Please note this is a draft program, the schedule is subject to change without notice.
MONDAY, MARCH 16 - SYMPOSIA AND ORAL SESSIONS

Monday, March 16, 2015

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

Chair: Jason W Frank, Diamond V
Sponsor: Grand Ballroom

8:00 AM Introductory Remarks

8:10 AM 70 (Invited) Use it and lose it: The dilemma of antibiotic resistance development.
E. Topp*, Agriculture and Agri-Food Canada, London, ON, Canada

8:40 AM 71 (Invited) Antibiotic resistance in the swine industry.
P. R. Davies*, University of Minnesota, St. Paul

9:10 AM 72 (Invited) What FDA guidance 213 and the veterinary feed directive mean on the farm.
E. A. Wagstrom*, National Pork Producers Council, Washington, DC

9:40 AM Break

10:00 AM 73 (Invited) Identifying potential alternatives to antibiotics.

10:30 AM 74 (Invited) The paradigm of restricted antimicrobial use: Swine production in the EU.
T. van Kempen*, North Carolina State University, Raleigh; Nutreco R&D, Boxmeer, Netherlands

11:00 AM 75 (Invited) Use of antibiotics in swine production in the light of new FDA guidelines.
C. J. Rademacher*, Murphy-Brown, LLC, Ames, IA

11:30 AM Panel Discussion

11:50 AM Concluding Remarks

DAVID BAKER SYMPOSIUM: DAVID H. BAKER AMINO ACID SYMPOSIUM

Chair: Christopher M. Peter, JBS United Inc.
Sponsor: 318-319

1:00 PM Introductory Remarks

T. P. Mawhinney*, University of Missouri - Columbia, Columbia, MO

1:50 PM 40 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.

2:05 PM 41 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.
2:20 PM  42  (Invited) 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

3:05 PM  Break

3:15 PM  43  (Invited) Amino acid nutrition of lactating dairy cows: Applying the concept of Ideal Protein.
C. G. Schwab*, Schwab Consulting, LLC, Boscobel, WI

4:00 PM  44  (Invited) Amino Acid Nutrition and Immunophysiology.
R. N. Dilger*, University of Illinois, Urbana

4:45 PM  45  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

5:00 PM  Concluding Remarks

GRADUATE STUDENT COMPETITION: PHD ORAL

Chair: TBD
Sponsor:
306-307

1:30 PM  384  Whole Body and Maternal Protein Deposition in Gestating Gilts at Two Feeding Levels.
E. G. Miller1, D. Wey1, C. L. Levesque2, and C. F. de Lange1, 1Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 2South Dakota State University, Brookings

1:45 PM  385  Effects of different feeding level during three periods of gestation on sow and litter performance.
P. Ren1, X. Yang, J. Kim, D. Menon, D. P. Pungeni, H. Manu, A. Tekeste, and S. Baidoo, Southern Research and Outreach Center, University of Minnesota, Waseca

2:00 PM  386  Evaluating strategic pellet feeding regimens on finishing pig performance, stomach morphology, and carcass characteristics.
J. A. De Jong1, J. M. DeRouchey1, M. D. Tokach1, R. D. Goodband1, S. S. Dritz1, and M. Allerson1, 1Kansas State University, Manhattan, 2Holden Farms Inc., Northfield, MN

2:15 PM  387  Effect of β–glucan from microalgae on the growth performance and gut health of nursery pigs.
N. E. Manzke1, F. Castelini1, R. L. Payne1, and S. W. Kim1, 1North Carolina State University, Raleigh, 2Universidade Estadual de São Paulo, Jabericanal, Brazil, 3Evonik Corp, Kennesaw, GA

2:30 PM  388  Effect of altered dietary Lysine: energy ratio in gestation on gilt performance and piglet survivability.
A. Ampaire1 and C. L. Levesque, South Dakota State University, Brookings

2:45 PM  389  Effects of heat stress on adipose tissue fatty acid composition and moisture content in pigs.
J. T. Seibert1, M. Abuajamieh1, M. V. Sans-Fernandez1, J. S. Johnson1, S. M. Lei1, S. K. Stokaes1, J. F. Patience1, J. W. Ross1, R. P. Rhoads2, S. M. Lonergan1, L. H. Baumgard1, and R. C. Johnson1, 1Iowa State University, Ames, 2Virginia Tech, Blacksburg, 3Smithfield Farmland, Denison, IA

3:00 PM  390  Efficacy of pea protein isolate-alginate encapsulation on viability of Lactobacillus reuteri in the porcine gastrointestinal tract.
J. Wang1, M. Nickerson2, N. Low1, T. Scott1, and A. G. Van Kessel1, 1Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada, 2Department of Food and Bioproduct Sciences, University of Saskatchewan, Saskatoon, SK, Canada

S. M. Calcaterra\textsuperscript{1}, D. L. Reicks\textsuperscript{2}, A. Feltus\textsuperscript{1}, and S. L. Pratt\textsuperscript{1}, \textsuperscript{1}Clemson University, Clemson, SC, \textsuperscript{2}Swine Vet Center, Saint Peter, MN

3:30 PM 392 Effects of maternal plane of nutrition during late gestation on beef calf post-weaning growth and feed efficiency, methane production, insulin sensitivity, and carcass characteristics.  
T. B. Wilson\textsuperscript{1}, B. C. Ramírez, L. F. Rodríguez, A. R. Green, D. D. Boler, A. C. Dilger, T. L. Felix, and D. W. Shike, University of Illinois at Urbana-Champaign, Urbana

3:45 PM 393 Influence of feed efficiency ranking on diet digestibility and performance of beef steers.  
J. R. Russell\textsuperscript{1}, N. O. Minton\textsuperscript{2}, W. J. Sexten\textsuperscript{2}, M. S. Kerley\textsuperscript{3}, and S. L. Hansen\textsuperscript{1}, \textsuperscript{1}Iowa State University, Ames, \textsuperscript{2}Division of Animal Sciences, University of Missouri, Columbia, \textsuperscript{3}University of Missouri, Columbia

4:00 PM 394 Evaluation of a feed additive mixture of pre- and probiotics, enzymes and yeast on in vitro true digestibility of feeds.  
H. Larson\textsuperscript{1}, N. Kenney-Rambo, and A. DiCostanzo, University of Minnesota, St. Paul

UNDERGRADUATE STUDENT COMPETITION: ORAL

Chair: TBD  
Sponsor: 312-313

1:30 PM 395 The effects of high-stress verses low-stress cattle handling at the time of shipping to slaughter on physiological responses in cattle fed ractopamine hydrochloride.  
J. A. Hagenmaier\textsuperscript{1}, S. J. Bartle\textsuperscript{1}, C. Reinhardt\textsuperscript{1}, D. Rethorst\textsuperscript{1}, M. J. Ritter\textsuperscript{2}, G. J. Vogel\textsuperscript{1}, C. A. Guthrie\textsuperscript{1}, and D. Thomson\textsuperscript{2}, \textsuperscript{1}Kansas State University, Manhattan, \textsuperscript{2}Elanco Animal Health, Greenfield, IN, \textsuperscript{3}Elanco Animal Health, Canyon, TX

1:45 PM 396 Digestibility in steers fed modified distiller grains with solubles and corn silage to partially replace corn in finishing diets.  
S. E. Gardine\textsuperscript{1}, D. B. Burken, J. L. Harding, M. J. Jolly-Briethaupt, T. J. Klopfenstein, G. E. Erickson, J. C. MacDonald, and B. L. Nuttelman, University of Nebraska-Lincoln, Lincoln

2:00 PM 397 Effect of trace mineral injection and ractopamine hydrochloride on growth performance and carcass characteristics of finishing cattle.  
E. K. Niedermayer\textsuperscript{1}, O. N. Genther-Schroeder\textsuperscript{1}, C. A. Clark\textsuperscript{2}, and S. L. Hansen\textsuperscript{1}, \textsuperscript{1}Iowa State University, Ames, \textsuperscript{2}Armstrong Memorial Research and Demonstration Farm, Iowa State University, Lewis

2:15 PM 398 Differential expression of genes in the jejunum of steers with extreme feed efficiency phenotypes.  
A. R. Butler\textsuperscript{1}, A. K. Lindholm-Perry\textsuperscript{1}, and H. C. Freely\textsuperscript{1}, \textsuperscript{1}North Carolina State University, Raleigh, \textsuperscript{2}USDA, ARS, US MARC, Clay Center, NE, \textsuperscript{3}USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

2:30 PM 399 Characterization of microbial community structure during Shiga toxin-producing Escherichia coli (STEC) shedding in beef cattle.  
M. Klosterman\textsuperscript{1}, N. D. Aluthge, C. L. Anderson, G. E. Erickson, T. J. Klopfenstein, and S. C. Fernando, University of Nebraska-Lincoln, Lincoln

2:45 PM 400 Effect of corn residue composition on DMD of crossbred wether lambs.  
L. J. McPhillips\textsuperscript{1}, J. J. Updike, J. C. MacDonald, T. J. Klopfenstein, J. L. Harding, and M. J. Jolly-Briethaupt, University of Nebraska-Lincoln, Lincoln

3:00 PM 401 The effects of cutting height and plant maturity on yield and nutritional value of smooth brome forage over a two year period.  
M. A. Woolsoncroft\textsuperscript{1}, S. R. Duncan, A. J. Sexten, and A. K. Sexten, Kansas State University, Manhattan

3:15 PM 402 Effects of an algae-modified montmorillonite clay and deoxynivalenol on nursery pig performance.  
J. A. Erceg\textsuperscript{1}, H. L. Frobose, M. D. Tokach, J. M. DeRouchey, S. S. Dritz, R. D. Goodband, and J. L. Nelssen, Kansas State University, Manhattan
3:30 PM 403 The effects of an algae-modified montmorillonite clay on nursery pig growth performance in diets contaminated with deoxynivalenol.

3:45 PM 404 Immune system stimulation by repeated lipopolysaccharide injection alters liver cytoplasmic protein profile in pigs.

4:00 PM 405 Exogenous glucagon-like peptide 2 and epidermal growth factor are important trophic factors associated with enhanced intestinal tissue repair and barrier function in a piglet model of intestinal failure.
J. Koepke*, D. Lim, P. W. Wales, P. Wizard, D. Sigalet, J. Li, J. M. Turner, and C. L. Levesque, 1South Dakota State University, Brookings, 2University of Alberta, Edmonton, AB, Canada, 3University of Toronto, Toronto, ON, Canada, 4University of Calgary, Calgary, AB, Canada, 5University of Guelph, Guelph, ON, Canada

4:15 PM 406 Water administration of glucose and amino acids attenuates changes in intestinal structure and lesion scores in PRRSv and PEDv co-infected pigs.
A. S. Clifton*, W. P. Schweer, S. C. Pearce, D. M. McKilligan, K. Schwartz, K. J. Yoon, and N. K. Gabler, 1Iowa State University, Ames, 2TechMix LLC, Stewart, MN

4:30 PM 407 Effect of Vitamin E injection pre-farrowing on antioxidant enzymes and performance of nursery pigs following a PEDV outbreak.
J. T. Gebhardt*, G. M. Hill, J. E. Link, R. Becerra, and R. L. Stuard, 1Michigan State University, East Lansing, 2Stuart Products Inc, Bedford, TX

4:45 PM 408 Survival and mitigation strategies of porcine epidemic diarrhea virus (PEDV) in complete feed.
M. P. Trudeau*, H. Verma, P. E. Urriola, G. C. Shurson, and S. M. Goyal, 1Department of Animal Science, University of Minnesota, St. Paul, 2Veterinary Population Medicine, University of Minnesota, St. Paul

5:00 PM 409 Evaluation of environmental sampling methods for PED.
R. E. Bardot*, University of Missouri-Columbia, Columbia

5:15 PM 410 The effects of uric acid supplementation during oocyte maturation on the in vitro fertilization of pigs.
K. J. Jaciuk*, C. Straker, and B. D. Whitaker, University of Findlay, Findlay, OH

GRADUATE STUDENT COMPETITION: MS ORAL I

Chair: TBD
Sponsor: 302-303

2:00 PM 363 Influence of dietary fat source and feeding duration on pig growth performance, carcass composition, and fat quality.

