Miller, Iowa State University  
Sponsor: 304-305

8:30 AM Welcoming Remarks.

8:45 AM Equine welfare in a competitive setting...what can 10+ years of research by the Equitation Science community tell us? (And what critical pieces are still missing?).  
C. R. Heleski*, Michigan State University, East Lansing, MI

9:30 AM Break.

9:40 AM Equine welfare in a competitive setting: the human role.  
K. L. Waite, Ph. D.*, Michigan State University, East Lansing, MI

10:25 AM Perceptions of Equine Well-being in South Dakota.  
H. K. Carroll*, R. C. Bott, S. L. Mastellar, L. R. McNeill, and G. D. Djira, South Dakota State University, Brookings, SD

10:40 AM Break.

10:50 AM Discussion.

11:20 AM Concluding Remarks.

Physiology Symposium

Chair: Patrick J. Gunn, Department of Animal Science, Iowa State University  
Sponsor: 316-317

8:30 AM Welcoming Remarks.
8:35 AM | Fetal and Postnatal Nutritional Programming of Reproductive Performance in Ruminants.
R. A. Cushman1, M. Soares2, M. Abedal-Majed3, A. S. Cupp4, G. A. Perry5, and H. C. Freely6, 1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 2Federal University of Santa Maria, Santa Maria, Brazil, 3University of Nebraska-Lincoln, Lincoln, NE, 4Department of Animal Science, South Dakota State University, Brookings, SD

9:20 AM | Postnatal Programming and Reproductive Development.
F. F. Bartol7 and C. A. Bagnell8, 7Auburn University, Auburn, AL, 8Rutgers University, New Brunswick, NJ

10:05 AM | Recent advances in boar management.
W. L. Flowers9, North Carolina State University, Raleigh, NC

Teaching Symposium: Evolving the Animal Science Curriculum

Chair: Bryon R. Wiegand, University of Missouri
Sponsor: 401

8:30 AM | Welcoming Remarks.

8:35 AM | Evaluation and Subsequent Modification of a Traditional, Land Grant Animal Sciences Curriculum.
T. A. Strauch*, M. J. Crosby, A. M. Meyer, M. F. Smith, and B. R. Wiegand, University of Missouri, Columbia, MO

9:05 AM | Changing Animal Science Curriculum at a Non-Land Grant University.
J. W. Rickard*, Illinois State University, Normal, IL

9:35 AM | Break.

J. A. Sterle* and H. D. Tyler, Iowa State University, Ames, IA

10:20 AM | An administrator's perspective on meeting changing curriculum needs with limited resources.
G. P. Lardy*, North Dakota State University, Fargo, ND

10:50 AM | Panel Discussion.

11:05 AM | Evaluation of case-based reasoning to promote learning and swine industry interest in an undergraduate reproductive physiology course.
A. T. Desaulniers*, R. M. McFee, and B. R. White, University of Nebraska-Lincoln, Lincoln, NE

C. J. Malone*, J. W. Rickard, and K. W. Tudor, Illinois State University, Normal, IL