2:15 PM 364 Effects of lysine intake and divergent selection for residual feed intake on nitrogen metabolism and lysine utilization in growing pigs.
D. J. Hewitt*, C. F. de Lange, A. Gheisari, J. C. M. Dekkers, and A. Rakhshandeh, 1Texas Tech University, Lubbock, 2Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 3Iowa State University, Ames

2:30 PM 365 Effect of substitution of wheat for corn on growth performance and digestibly in nursing pigs.
D. J. Bloxham*, C. R. Dove, and M. J. Azain, University of Georgia, Athens

2:45 PM 366 Evaluation of NE prediction equations for corn distillers dried grains with solubles (DDGS) for growing-finishing pigs.
GRADUATE STUDENT COMPETITION: MS ORAL II

Chair: TBD
Sponsor: 304-305

2:00 PM 373 Influence of wet distillers grains produced from a novel cellulosic ethanol process utilizing corn kernel fiber on feedlot growth and carcass characteristics of steers.
E. L. Lundy*, D. D. Loy, and S. L. Hansen, Iowa State University, Ames

2:15 PM 374 Effect of inorganic or organic selenium supplementation during gestation and lactation on feedlot performance of steer progeny.
C. R. Muegge†, K. M. Brennan‡, R. P. Lemenager∥, and J. P. Schoonmaker‡, Purdue University, West Lafayette, IN, ‡Altech, Nicholasville, KY
Withdrawn

2:30 PM 376 Effects of corn dried distiller's grains plus solubles supplementation to gestating cows fed low-quality forage on cow performance and feeding behavior.
V. C. Kennedy*, M. L. Bauer, K. C. Swanson, and K. A. Vonnahme, North Dakota State University, Fargo

2:45 PM 377 Effects of zinc, chromium, and beta-agonist supplementation to feedlot steers on growth performance, carcass characteristics, and meat quality.
B. M. Edenburn†, S. G. Knesekern†, B. M. Bohrer†, P. W. Rounds‡, D. D. Boler†, A. C. Dilger†, and T. L. Felix†, †University of Illinois at Urbana-Champaign, Urbana, ‡Kemin Industries, Inc., Des Moines, IA
3:00 PM 378 Post-weaning nutritional programming of ovarian development in beef heifers.
O. L. Amundson\textsuperscript{1,2}, T. G. Fountain\textsuperscript{2,3}, E. L. Larimore\textsuperscript{4}, B. N. Richardson\textsuperscript{1}, A. K. McNeel\textsuperscript{2}, E. C. Wright-Johnson\textsuperscript{2}, D. H. Keisler\textsuperscript{4}, R. A. Cushman\textsuperscript{2}, G. A. Perry\textsuperscript{1}, and H. C. Freely\textsuperscript{4}, \textsuperscript{1}South Dakota State University, Brookings, \textsuperscript{2}USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, \textsuperscript{3}Department of Animal Science, Kansas State University, Manhattan, \textsuperscript{4}University of Missouri, Columbia

3:15 PM 379 Effects of corn treated with foliar fungicide at various times of applications on corn silage quality and aerobic stability.
K. J. Haerr\textsuperscript{1}, N. M. Lopes\textsuperscript{2}, J. Weems\textsuperscript{3}, C. A. Bradley\textsuperscript{3}, M. N. Pereira\textsuperscript{2}, G. M. Fellows\textsuperscript{4}, and F. C. Cardoso\textsuperscript{1}, \textsuperscript{1}University of Illinois, Urbana, \textsuperscript{2}Federal University of Lavras, Lavras, Brazil, \textsuperscript{3}Department of Crop Sciences, University of Illinois, Urbana, \textsuperscript{4}BASF Corporation, Research Triangle Park, NC

3:30 PM 380 Impact of prebreeding vaccination with modified-live or inactivated viral vaccines on subsequent reproductive performance in crossbred beef females.
M. R. Crosswhite\textsuperscript{1}, J. C. Rodgers\textsuperscript{2}, J. T. Seeger\textsuperscript{2}, B. W. Neville\textsuperscript{3}, and C. R. Dahlen\textsuperscript{1}, \textsuperscript{1}North Dakota State University, Fargo, \textsuperscript{2}Zoetis, Florham Park, NJ, \textsuperscript{3}North Dakota State University, Streeter

3:45 PM 381 Understanding interactions between diet, methane emissions and microbial community composition in growing and finishing beef cattle.
A. L. Knoell\textsuperscript{1}, C. L. Anderson, A. C. Pesta, G. E. Erickson, T. J. Klopfenstein, and S. C. Fernando, University of Nebraska-Lincoln, Lincoln

4:00 PM 382 Effects of feeding stockpiled tall fescue versus tall fescue hay during late gestation on pre-weaning calf performance.
K. N. Niederecker\textsuperscript{1}, B. L. Vander Ley\textsuperscript{2}, M. C. Heller\textsuperscript{3}, and A. M. Meyer\textsuperscript{1}, \textsuperscript{1}Division of Animal Sciences, University of Missouri, Columbia, \textsuperscript{2}Department of Veterinary Medicine and Surgery, University of Missouri, Columbia, \textsuperscript{3}Department of Veterinary Medicine and Epidemiology, University of California, Davis

4:15 PM 383 Performance and blood measurements by Holstein steers supplemented with or without MFP\textsuperscript{®} while grazing cool-season forages.
H. L. Bartimus\textsuperscript{1,2}, J. D. Caldwell\textsuperscript{1}, A. L. Bax\textsuperscript{1}, B. C. Shanks\textsuperscript{3}, K. P. Coffey\textsuperscript{2}, T. Hampton\textsuperscript{3}, Y. Liang\textsuperscript{1}, S. E. Bettis\textsuperscript{3}, and M. Vazquez-Anon\textsuperscript{1}, \textsuperscript{1}Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, \textsuperscript{2}University of Arkansas, Fayetteville, \textsuperscript{3}Novus International, Inc., St. Charles, MO
### TUESDAY, MARCH 17 - SYMPOSIA AND ORAL

**Tuesday, March 17, 2015**

**BREEDING AND GENETICS: FUNCTIONAL GENOMICS**

**Chair:** Amanda K. Lindholm-Perry, USDA, ARS, US MARC  
**Sponsor:** 304-305

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<th>Time</th>
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<th>Authors</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>13</td>
<td>The value of a systems biology approach in cattle nutrition.</td>
<td>J. C. McCann and J. J. Loor, University of Illinois, Urbana-Champaign, Urbana</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>14</td>
<td>Adventures in next generation sequencing of transcriptomes and genomes.</td>
<td>J. F. Taylor, P. C. Tizioto, N. V. Grupioni, J. Kim, J. E. Decker, and R. D. Schnabel, University of Missouri, Columbia</td>
</tr>
<tr>
<td>9:45 AM</td>
<td>16</td>
<td>Mass spectrometry based proteomics and metabolomics: Phenotyping in the post-genomics era.</td>
<td>C. D. Broeckling and J. E. Prenni, Colorado State University, Fort Collins</td>
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**EXTENSION - SWINE**

**Chair:** Brian T. Richert, Purdue University  
**Sponsor:** 401

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<tr>
<td>8:30 AM</td>
<td>63</td>
<td>Identification of gilt development factors that impact subsequent female reproduction.</td>
<td>A. J. Cross, K. A. Gray, M. Knauer, and J. P. Cassady, South Dakota State University, Brookings, Smithfield Premium Genetics, Rose Hill, NC, North Carolina State University, Raleigh</td>
</tr>
<tr>
<td>8:45 AM</td>
<td>64</td>
<td>Efficiency of replacement gilt production is affected by litter birth weight phenotype.</td>
<td>G. Foxcroft, J. Patterson, N. Holden, T. Werner, M. Allerson, E. Triemerr, L. Bruner, and J. C. Pinilla, University of Alberta, Edmonton, AB, Canada, Holden Farms Inc., Northfield, MN, Swine Veterinary Center, St. Peter, MN, PIC, Hendersonville, TN</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>66</td>
<td>Relationship of Minolta color scores at birth with piglet weights and survival.</td>
<td>T. L. Carolan, T. J. Safranski, and M. R. Ellersieck, University of Missouri, Columbia</td>
</tr>
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<td>9:45 AM</td>
<td>68</td>
<td>Relationship between feeding behavior and performance traits in boars.</td>
<td>C. E. Abell, A. Steuer, and T. Rathje, DNA Genetics, Columbus, NE</td>
</tr>
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TUESDAY, MARCH 17 - SYMPOSIA AND ORAL

10:00 AM 69 The effect of DDGS particle size and pellet quality on grower-finisher pig performance.
W. J. Pacheco1, M. Knauer1, E. van Heugten1, A. C. Fahrenholz1, C. E. Phillips2, and C. R. Stark3, 1North Carolina State University, Raleigh, 2Murphy-Brown LLC, Rose Hill, NC, 3Kansas State University, Manhattan

HARLAN RITCHIE SYMPOSIUM: HAVE WE ENTERED A NEW ERA IN BEEF PRODUCTION
Chair: Larry R Corah, Certified Angus Beef LLC.
Sponsor: 312-313

8:30 AM Introductory Remarks
8:40 AM (Invited) Trends to watch in cattle nutrition.
G. P. Lardy*, North Dakota State University, Fargo

9:20 AM (Invited) Cow herd investment opportunities during a period of prosperity.
W. J. Sexten*, Division of Animal Sciences, University of Missouri, Columbia

10:00 AM (Invited) New innovations in how we sell beef.
B. E. Wasser*, National Cattlemen's Beef Association, Centennial, CO

10:40 AM (Invited) Tracking beef industry dollars.
N. Speer*, Bowling Green, KY

NONRUMINANT NUTRITION: FEED ADDITIVES
Chair: Jason W Frank, Diamond V
Sponsor: 316-317

8:30 AM Salmonella surrogate mitigation in poultry feed using a dry acid powder.
R. A. Cochrane1, C. R. Stark1, A. R. Huss1, G. Aldrich1, C. J. Kneeven2, C. K. Jones1, and J. S. Pitts1, 1Kansas State University, Manhattan, 2Jones-Hamilton Co., Walbridge, OH, 3Jones-Hamilton Co., Weatherford, TX

8:45 AM Evaluating chemical mitigation of Porcine Epidemic Diarrhea virus in swine feed and ingredients.

9:00 AM Effects of dietary inclusion of direct-fed microbials on gut health and growth of nursery pigs orally challenged with F18-positive enterotoxigenic Escherichia coli.
Y. Sun, I. Park*, C. H. Stahl, and S. W. Kim, North Carolina State University, Raleigh

M. A. Goncalves1, M. D. Tokach1, S. S. Dritz1, N. M. Bello1, K. J. Touchette2, J. M. DeRouchey3, J. C. Woodworth1, and R. D. Goodband1, 1Kansas State University, Manhattan, 2Ajinomoto Heartland, Inc., Chicago, IL

9:30 AM Break

9:45 AM Effects of an essential oils blend on growth performance of nursery pigs.
N. Lu1, M. D. Lindemann1, J. R. Bergstrom2, C. W. Parks2, H. J. Monegue1, and J. H. Cho1, 1University of Kentucky, Lexington, 2DSM Nutritional Products, Parsippany, NJ

9:50 AM Comparative effects of dietary Cu, Zn, essential oil, and chlortetracycline on nursery pig growth performance.
J. A. Feldpausch1, J. A. De Jong1, M. D. Tokach1, S. S. Dritz1, J. C. Woodworth1, R. G. Amachawadi1, H. M. Scott1, J. L. Nelssen1, and R. D. Goodband1, 1Kansas State University, Manhattan, 2Texas A&M University, College Station

10:05 AM Effect of ractopamine and enzyme supplementation 28 days prior to marketing on growth performance of finishing pigs.
10:20 AM  97  The effects of feeding narasin on growth and harvest performance of pigs during the grow-finish period.  
R. A. Arentson*1 and J. J. Chewning2, 1Elanco, Greenfield, IN, 2Swine Research Services, Inc., Springdale, AR

10:35 AM  98  The effects of feeding narasin (Skycis) or virginiamycin (Stafac) on summer finishing pig performance.  
M. Knauer1*, P. J. Rincker2, and S. Fry3, 1North Carolina State University, Raleigh, 2Elanco Animal Health, Greenfield, IN, 3Elanco, Greenfield, IN

NONRUMINANT NUTRITION: GROW-FINISH NUTRITION AND MANAGEMENT
Chair: Benjamin E. Bass, Diamond V  
Sponsor:  
314-315

8:30 AM  99  (Invited ASAS Animal Science Young Scholar) Effects of reduced oil distillers dried grains with solubles and soybean oil on dietary lysine, fat, and fiber digestibility in corn based diets fed to growing pigs.  
N. A. Gutierrez*, N. V. L. Serão, and J. F. Patience, Iowa State University, Ames

9:00 AM 100  The effect of divergent selection for residual feed intake on digestibility of control and low energy, high fiber diets.  
E. D. Mauch1*, N. K. Gabler1, T. E. Weber1, J. F. Patience1, B. J. Kerr2, and J. C. M. Dekkers1, 1Iowa State University, Ames, 2USDA-ARS, Ames, IA

9:15 AM 101  Effect of precision feeding strategy on feeding behavior of growing-finishing pigs.  
I. Andretta1, C. Pomar2*, J. Rivest1, J. Pomar3, L. Hauschild5, and M. Kipper6, 1Universidade Estadual Paulista, Jaboticabal, Brazil, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Centre de Développement du Porc du Québec inc., Québec, QC, Canada, 4Universitat de Lleida, Lleida, Spain, 5FCAV/UNESP, Jaboticabal, Brazil, 6Universidade Federal de Santa Maria, Santa Maria, Brazil

9:30 AM 102  Comparison of the effects of antibiotic-free and conventional management on growth performance in swine.  
C. E. Vonderohe*, A. M. Jones, B. T. Richert, and J. S. Radcliffe, Purdue University, West Lafayette, IN

9:45 AM 103  A PRRS-PED virus co-infection reduces total tract digestibility in grower pigs.  
W. P. Schweer1*, K. Schwartz, K. J. Yoon, and N. K. Gabler, Iowa State University, Ames

10:00 AM  Break

10:15 AM 105  (Invited ASAS Animal Science Young Scholar) The importance of implementing a by-product withdraw strategy prior to slaughter in finishing pigs: A review of strategies that mitigate the negative impact on carcass yield.  
K. F. Coble1*, J. M. DeRouchey, M. D. Tokach, S. S. Dritz, R. D. Goodband, and J. C. Woodworth, Kansas State University, Manhattan

10:45 AM 106  Evaluation of the precision and accuracy of equations to predict backfat iodine value (IV) in pork carcasses of pigs fed diets containing distillers dried grains with solubles (DDGS).  
F. Wu1, L. J. Johnston2*, P. E. Urriola1, and G. C. Shurson1, 1Department of Animal Science, University of Minnesota, St. Paul, 2West Central Research and Outreach Center, University of Minnesota, Morris

11:00 AM 107  Effect of standardized ileal digestible (SID) tryptophan:lysine ratio on growth performance of finishing pigs.  
M. A. Goncalves1*, M. D. Tokach1, S. S. Dritz1, N. M. Bello1, K. J. Touchette2, J. M. DeRouchey1, J. C. Woodworth1, and R. D. Goodband1, 1Kansas State University, Manhattan, 2Ajinomoto Heartland, Inc., Chicago, IL

11:15 AM 108  Effects of increasing crystalline amino acids in sorghum- or corn-based diets on finishing pig growth performance.  
K. E. Jordan1*, J. Nemechek, M. A. Goncalves, R. D. Goodband, M. D. Tokach, S. S. Dritz, J. M. DeRouchey, and J. C. Woodworth, Kansas State University, Manhattan
11:30 AM 109 Growing pigs’ simulated amino acid requirements differs between actual factorial methods.
A. Remus1, C. Pomar2, and L. Hauschild3, 1Department of Animal Science - FCAV/UNESP, Jaboticabal/SP, Brazil, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3FCAV/UNESP, Jaboticabal, Brazil

11:45 AM 110 The tryptophan:lysine requirement of grow-finish pigs.
L. Greiner1, A. Graham1, and K. J. Touchette2, 1Carthage Innovative Swine Solutions, LLC, Carthage, IL, 2Ajinomoto Heartland, Inc., Chicago, IL

NONRUMINANT NUTRITION: MINERALS AND VITAMINS
Chair: Tofuko Awori Woyengo, University of Alberta
Sponsor: 318-319

8:30 AM 111 A survey of added trace mineral concentrations used in the U.S. swine industry.
M. D. Tokach, J. C. Woodworth, J. M. DeRouchey, R. D. Goodband, S. S. Dritz, and J. R. Flohr*, Kansas State University, Manhattan

8:45 AM 112 Quantitative relationships between standardized total tract digestible phosphorus and calcium intake and its retention and excretion in growing pigs fed corn-soybean meal diets.
N. A. Gutierrez1, N. V. L. Serão1, A. J. Elsbernd1, S. L. Hansen1, C. L. Walk2, M. R. Bedford3, and J. F. Patience1, 1Iowa State University, Ames, 2AB Vista Feed Ingredients, Marlborough, United Kingdom

9:00 AM 113 Digestible calcium requirements and calcium and phosphorus balance for weanling pigs.
J. C. González-Vega1, C. L. Walk2, and H. H. Stein3, 1University of Illinois, Urbana, 2AB Vista Feed Ingredients, Marlborough, United Kingdom, 3University of Illinois at Urbana-Champaign, Urbana

9:15 AM 114 Effect of particle size in calcium carbonate on apparent and standardized total tract digestibility and retention of calcium by growing pigs.
L. A. Merriman and H. H. Stein, University of Illinois, Urbana-Champaign, Urbana

9:30 AM Break

9:45 AM 116 Effect of diets formulated based on standardized total tract digestible phosphorus fed to growing pigs.
J. J. Abelilla1, R. C. Sulabo1, H. H. Stein2, S. P. Acda1, A. A. Angeles1, M. C. R. Oliveros1, and F. E. Merca1, 1Animal and Dairy Sciences Cluster, University of the Philippines, Los Baños, Philippines, 2University of Illinois, Urbana, 3Institute of Chemistry, University of the Philippines, Los Baños, Philippines

10:00 AM 117 Creating a Zn deficient model to understand the impact of different Zn sources on performance and oxidative status in pigs.
J. Zhao1, M. Vazquez-Anon1, and G. Bowman2, 1Novus International, Inc., St. Charles, MO, 2Novus, St Charles, MO

10:15 AM 118 Effects of heat stress and zinc supplementation on swine metabolome.
L. Wang1, P. E. Urriola2, Z. J. Rambo1, M. E. Wilson1, J. L. Torrison1, G. C. Shurson2, and C. Chen1, 1Department of Food Science and Nutrition, University of Minnesota, St. Paul, 2Department of Animal Science, University of Minnesota, St. Paul, 3Zinpro Corporation, Eden Prairie, MN

10:30 AM 119 A survey of added vitamin concentrations used in the U.S. swine industry.

PHYSIOLOGY: FERTILITY AND REPRODUCTIVE MANAGEMENT
Chair: Patrick J. Gunn, Department of Animal Science, Iowa State University
Sponsor: 302-303
8:30 AM 172 (Invited ASAS Animal Science Young Scholar) Enhanced prediction of frozen boar sperm fertility by assessing classical and novel traits collectively.
B. W. Daigneault1, K. A. McNamara1, P. H. Purdy2, S. L. Rodriguez Zas3, R. L. Krisher2,3, R. V. Knox1, and D. J. Miller1, 1University of Illinois, Champaign-Urbana, 2USDA-ARS-National Animal Germplasm Program, Fort Collins, CO, 3National Foundation for Fertility Research, Lone Tree, CO

9:00 AM 173 Effect of numbers of sperm and timing of a single, post-cervical insemination on fertility of weaned sows treated with OvuGel®.
K. C. Esparza-Harris1, M. E. Johnston2, S. K. Weibel3, and R. V. Knox1, 1University of Illinois, Urbana, 2JBS United, INC., Sheridan, IN, 3JBS United, Inc., Sheridan, IN

9:15 AM 174 Effect of time of OvuGel® administration on timing of estrus and ovulation and pregnancy rates in gilts synchronized for estrus.
L. M. Gesing1, M. Ellis2, R. V. Knox1, C. F. Shipley1, B. A. Peterson2, M. E. Johnston3, and S. K. Weibel3, 1University of Illinois, Champaign-Urbana, 2The Maschhoffs, Carlyle, IL, 3JBS United, Inc., Sheridan, IN

9:30 AM 175 Reproductive performance after two different breeding protocols following intravaginal OvuGel® administration in Matrix® treated gilts.
M. E. Johnston1, M. E. Swanson, and S. K. Weibel, JBS United, Inc., Sheridan, IN

9:45 AM 176 Suckling reduction and boar exposure to induce estrus in lactating sows.

10:00 AM 177 Litter of origin effects on gilt development in a commercial setting.
J. L. Vallet1, J. A. Calderon-Diaz2, K. J. Stalder2, C. E. Phillips3, J. R. Miles3, E. C. Wright-Johnson1, L. A. Rempel1, C. A. Lents1, D. Nonneman3, G. A. Rohrer2, B. A. Freking1, and R. A. Cushman4, 1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 2Danish Pig Research Centre, Danish Agriculture and Food Council, Copenhagen, Denmark, 3Iowa State University, Ames, 4Murphy-Brown LLC, Warsaw, NC

10:15 AM 178 Physiological characteristics of lactating sows with high milk production.
C. F. Hansen1, T. S. Bruun2, and A. V. Strathe1, 1Department of Large Animal Sciences, University of Copenhagen, Copenhagen, Denmark, 2Danish Pig Research Centre, Danish Agriculture and Food Council, Copenhagen, Denmark

10:30 AM 179 Glucuronic acid supplementation during maturation improves the zona reaction during in vitro fertilization of pig oocytes.
B. D. Whitaker1, K. J. Jaciuk, and M. M. Dean, University of Findlay, Findlay, OH

10:45 AM 180 Age at puberty, ovulation rate, and reproductive tract traits of developing gilts fed two lysine levels and three metabolizable energy levels from 100 d to 260 d of age.
J. A. Calderon Diaz1, J. E. Vallet1, C. A. Lents1, D. Nonneman1, J. R. Miles1, E. C. Wright-Johnson1, L. A. Rempel1, R. A. Cushman2, B. A. Freking2, G. A. Rohrer2, C. E. Phillips2, A. E. DeDecker1, G. Foxcroft1, and K. Stalder6, 1Department of Animal Science, Iowa State University, Ames, 2USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 3USDA/ARS, Clay Center, NE, 4Murphy-Brown LLC, Rose Hill, NC, 5Department of Swine Reproductive Physiology, University of Alberta, Edmonton, AB, Canada, 6Iowa State University, Ames

11:00 AM 181 Divergent selection for residual feed intake influences whole blood transcriptomic profile in growing pigs.
M. Jegou1,2, A. Vincent1,2, F. Gondret1,2, and I. Louveau1,2, 1INRA UMR1348 PEGASE, Saint Gilles, France, 2AgroCampus-Ouest UMR1348 PEGASE, Rennes, France

RUMINANT NUTRITION: MINERALS AND FEED ADDITIVES IN FEEDLOT

Chair: Kristin E. Hales, USDA-ARS-MARC
Sponsor: 308-309

8:30 AM 196 (Invited ASAS Animal Science Young Scholar) Effect of production system on mineral retention within serially slaughtered cattle.
A. K. Watson1, T. McEvets2, M. J. Herson1, M. P. McCurdy1, L. J. Walter2, N. D. May2, J. A. Reed2, N. A. Cole2, K. E. Hales2, G. W. Horn2, J. P. Hutcheson2, T. J. Klopfenstein2, C. R.
Krehbiel1, T. Lawrence2, J. C. MacDonald1, and G. E. Erickson1, 1University of Nebraska-Lincoln, Lincoln, 2West Texas A&M University, Canyon, 3University of Florida, Gainesville, 4Nutrition Service Associates, Amarillo, TX, 5USDA-ARS, Bushland, TX, 6USDA-ARS-MARC, Clay Center, NE, 7Oklahoma Agricultural Experiment Station, Stillwater, 8Merck Animal Health, Summit, NJ, 9Oklahoma State University, Stillwater

9:00 AM 197 (Invited ASAS Animal Science Young Scholar) Injectable trace minerals in beef cattle. O. N. Genther-Schroeder* and S. L. Hansen, Iowa State University, Ames

9:30 AM 198 Effect of a trace mineral injection on pregnancy rate of purebred and commercial Black Angus heifers synchronized using a 14 day CIDR-PG protocol. C. J. Brasche1, J. B. Hall2, S. Harrison1, and M. E. Drewroski1, 1University of Nebraska - Lincoln, Lincoln, 2University of Idaho, Carmen, ID, 3Riverbend Ranch, Idaho Falls, ID

9:45 AM 199 Effect of growing program on mineral retention by growing-finishing beef cattle. A. K. Watson1, J. L. Harding1, M. P. McCurdy1, M. J. Hersom2, G. W. Horn1, K. E. Hales1, C. R. Krehbiel1, and G. E. Erickson1, 1University of Nebraska-Lincoln, Lincoln, 2Nutrition Service Associates, Amarillo, TX, 3University of Florida, Gainesville, 4Oklahoma Agricultural Experiment Station, Stillwater, 5USDA-ARS-MARC, Clay Center, NE, 6Oklahoma State University, Stillwater

10:00 AM 200 Mineral retention of serially slaughtered Holstein steers supplemented with zilpaterol hydrochloride. A. K. Watson1, T. McEvers2, L. J. Walter1, N. D. May3, J. A. Reed2, N. A. Cole1, J. P. Hutcheson4, T. Lawrence5, J. C. MacDonald6, and G. E. Erickson7, 1University of Nebraska-Lincoln, Lincoln, 2West Texas A&M University, Canyon, 3USDA-ARS, Bushland, TX, 4Merck Animal Health, Summit, NJ

10:15 AM Break

10:30 AM 202 Effects of shade and feeding zilpaterol hydrochloride to finishing steers on performance, carcass quality, mobility, and body temperature. B. M. Boyd1, S. D. Shackelford2, K. E. Hales1, T. M. Brown-Brand1, M. L. Bremer1, M. L. Spangler1, and G. E. Erickson1, 1University of Nebraska-Lincoln, Lincoln, 2USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 3USDA-ARS-MARC, Clay Center, NE

10:45 AM 203 Effects of supplementation of OMNIGEN-AF and ractopamine hydrochloride on feedlot performance and carcass characteristics. K. M. Sudbeck1, G. E. Erickson1, M. K. Luebbe2, K. H. Jenkins2, R. G. Bondurant1, T. Wistuba3, K. DeHaan2, and J. C. MacDonald3, 1University of Nebraska-Lincoln, Lincoln, 2University of Nebraska, Scottsbluff, 3Prince Agriproducts, Quincy, IL

11:00 AM 204 Effect of bacterial inoculation on feedlot performance with or without the addition of yeast product. C. A. Row1, C. J. Bittner1, J. L. Harding1, D. B. Burken1, J. C. MacDonald1, T. J. Klopfenstein1, A. Aguilar2, R. Schmidt3, and G. E. Erickson1, 1University of Nebraska-Lincoln, Lincoln, 2Lallemand, Martinsville, IN, 3Lallemand Animal Nutrition, Milwaukee, WI

11:15 AM 205 Effects of backgrounding rate of gain on carcass characteristics. A. R. Taylor1, R. H. Pritchard1, and K. W. Bruns2, 1South Dakota State University, Brookings, 2University of Nebraska-Lincoln, West Central Research & Extension Center, North Platte

11:30 AM 206 Changes in leptin and metabolite concentrations over time in finishing beef steers and heifers. A. P. Foote1, D. H. Keisler2, K. E. Hales3, R. G. Tait, Jr.4, and H. C. Freesty5, 1USDA, ARS, US Meat Animal Research Center, Clay Center, NE, 2University of Missouri, Columbia, 3USDA-ARS-MARC, Clay Center, NE, 4USDA, ARS, 5U.S. Meat Animal Research Center, Clay Center, NE

ANIMAL BEHAVIOR, HOUSING, & WELL-BEING: HOUSING AND TECHNOLOGY TO ADDRESS ANIMAL WELFARE

Chair: Jennifer A. Brown, Prairie Swine Centre
Sponsor: 401
TUESDAY, MARCH 17 - SYMPOSIA AND ORAL

1:30 PM 1 (Invited ASAS Animal Science Young Scholar) Associations among temperament, feather pecking behavior and meat quality characteristics in two strains of turkeys. M. A. Erasmus, H. C. Lee, I. Kang, and J. C. Swanson, Michigan State University, East Lansing

2:00 PM 2 The effect of overgrown claws on behavior and claw lesions of sows in farrowing crates. J. A. Calderón Díaz, I. M. J. Stienezen, F. C. Leonard, and L. A. Boyle, 1Pig Development Department, Teagasc Animal and Grassland Research and Innovation Centre, Moorepark, Fermoy, Co. Cork, Ireland, 2University College Dublin, Dublin, Ireland


2:30 PM 4 Selection of variables for predicting and comparing number of skin lesions. K. E. Wurtz, J. P. Steibel, R. O. Bates, C. W. Ernst, and J. M. Siegford, 1Department of Animal Science, Michigan State University, East Lansing, 2Department of Fisheries and Wildlife, Michigan State University, East Lansing

2:45 PM 5 Lameness detection trial in a commercial environment using an embedded microcomputer based force plate system. B. M. McNeil, J. D. Stock, J. A. Calderón Díaz, T. D. Parsons, A. K. Johnson, L. A. Karriker, S. T. Millman, S. J. Hoff, and K. J. Stalder, 1Department of Animal Science, Iowa State University, Ames, 2Department of Clinical Studies, School of Veterinary Medicine, University of Pennsylvania, Kennett Square, 3Iowa State University College of Veterinary Medicine, Ames, 4Agricultural and Biosystems Engineering, Iowa State University, Ames

3:00 PM 6 Mixing strategies for group-housed gestating sows: Effects on production. J. A. Brown, Y. M. Seddon, Y. Li, and M. M. Bouvier, 1Prairie Swine Centre, Saskatoon, SK, Canada, 2University of Minnesota, West Central Research and Outreach Center, Morris

3:15 PM 7 Effect of feeding system (dry vs liquid) on the behavior of wean to finish pigs. D. Menon, D. P. Pangen, J. Kim, P. Ren, X. Yang, and S. Baidoo, Southern Research and Outreach Center, University of Minnesota, Waseca

3:30 PM 8 Effect of shade on performance, carcass quality, and welfare of finishing cattle fed a beta-adrenergic agonist in a commercial feedlot. J. A. Hagenmaier, S. J. Bartle, C. Reinhardt, and D. Thomson, Kansas State University, Manhattan

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

Chair: Timothy J Safranski, University of Missouri
Sponsor: 304-305

1:30 PM
Welcoming Remarks

1:40 PM 9 (Invited) Control of the estrous cycle, ovulation, time of insemination and subsequent farrowing in swine. S. K. Webel and R. R. Kraeling, 1JBS United, Inc., Sheridan, IN, 2L&R Research Associates, Watkinsville, GA

2:20 PM 10 (Invited) In vitro maturation and fertilization. H. Funahashi, Okayama University, Okayama, Japan

3:00 PM
Break

3:15 PM 11 (Invited) Evolution and adoption of artificial insemination (A.I.) in the U.S. W. Flowers, North Carolina State University, Raleigh

3:55 PM 12 (Invited) 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 I
Chair: Amanda K. Lindholm-Perry, USDA, ARS, US MARC
Sponsor: 302-303

1:30 PM 19  Estimates of genetic parameters and response to 10 generations of selection for residual feed intake in Yorkshire pigs.
W. L. Hsu1, J. M. Young1, E. D. Mauch1, and J. C. M. Dekkers1, Iowa State University, Ames, North Dakota State University, Fargo

1:45 PM 20  Genomic prediction accuracies of residual feed intake (RFI) and component traits of feed efficiency in pigs divergently selected for RFI.
N. V. L. Seræo1, E. D. Mauch1, W. L. Hsu1, A. Wole1, M. F. Rothschild1, and J. C. M. Dekkers1, Iowa State University, Ames, Hy-Line International, Dallas Center, IA

2:00 PM 21  Genomic prediction of growth traits in Brangus beef cattle.
Z. Q. Weng1, H. Su1, J. Lee1, J. Zeng1, and D. J. Garrick2, Iowa State University, Ames, Massey University, Palmerston North, New Zealand

2:15 PM 22  Genetic variance and covariance components for feed intake, average daily gain, and postweaning gain in growing beef cattle.
K. J. Retallick1, J. M. Bormann1, R. L. Weaver1, M. D. MacNeil1, H. L. Bradford1, H. C. Freely1, W. M. Snelling1, R. M. Thallman1, D. W. Moser1, and L. A. Kuehn1, Kansas State University, Manhattan, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, USDA, ARS, US MARC, Clay Center, NE

2:30 PM 23  Accuracies of genomic and pedigree based predictions for swine litter size traits in Large White and Landrace breeds.
A. M. Putz1, K. A. Gray2, C. Maltecca1, M. Knauer3, and E. Tiezzi1, North Carolina State University, Raleigh, Smithfield Premium Genetics, Rose Hill, NC

2:45 PM 24  Improved accuracy of genomic prediction combining linkage disequilibrium and co-segregation by fitting haplotypes in addition to SNP genotypes.
X. Sun1, R. L. Fernando, D. J. Garrick, and J. C. M. Dekkers, Iowa State University, Ames

3:00 PM 25  Comparison of a QTL versus marker effects model for genomic prediction with training across families, generations, or breeds.
J. Zeng1, D. J. Garrick, and R. L. Fernando, Iowa State University, Ames

3:15 PM 26  Genome-wide association and genomic prediction of response to infection for two isolates of porcine reproductive and respiratory syndrome virus.
E. H. Waide1, N. V. L. Seræo1, A. Hess1, R. R. R. Rowland2, J. K. Lunney3, G. S. Plastow4, and J. C. M. Dekkers1, Iowa State University, Ames, Kansas State University, Manhattan, USDA, ARS, BARC, APDL, Beltsville, MD, University of Alberta, Edmonton, AB, Canada

3:30 PM 27  A comparison of viremia profiles between piglets infected with one of two isolates of porcine reproductive and respiratory syndrome virus.
A. Hess1, Z. Islam2, R. R. R. Rowland3, J. K. Lunney4, A. Doeschl-Wilson5, S. C. Bishop6, G. S. Plastow7, and J. C. M. Dekkers1, Iowa State University, Ames, Roslin Institute, University of Edinburgh, Edinburgh, Scotland, Kansas State University, Manhattan, USDA, ARS, BARC, APDL, Beltsville, MD, The Roslin Institute and R(D)SVS, University of Edinburgh, Midlothian, United Kingdom, University of Alberta, Edmonton, AB, Canada

3:45 PM 28  Genomic prediction of host response to co-infection with PRRSV and PCV2b using a PRRSV-only infected training population.
J. R. Dunkelberger1, E. H. Waide1, N. V. L. Seræo1, J. K. Lunney1, R. R. R. Rowland1, and J. C. M. Dekkers1, Iowa State University, Ames, USDA, ARS, BARC, APDL, Beltsville, MD, Kansas State University, Manhattan

EXTENSION – DAIRY SYMPOSIUM: STRATEGIES TO IMPROVE DAIRY CATTLE HEALTH, WELFARE AND PERFORMANCE
Chair: J. A. Salfer, University of Minnesota
Sponsor: 306-307
1:30 PM  56  (Invited) Colostrum: Its effect on cattle health and performance.  
P. S. Erickson*, University of New Hampshire, Durham, NH

2:05 PM  57  Calf growth and feed intake associations with milk yield.  
D. L. Bean1, K. J. Stalder*, A. J. Heinrichs2, and C. D. Dechow1, 1Iowa State University, Ames, 2Pennsylvania State University, University Park

L. L. Hernandez* and J. Laporta, University of Wisconsin-Madison, Madison

2:55 PM  59  (Invited) Holistic approach for the identification, risk assessment and mitigation of mycotoxins' impact in ruminant.  

3:30 PM  60  (Invited) A nutritional strategy to help control digital dermatitis in growing animals.  
A. Gomez*, D. Döpfer2, J. DeFrain1, D. H. Kleinschmit1, and M. Socha1, 1Zinpro Corporation, Eden Prairie, MN, 2School of Veterinary Medicine, University of Wisconsin, Madison

4:05 PM  61  Chromium for dairy cattle: An essential nutrient.  

4:40 PM  62  Relationship between early lactation body condition score and mid-lactation feed efficiency in primiparous Holstein cows.  
L. C. Hardie*, M. J. VandeHaar2, and D. M. Spurlock1, 1Iowa State University, Ames, 2Michigan State University, East Lansing

NONRUMINANT NUTRITION: EXOGENOUS ENZYMES

Chair: Thomas E. Burkey, University of Nebraska
Sponsor: 314-315

1:30 PM  120  Effects of phytase on phosphorus digestibility of rice co-products fed to growing pigs.  
G. A. Casas* and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana

1:45 PM  121  Effect of microbial phytase on the standardized total tract digestibility and in vitro release of phosphorus in corn, soybean meal, and rice bran fed to growing pigs.  
J. J. Abelilla1, R. C. Sulabo1, H. H. Stein1, S. P. Acda1, A. A. Angeles1, M. C. R. Oliveros1, and F. E. Merca1, 1Animal and Dairy Sciences Cluster, University of the Philippines, Los Baños, Philippines, 2University of Illinois, Urbana, 3Institute of Chemistry, University of the Philippines, Los Baños, Philippines

2:00 PM  122  Effects of increasing dietary levels of Aspergillus oryzae-derived phytase (Ronozyme) on the growth performance of nursery pigs fed an adequate phosphorous diet.  
T. C. Tsai1*, H. J. Kim1, J. R. Bergstrom1, J. J. Chewing2, J. K. Apple1, and C. V. Maxwell1, 1Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, 2DSM Nutritional Products, Inc., Parsippany, NJ, 3Swine Research Services, Inc., Springdale, AR

2:15 PM  123  Super-dosed phytase improves rate and efficiency of gain in nursery pigs.  
D. D. Koehler1*, B. Corrigan1, A. J. Elserbbe1, S. A. Gould1, C. L. Holloway*, and J. F. Patience*, 1VitaPlus Corporation, Madison, 2Iowa State University, Ames

2:30 PM  124  Improving nutrient utilization through the use of super-dosing of phytase in growing pig diets.  
C. L. Holloway1*, R. D. Boyd2, and J. F. Patience1, 1Iowa State University, Ames, 2The Hanover Company, Inc., Franklin, KY

2:45 PM  125  The effect of superdosing phytase with or without the addition of live yeast in diets void of spray dried plasma in pigs from weaning to 21 days post-weaning.  
C. L. Bradley1, C. L. Walk, N. D. Walker, and P. Wilcock, AB Vista Feed Ingredients, Marlborough, United Kingdom

3:00 PM  Break
3:05 PM  127  **Response of protease supplementation on growth performance of weanling pigs.**  

3:20 PM  128  **Efficacy of protease on growth, gut health, and nutrient digestibility in nursery pigs fed diets with different levels of soybean meal.**  

3:35 PM  129  **Effects of xylanase supplementation and feeding method on nutrient digestibility in pigs fed diets containing corn dried distillers grains with solubles or wheat middlings.**  
*K. Moran*, E. van Heugten, R. D. Boyd, P. Wilcock, and C. F. de Lange, North Carolina State University, Raleigh, The Hanor Company, Inc., Franklin, KY, AB Vista Feed Ingredients, Marlborough, United Kingdom, Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

3:50 PM  130  **The effect of xylanase in grower-finisher pigs fed low or high fat diets.**  
*P. Wilcock*, C. L. Bradley, H. V. Masey O’Neill, and G. Gourley, AB Vista Feed Ingredients, Marlborough, United Kingdom, Gourley Research Group LLC, Webster City, IA

4:05 PM  131  **Effects of dietary ß-mannanase on the growth performance of growing pigs.**  

**NONRUMINANT NUTRITION: FEED INGREDIENTS AND PROCESSING**

**Chair:** Huyen Tran, University of Nebraska  
**Sponsor:** 318-319

1:30 PM  132  **Energy digestibility in 23 sources of distillers dried grains with solubles fed to pigs.**  
*S. M. Curry* and H. H. Stein, University of Illinois, Urbana

1:45 PM  133  **Impact of feeding diets containing corn distillers dried grains with solubles (DDGS) with variable predicted NE content on growth performance and carcass characteristics of growing-finishing pigs.**  
*F. Wu*, L. J. Johnston, P. E. Urriola, A. M. Hilbrands, and G. C. Shurson, Department of Animal Science, University of Minnesota, St. Paul, West Central Research and Outreach Center, University of Minnesota, Morris, MN

2:00 PM  134  **Digestibility of energy and concentrations of digestible and metabolizable energy in processed soybean and rapeseed products fed to growing pigs.**  
*D. M. D. L. Navarro*, Y. Liu, T. S. Bruun, and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana, University of Illinois, Urbana, Danish Pig Research Centre, Danish Agriculture and Food Council, Copenhagen, Denmark

2:15 PM  135  **Evaluation of a microbially-converted soybean meal as a substitute for fishmeal in weaned pig diets.**  
*S. M. Sim*, W. Gibbons, M. Brown, J. M. DeRouchey, and C. L. Levesque, South Dakota State University, Brookings, Kansas State University, Manhattan

2:30 PM  136  **(Invited ASAS Animal Science Young Scholar) Use of feed technology to improve the nutritional value of feed ingredients fed to pigs.**  
*O. J. Rojas* and H. H. Stein, University of Illinois, Urbana

3:00 PM  **Break**

3:15 PM  138  **Diet nutrient digestibility and growth performance of weaned pigs fed sugar beet pulp.**  
*L. F. Wang*, E. Beltranena, and R. T. Zijlstra, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, Alberta Agriculture and Rural Development, Edmonton, AB, Canada

3:30 PM  139  **(Invited ASAS Animal Science Young Scholar) Use of spectroscopy to predict nutrient digestibility in pigs and to identify in vitro digestion limits.**  
*L. F. Wang*, M. L. Swift, E. Beltranena, and R. T. Zijlstra, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, Alberta
Formation of fines during the pelleted feed manufacturing process and the resulting differences in nutrient composition of fines and pellets.
J. A. De Jong\textsuperscript{1}, J. M. DeRouchey\textsuperscript{1}, M. D. Tokach\textsuperscript{1}, R. D. Goodband\textsuperscript{1}, J. C. Woodworth\textsuperscript{1}, C. K. Jones\textsuperscript{1}, C. R. Stark\textsuperscript{1}, L. McKinney\textsuperscript{2}, G. Smith\textsuperscript{3}, and J. A. Erceg\textsuperscript{1}, \textsuperscript{1}Kansas State University, \textsuperscript{2}DFS, Newell, IA

Impact of particle size and grinding method (roller or hammermill) on apparent total tract digestibility of energy in growing pigs.
J. A. Acosta Camargo\textsuperscript{2}, S. A. Gould\textsuperscript{2}, C. K. Jones\textsuperscript{2}, C. R. Stark\textsuperscript{2}, and J. F. Patience\textsuperscript{2}, \textsuperscript{1}Iowa State University, Ames, \textsuperscript{2}Kansas State University, Manhattan

Using extreme thermal processing to improve nutrient utilization of diets for finishing pigs.
G. E. Bokelman\textsuperscript{1}, K. F. Coble\textsuperscript{2}, C. R. Stark\textsuperscript{2}, J. C. Woodworth\textsuperscript{1}, M. D. Tokach\textsuperscript{1}, S. Alavi\textsuperscript{1}, and C. K. Jones\textsuperscript{1}, \textsuperscript{1}Kansas State University, Manhattan, \textsuperscript{2}New Fashion Pork, Jackson, MN

Effects of seaweed β-1,3-glucan (Algamune) on growth performance of weaned piglets.
Z. Cheng\textsuperscript{1}, Y. Wang\textsuperscript{1}, D. Hou\textsuperscript{1}, H. Zhang\textsuperscript{1}, Y. Chen\textsuperscript{1}, H. Lei\textsuperscript{1}, B. Wang\textsuperscript{1}, and R. Legnere\textsuperscript{1}, \textsuperscript{1}Animal Nutrition & Feed Center, COFCO Nutrition and Health Institute, Beijing, China, \textsuperscript{2}Algal Scientific Corporation, Northville, MI

NONRUMINANT NUTRITION: SOW NUTRITION AND MANAGEMENT

Chair: Crystal L. Levesque, South Dakota State University
Sponsor: 316-317

Effects of lysine and energy intake during late gestation on weight gain and reproductive performance of gilts and sows under commercial conditions.
M. A. Goncalves\textsuperscript{1}, K. M. Gourley, S. S. Dritiz\textsuperscript{1}, M. D. Tokach\textsuperscript{1}, N. M. Bello, J. M. DeRouchey, J. C. Woodworth, and R. D. Goodband, Kansas State University, Manhattan

Impact of feeding level post-weaning on wean to estrus interval, conception and farrowing rates, and subsequent farrowing performance.
A. Graham\textsuperscript{1}, K. J. Toulouse\textsuperscript{2}, S. Jungst\textsuperscript{1}, M. Tegtmeyer\textsuperscript{1}, J. Connor\textsuperscript{3}, and L. Greiner\textsuperscript{1}, \textsuperscript{1}Carthage Innovative Swine Solutions, LLC, Carthage, IL, \textsuperscript{2}Ajinomoto Heartland, Inc., Chicago, IL, \textsuperscript{3}Genus PIC, Hendersonville, TN, Carthage Veterinary Service, Ltd, Carthage, IL

Understanding the impact on growth performance and the costs associated with increasing gestation feed allowance to sows classified as thin body condition.
E. K. Weber\textsuperscript{1}, J. A. Calderón Díaz\textsuperscript{2}, K. J. Stalder\textsuperscript{2}, M. A. FitzSimmons\textsuperscript{2}, and G. Gourley\textsuperscript{3}, \textsuperscript{1}Gourley Premium Pork LC, Long Prairie, MN, \textsuperscript{2}Iowa State University, Ames, \textsuperscript{3}MAF Veterinary Services, Mapleton, MN, \textsuperscript{4}Gourley Research Group LLC, Webster City, IA

Feeding an activated animal protein improves sow and offspring performance.
R. E. Musser\textsuperscript{1}, R. Song, K. W. Purser, and C. D. Hagen, NUTRIQUEST, Mason City, IA

(Invited ASAS Animal Science Young Scholar) Essential nature of fatty acids for the modern lactating sow.
D. S. Rosero\textsuperscript{1,2,4}, J. Odle\textsuperscript{1}, R. D. Boyd\textsuperscript{1,3}, and E. van Heugten\textsuperscript{1}, \textsuperscript{1}North Carolina State University, Raleigh, \textsuperscript{2}The Hanor Company, Inc., Franklin, KY

S. M. Mendoza\textsuperscript{2,4}, G. Martinez\textsuperscript{4}, M. Knauer\textsuperscript{4}, E. van Heugten\textsuperscript{1}, P. Wilcock\textsuperscript{2}, and R. D. Boyd\textsuperscript{1,3}, \textsuperscript{1}North Carolina State University, Raleigh, \textsuperscript{2}AB Vista Feed Ingredients, Marlborough, United Kingdom, \textsuperscript{3}The Hanor Company, Inc., Franklin, KY

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.
TUESDAY, MARCH 17 - SYMPOSIA AND ORAL

D. Chamberlin\textsuperscript{1}, W. J. Powers\textsuperscript{1}, D. W. Rozeboom\textsuperscript{1}, T. M. Brown-Brandl\textsuperscript{2}, S. Erwin\textsuperscript{1}, C. Walker\textsuperscript{1}, and N. L. Trottier\textsuperscript{1}, \textsuperscript{1}Michigan State University, East Lansing, \textsuperscript{2}USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

3:45 PM 152 Growth and body composition, feed intake and carcass composition traits of developing gilts fed different dietary lysine and metabolizable energy levels.
J. A. Calderón Díaz\textsuperscript{1}, J. L. Vallet\textsuperscript{2}, T. J. Prince\textsuperscript{3}, C. E. Phillips\textsuperscript{4}, A. E. DeDecker\textsuperscript{4}, and K. Stalder\textsuperscript{5}, \textsuperscript{1}Department of Animal Science, Iowa State University, Ames, \textsuperscript{2}USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, \textsuperscript{3}Prince Nutrition Service LLC, Auburn, AL, \textsuperscript{4}Murphy-Brown LLC, Rose Hill, NC, \textsuperscript{5}Iowa State University, Ames

4:00 PM 153 The determination of amount of feed grade lysine usage in lactating sows.
L. Greiner\textsuperscript{1}, A. Graham\textsuperscript{1}, M. Tegtmeyer\textsuperscript{1}, K. J. Touchette\textsuperscript{2}, and S. Jungst\textsuperscript{3}, \textsuperscript{1}Carthage Innovative Swine Solutions, LLC, Carthage, IL, \textsuperscript{2}Ajinomoto Heartland, Inc., Chicago, IL, \textsuperscript{3}Genus PIC, Hendersonville, TN

4:15 PM 154 Increasing dietary valine-to-lysine ratio did not affect litter and sow performance during lactation.
A. V. Strathe\textsuperscript{1}, T. S. Bruun\textsuperscript{2}, J. E. Zehrann\textsuperscript{3}, and C. F. Hansen\textsuperscript{1}, \textsuperscript{1}Department of Large Animal Sciences, University of Copenhagen, Copenhagen, Denmark, \textsuperscript{2}Danish Pig Research Centre, Danish Agriculture and Food Council, Copenhagen, Denmark, \textsuperscript{3}Evonik Degusa International AG, Vejle, Denmark

4:30 PM 155 Lactation performance in sows fed diets with graded levels of crystalline amino acids as substitute for crude protein at lysine requirement.
D. Chamberlin\textsuperscript{1}, D. W. Rozeboom, S. Erwin, and N. L. Trottier, Michigan State University, East Lansing

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

Chair: Stephanie L. Hansen, Iowa State University
Sponsor: 312-313

1:30 PM (Invited) Integrating genomic and phenotypic biomarkers for RFI with nutrition models to improve the prediction of growth performance in beef cattle.
G. E. Carstens\textsuperscript{1} and L. O. Tedeschi, Texas A& M University, College Station

2:15 PM (Invited) Using residual feed intake as a tool to improve dairy feed efficiency.
M. J. VandeHaar\textsuperscript{1} and D. M. Spurlock\textsuperscript{2}, \textsuperscript{1}Michigan State University, East Lansing, \textsuperscript{2}Iowa State University, Ames

3:00 PM Break

3:15 PM (Invited) The role of the rumen and its microbial population in feed efficiency.
K. A. Johnson\textsuperscript{1}, Washington State University, Pullman

4:00 PM (Invited) Relationship of residual feed intake (Metabolic Efficiency) to post-ruminal metabolism in beef cattle.
M. S. Kerley\textsuperscript{1}, W. J. Sexten\textsuperscript{2}, and A. M. Meyer\textsuperscript{2}, \textsuperscript{1}University of Missouri, Columbia, \textsuperscript{2}Division of Animal Sciences, University of Missouri, Columbia

RUMINANT NUTRITION: BYPRODUCT FEEDS

Chair: Jon P. Schoonmaker, Purdue University
Sponsor: 308-309

1:30 PM 207 Starch inclusion in beef cattle finishing diets.
A. K. Watson\textsuperscript{1}, M. K. Luebbe\textsuperscript{2}, and G. E. Erickson\textsuperscript{1}, \textsuperscript{1}University of Nebraska-Lincoln, Lincoln, \textsuperscript{2}University of Nebraska, Scottsbluff

1:45 PM 208 Effect of corn residue harvest method and monensin inclusion on performance of growing cattle.
J. J. Updike\textsuperscript{1}, A. C. Pesta, R. G. Bondurant, S. C. Fernando, G. E. Erickson, J. C. MacDonald, and T. J. Klopfenstein, University of Nebraska-Lincoln, Lincoln
2:00 PM 209  Effect of harvest method of corn residue on digestibility.  

2:15 PM 210  Effect of the addition of calcium oxide in soybean hull and non-soybean hull based beef diets on feedlot performance and carcass characteristics.  
C. R. Muegge* and J. P. Schoonmaker, Purdue University, West Lafayette, IN

2:30 PM 211  Effect of pelleted byproducts on performance when fed to growing cattle.  
C. A. Welchons*, C. J. Bittner, D. B. Burken, J. C. MacDonald, and G. E. Erickson, University of Nebraska-Lincoln, Lincoln

2:45 PM 212  Effects of replacing corn with a pellet consisting of treated corn stover and distillers byproducts on performance of finishing cattle.  
J. L. Harding*, J. C. MacDonald, C. J. Bittner, G. E. Erickson, and D. B. Burken, University of Nebraska-Lincoln, Lincoln

3:00 PM  
Break

3:15 PM 214  Impact of feeding distillers grains or isolated components in distillers grains on feedlot performance and carcass traits.  
B. B. Conroy1, J. A. Hansen1, G. E. Erickson2, and M. K. Luebbe1, 1University of Nebraska, Scottsbluff, 2University of Nebraska-Lincoln, Lincoln

3:30 PM 215  Modifying different components of distillers grains and the impact on feedlot performance.  
Z. E. Carlson*, C. J. Bittner, D. B. Burken, G. E. Erickson, and J. C. MacDonald, University of Nebraska-Lincoln, Lincoln

3:45 PM 216  Influence of dry-rolled corn processing and distillers grain inclusion rate on rumen pH, VFA and NH3 concentration and in vitro methane production.  

4:00 PM 217  Impact of dietary nitrate and sulfate on methane to carbon dioxide ratio and performance of finishing steers.  
A. C. Pesta*, R. G. Bondurant, S. C. Fernando, and G. E. Erickson, University of Nebraska-Lincoln, Lincoln

4:15 PM 218  Impact of crude glycerin supplementation on rumen and duodenal microbial populations in beef cattle diets.  
A. McCain*, University of Nebraska-Lincoln, Lincoln
Wednesday, March 18, 2015

BREEDING AND GENETICS II

Chair: Amanda K. Lindholm-Perry, USDA, ARS, US MARC
Sponsor: 312-313

8:30 AM 29 (Invited ASAS Animal Science Young Scholar) Selection for maintenance energy requirements in mice: Lifecycle biological efficiency. A. S. Bhatnagar* and M. K. Nielsen, University of Nebraska-Lincoln, Lincoln

9:00 AM 30 Selection for feed efficiency: Direct and correlated responses on production traits in two rabbit lines selected under ad libitum and restricted feeding. H. Gilbert1, L. Drouilhet1, J. Ruesche1, A. Tircazes1, M. Theau-Clement1, T. Joly2, E. Balmisse1, and H. Garreau1, 1INRA UMR1388 GenPhysE, F-31326 Castanet-Tolosan, France, 2ISARA-Lyon, F-69007 Lyon, France


9:30 AM 32 Evidence of RNA editing in pig longissimus dorsi muscle. S. A. Funkhouser1, J. P. Steibel2, R. O. Bates2, N. E. Raney2, and C. W. Ernst2, 1Genetics Program, Michigan State University, East Lansing, 2Department of Animal Science, Michigan State University, East Lansing

9:45 AM 33 Effect of hair coat shedding on ADG in weaned Angus calves. B. N. Richardson*, A. J. Cross, and J. P. Cassady, South Dakota State University, Brookings

10:00 AM 34 Estimation of the relationship between intramuscular fat, testosterone, and scrotal circumference in yearling Angus bulls. J. T. Parham1, C. S. Whisnant1, G. B. Huntington2, M. H. Poore2, K. A. Gray3, and J. P. Cassady1, 1South Dakota State University, Brookings, 2North Carolina State University, Raleigh, 3Smithfield Premium Genetics, Rose Hill, NC

10:15 AM 35 The effect of calf sex on dam milk yield in the New Zealand dairy cattle population. M. K. Hayr1, A. Hess1, and D. J. Garrick2, 1Iowa State University, Ames, 2Massey University, Palmerston North, New Zealand

10:30 AM 36 Effect of litter size on piglet birth weight and birth weight as an indicator of pig quality. C. E. Abell*, R. Komenda, and T. Rathje, DNA Genetics, Columbus, NE

10:45 AM 37 Characterization and symmetry study of objective feet and leg joint measurements in five separate lines of maternal gilts. J. D. Stock1, B. E. Mot2, T. J. Baas3, M. F. Rothschild4, and K. J. Stalder1, 1Department of Animal Science, Iowa State University, Ames, 2Fast Genetics Inc., Saskatoon, SK, Canada, 3Iowa State University, Ames


EXTENSION – BEEFSMALL RUMINANT

Chair: Justin W. Waggoner, Kansas State University
Sponsor: 316-317

8:30 AM 46 Collection method affects hay waste estimates. D. J. Tomczak1, N. E. Merz2, and W. J. Sexten2, 1University of Missouri, Columbia, 2Division of Animal Sciences, University of Missouri, Columbia

8:45 AM 47 Relationship between pre-weaning gain, age at puberty, and reproductive tract development in Angus heifers. R. A. Cushman1, A. K. McNeel1, E. C. Wright-Johnson1, O. L. Asmundson2, S. C. Tenley3, E. L. Larimore4, B. N. Richardson2, C. C. Chase, Jr., G. A. Perry4, and A. S. Cupp4, 1USDA, ARS,
9:00 AM  48  Factors affecting the adoption of grazing systems and grass-based management by beef and sheep producers in Ohio.  
J. S. McCutcheon1, L. W. Morton2, H. N. Zerby3, S. C. Loerch4, L. Miller2, and F. L. Fluharty4,  
1The Ohio State University, Mount Gilead, 2Iowa State University, Ames, 3The Ohio State University, Columbus, 4The Ohio State University, Wooster, 5Small Farm Institute, Millersburg, OH

9:15 AM  49  Comparison of the host immune response to the footrot pathogenic bacteria in different genotypes of Katahdin sheep.  
S. Azarpajouh1, T. Wuliji2, and A. Bax3, 1Department of Animal Sciences, University of Missouri-Columbia, Columbia, 2Department of Agriculture & Environmental Sciences, Jefferson City, MO

9:30 AM  50  Heifer intake and feed efficiency as indicators of cow intake and efficiency.  
C. Cassidy1, J. Adcock1, K. M. Retallick2, and D. W. Shike1, 1University of Illinois at Urbana-Champaign, Urbana, 2California Polytechnic State University, San Luis Obispo

9:45 AM  51  Ensiled high moisture corn stover as an alternative forage in gestating and lactating beef cow diets.  
W. T. Meteor*, W. C. Meteor, W. P. Chapple, and D. W. Shike, University of Illinois at Urbana-Champaign, Urbana

10:00 AM  52  Long term effect of corn residue grazing on crop yields.  
M. E. Drewnoski1, J. C. MacDonald, G. E. Erickson, K. Hanford, and T. J. Klopfer, 1University of Nebraska-Lincoln, Lincoln

10:15 AM  53  Evaluation of the anthelmintic efficacy of a single subcutaneous injection of LongRange™ in stocker calves when compared to a positive (Dectomax™) and a negative (saline) control.  
A. C. Vesco1, A. K. Sexten1, C. S. Weiher1, B. E. Olver1, W. R. Hollenbeck1, L. C. Grimes1, and D. A. Blasi2, 1Kansas State University, Manhattan, 2Dept. of Animal Sci. & Industry, Manhattan, KS

10:30 AM  54  Determining growth performance implications on meat goat kids fed soybean hull or corn based pelleted diets.  
A. C. Vesco*, C. K. Jones, L. C. Grimes, T. H. Fountain, B. R. Faris, and A. K. Sexten, Kansas State University, Manhattan

10:45 AM  55  Technology 2-step research project: Genetic improvement made through use of DNA testing and artificial insemination to high-growth, high carcass value angus sires.  
L. C. Grimes1, L. R. Corah2, T. Brink3, M. Gardiner4, and A. K. Sexten1, 1Kansas State University, Manhattan, 2Certified Angus Beef LLC., Manhattan, KS, 3Top Dollar Angus, Greeley, CO, 4Gardiner Angus Ranch, Ashland, KS

GROWTH, DEVELOPMENT, MUSCLE BIOLOGY, AND MEAT SCIENCE

Chair: Chad A Stahl, Food Animal Consultation & Testing Services
Sponsor: 314-315

8:30 AM  76  Effects of in utero heat stress on muscle development of barrows.  
T. A. Wilmoth1, Z. D. Callahan2, T. J. Safranski2, and B. R. Wiegand2, 1Clemson University, Clemson, SC, 2University of Missouri, Columbia

8:45 AM  77  Integrative responses of pig adipose tissues to high-fat high-fiber diet: Towards key regulators of energy flexibility.  
F. Gondret1,2, A. Vincent1,2, M. Houe3, S. Lagarrigue1,2, A. Siegel4, D. Causeur3, and I. Louveau1,2, 1INRA UMR1348 PEGASE, Saint Gilles, France, 2AgroCampus-Ouest UMR1348 PEGASE, Rennes, France, 3AgroCampus-Ouest UMR6625 IRMAR, Rennes, France, 4CNRS-Université de Rennes 1-INRIA, UMR6074 IRISA, Rennes, France

9:00 AM  78  Correlation of fresh muscle firmness with sensory characteristics of pork loins destined for export to a quality focused market.
**E. K. Arkfeld**, S. Mancini, B. Fields, A. C. Dilger, and D. D. Boler, University of Illinois, Urbana; S. University of Pisa, Pisa, Italy; Genus PIC, Hendersonville, TN; University of Illinois at Urbana-Champaign, Urbana

9:15 AM 79 Dietary hydrolysable tannins from chestnut have the potential to reduce the risk of boar-tainted carcasses.

G. Bee and S. Ampuero Kragten, Agroscope Institute for Livestock Sciences, Posieux, Switzerland; Institute for Livestock Sciences, Posieux, Switzerland

9:30 AM 447 Effects of dietary narasin inclusion level on the growth performance, incidence and severity of diarrhea, and viral shedding in nursery pigs infected with Porcine Epidemic Diarrhea Virus (PEDV).


9:45 AM Break

10:00 AM 80 (Invited ASAS Animal Science Young Scholar) The effects of maternal energy restriction during mid-gestation on growth performance, gene expression, and immune function in the resultant beef offspring.

A. R. Taylor, D. A. Mohrhauser, K. R. Underwood, R. H. Pritchard, A. E. Werz-Lutz, and A. D. Blair, South Dakota State University, Brookings, ADM Alliance Nutrition, Quincy, IL; South Dakota State University, Rapid City, SD

10:30 AM 81 Effects of maternal plane of nutrition during mid-gestation on beef calf post-weaning growth and feed efficiency, methane production, insulin sensitivity, and carcass characteristics.

T. B. Wilson, B. C. Ramírez, L. F. Rodríguez, A. R. Green, D. D. Boler, A. C. Dilger, T. L. Felix, and D. W. Shike, University of Illinois at Urbana-Champaign, Urbana

10:45 AM 82 Evaluation of the effects of zilpaterol hydrochloride supplementation on catecholamine response and other blood metabolites following a combined corticotropin releasing hormone and vasopressin challenge.

J. O. Buntyn, N. C. Burdick Sanchez, T. B. Schmidt, S. E. Sieren, G. E. Erickson, S. J. Jones, and J. A. Carroll, University of Nebraska-Lincoln, Lincoln, USDA-ARS, Livestock Issues Research Unit, Lubbock, TX

11:00 AM 83 Supplementation of zilpaterol hydrochloride does not significantly alter the serum metabolic profile and metabolic enzyme profile of finishing heifers.

S. E. Sieren, S. J. Jones, J. O. Buntyn, J. A. Carroll, N. C. Burdick Sanchez, and T. B. Schmidt, University of Nebraska-Lincoln, Lincoln, USDA-ARS, Livestock Issues Research Unit, Lubbock

11:15 AM 84 A comparison of performance, carcass characteristics and meat quality from intact male beef cattle relative to castrated male beef cattle administered growth promotion technology.

M. E. Stephens, S. J. Bartle, D. N. Rethorst, C. D. Reinhardt, M. G. Siemens, and D. U. Thomson, Kansas State University, Manhattan; Cargill, Wichita, KS

**NONRUMINANT NUTRITION SYMPOSIUM: FEED INGREDIENT BIOSAFETY**

Chair: Ryan N. Dilger, University of Illinois

Sponsor: 306-307

8:30 AM Welcoming Remarks

8:35 AM 156 (Invited) Biosecurity in the global feed industry.


9:05 AM 157 (Invited) FSMA partnership in animal feed safety.

K. E. Klommhaus, US FDA CVM, Des Moines, IA


D. L. Meeker, National Renderers Association, Alexandria, VA
10:00 AM  
Break

10:10 AM  
159  
(Invited) Current technologies to control pathogens in feed.
K. E. Richardson*, Antiox, Lawrenceville, GA

10:40 AM  
160  
(Invited) Determining the minimum infectious dose of porcine epidemic diarrhea virus in a feed matrix.
L. L. Schumacher1, J. C. Woodworth1, J. Zhang2, P. C. Gauger2, Q. Chen2, M. Welch2, H. Salzebrenner2, J. Thomas2, R. Main2, S. S. Dritz2, R. A. Cochrane1, and C. K. Jones1, 1Kansas State University, Manhattan, 2Iowa State University, Ames

10:55 AM  
161  
(Invited) Recent research into feed processing and biosafety.
C. K. Jones1, C. R. Stark, S. S. Dritz, A. R. Rigdon, and J. C. Woodworth, Kansas State University, Manhattan

11:25 AM  
162  
E. J. Neumann1, M. A. Ackerman2, C. Troxel2, and R. L. Moser3, 1Epi-Insight Limited, Palmerston North, New Zealand, 2Swine Veterinary Services PC, Greensburg, IN, 3JBS United, Inc, Sheridan, IN, 4JBS United, Inc., Sheridan, IN

NONRUMINANT NUTRITION: LIPIDS AND ENERGY

Chair: William T. Oliver, USDA, ARS, U.S. Meat Animal Research Center
Sponsor: 308-309

8:30 AM  
163  
Calibration of net energy for fat by growth assay in early and late phases of growth in pigs.
R. D. Boyd1,2, C. E. Zier-Rush1, M. McGrath1, R. Palay1, J. Picou1, and E. van Heugten2, 1The Hanor Company, Inc., Franklin, KY, 2North Carolina State University, Raleigh

8:45 AM  
164  
Evaluation of different oil sources for nursery pigs.
K. E. Jordan1, M. A. Goncalves, J. A. De Jong, J. C. Woodworth, M. D. Tokach, R. D. Goodband, S. S. Dritz, and J. M. DeRouchey, Kansas State University, Manhattan

9:00 AM  
165  
Effects of reducing the dietary Omega-6 to Omega-3 fatty acid ratio in low protein quality nursery diets on growth performance and immune response in starter pigs.
S. Hooda*, R. E. Fisher, N. Karrow, and C. F. de Lange, Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

9:15 AM  
166  
Can omega-3 fatty acids replace antibiotics in starter feeds?
L. Eastwood*, D. A. Gillis, M. R. Deibert, and D. Beaulieu, Prairie Swine Centre, Inc., Saskatoon, SK, Canada

9:30 AM  
167  
Effects of reduced CP diets, formulated on either an ME or NE basis, on growth performance and carcass characteristics of growing-finishing swine.
J. K. Apple1, C. V. Maxwell1, T. C. Tsai1, H. J. Kim1, J. W. Yancey2, K. J. Touchette2, J. E. Thomson1, J. Less1, and J. J. Chevning1, 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

9:45 AM  
168  
Endogenous and exogenous fat digestion in growing pigs.
J. A. Acosta Camargo1,2*, R. D. Boyd1, and J. F. Patience1, 1Iowa State University, Ames, 2The Hanor Company, Inc., Franklin, KY

10:00 AM  
169  
Effect of added crystalized dietary fat on the energy digestibility and growth performance of fattening pigs.
G. Bee* and P. Stoll, Agroscope Institute for Livestock Sciences, Posieux, Switzerland

10:15 AM  
170  
Does heat stress alter the pig’s response to dietary fat source, as it relates to carcass iodine value?
T. A. Kellner*, L. H. Baumgard, K. J. Prusa, and J. F. Patience, Iowa State University, Ames

10:30 AM  
171  
Apparent balance of essential fatty acids for the prolific lactating sow.
D. S. Rosero1,2, J. Odle1, R. D. Boyd1, and E. van Heugten1, 1North Carolina State University, Raleigh, 2The Hanor Company, Inc., Franklin, KY
PHYSIOLOGY SYMPOSIUM: FOLLICLE DEVELOPMENT, SPERM, EMBRYO MORTALITY AND MATERNAL EFFECTS ON CARCASS QUALITY

Chair: Rodney D. Geisert, University of Missouri - Columbia

Sponsor: 304-305

8:30 AM 182 (Invited) Specific sugars on oviduct cells bind porcine sperm and regulate sperm calcium and lifespan.
D. J. Miller¹, S. Machado, E. Pedroso-Silva, and G. Kadirvel, University of Illinois, Urbana-Champaign, Urbana

9:00 AM 183 (Invited) Regulation of FSH target genes in ovarian granulosa cells requires input from the WNT signaling pathway.
J. Hernandez Gifford*, Oklahoma State University, Stillwater

9:30 AM 184 (Invited) Embryonic mortality: Novel models for predicting the loss.
K. G. Pohler¹, 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

10:00 AM 185 (Invited) 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: DAIRY AND BEEF COW NUTRITION AND FORAGE SUPPLEMENTATION

Chair: Felipe C. Cardoso, University of Illinois

Sponsor: 302-303

8:30 AM 219 (Invited ASAS Animal Science Young Scholar) Effects of maternal nutrition during gestation in ruminant maternal and fetal and offspring viscera energy use and hypothalamic neurohormone content in the offspring.
L. Prezotto*, North Dakota State University, Fargo

9:00 AM 220 Methane production and diet digestibility by growing cattle fed high or low quality forage.
A. C. Pesta, M. L. Jolly, P. J. Kononoff, S. C. Fernando, and G. E. Erickson, University of Nebraska-Lincoln, Lincoln

9:15 AM 221 Effect of tannin-containing legume forages on crude protein degradation in vitro.
N. F. Johnson*, M. E. Lees, M. S. Kerley, and H. D. Naumann, University of Missouri, Columbia

9:30 AM 222 Three summer forage finishing systems effect on lamb growth and carcass characteristics.
J. S. McCutcheon¹, H. N. Zerby², S. C. Loerch¹, and F. L. Fluharty³, ¹The Ohio State University, Mount Gilead, ²The Ohio State University, Columbus, ³The Ohio State University, Wooster

9:45 AM Break

10:00 AM 224 (Invited ADSA Young Dairy Scholar) Nutritional management strategies to improve growth and feed efficiency of prepubertal dairy heifers.
T. S. Dennis* and T. D. Nennich, Purdue University, West Lafayette, IN

10:30 AM 225 Rumen microbial protein synthesis in total mixed ration vs. component fed high-producing dairy cows.
A. Nikkhah*, University of Zanjan, Zanjan, Iran

10:45 AM 226 (Invited ADSA Young Dairy Scholar) Dietary factors affecting fatty acid digestion and metabolism in lactating dairy cows.
J. P. Boerman¹, ¹ M. J. VandeHaar¹, A. L. Lock¹, J. L. Firkins², S. B. Potts³, and N. St-Pierre²,
¹Michigan State University, East Lansing, ²The Ohio State University, Columbus, OH, ³University of Maryland, College Park, MD, ⁴Ohio State University, Columbus
11:15 AM 227  (Invited ADSA Young Dairy Scholar) Effect of ensiling time and exogenous protease addition on nitrogen fractions and ruminal in vitro starch digestibility in whole-plant corn silage from varied hybrid types, maturities and particle size.
L. F. Ferraretto* and R. D. Shaver, University of Wisconsin, Madison

11:45 AM 228  Estimation of rumen-undegradable protein (RUP) across high-protein feedstuffs using in situ and in vitro procedures.
H. A. Paz Manzano*, S. C. Fernando, and P. J. Kononoff, University of Nebraska-Lincoln, Lincoln

PHYSIOLOGY: STRESS PHYSIOLOGY
Chair: Clay A. Lents, USDA, ARS, U.S. Meat Animal Research Center
Sponsor: 304-305

10:45 AM 186  (Invited ADSA Young Dairy Scholar) The role of serotonin (5-HT) in calcium and energy homeostasis during lactation.
J. Laporta* and L. L. Hernandez, University of Wisconsin-Madison, Madison

11:15 AM 187  Effect of high stress and low stress cattle handling on selected blood chemistry parameters in finishing steers.

11:30 AM 188  Serum Insulin-like Growth Factor-I (IGF1), Growth Hormone (GH), insulin, and glucose in first parity sows exposed to Heat Stress (HS) during gestation.
M. C. Lucy*, T. J. Safranski1, J. N. Rhoades1, D. H. Keisler1, J. W. Ross2, N. K. Gabler3, R. P. Rhoads4, and L. H. Baumgard5, 1University of Missouri, Columbia, 2Iowa State University, Ames, 3Virginia Tech, Blacksburg

11:45 AM 189  Reproductive performance of gilts having developed in heat stressed dams.
T. Safranski*, M. C. Lucy1, J. N. Rhoades1, M. Estienne2, J. G. Wiegert3, M. Rhoads4, R. P. Rhoads5, L. H. Baumgard6, and J. W. Ross7, 1University of Missouri, Columbia, 2Virginia Tech, Blacksburg, 3Virginia Tech University, Blacksburg, 4Iowa State University, Ames

12:00 PM 190  Effects of heat stress and antioxidants (selenium or vitamin E) supplementation on oxidative status in growing pigs.
F. Liu*, P. Celi1,2, S. Chauhan1, J. J. Cottrell1, A. Abrasaldo1, S. Talukder2, B. J. Leury1, and F. R. Dunshea1, 1Faculty of Veterinary and Agricultural Sciences, the University of Melbourne, Parkville, Australia, 2Faculty of Veterinary Science, the University of Sydney, Camden, Australia

12:15 PM 191  Effect of high ambient temperature and genotype on thermoregulatory responses and gene expression in various tissues in growing pigs.
D. Renaudeau*, J. L. Gourdine1, L. Llaubet1, H. Gilbert2, and J. Riquet3, 1INRA 1348 UMR PEGASE, F-35590 Saint Gilles, France, 2INRA UR 143 URZ, F-97170 Petit Bourg, France, 3INRA UMR 1372 GenPhySe, Castanet Tolosan, France, 4INRA UMR1388 GenPhySE, F-31326 Castanet-Tolosan, France, 5INRA UMR 1372 GenPhySe, F-31326 Castanet-Tolosan, France
Poster Schedule

**NEW in 2015 - ePosters**
New in 2015 all posters will be presented as ePosters. This new format offers some new and exciting options for both poster presenters and attendees. Most notably, all posters will be up for the duration of the meeting and available to all attendees to view at their leisure. This GREEN technology is less expensive than printed posters and is easily transportable. Some features of the ePosters include:

- Posters are no longer constrained to a single page; ePosters offer the option to have multiple pages per poster.
- Videos, animations, graphs and images can be embedded into the poster.
- Graphs and images can be expanded to full screen view with a single click, allowing for more a detailed presentation.
- The ePosters will be available after the meeting to attendees to view via the meeting website.

The posters have been divided into six mini poster sessions to allow greater access to the presenters. The list of poster sessions, with presentation times, appears below.

**Monday, March 16, 2015**

*Poster Session I – Authors present 12:45 pm – 1:30 pm*
Graduate Student Competition: MS Poster
Undergraduate Student Competition Poster

*Poster Session II – Authors present 5:00 pm – 5:45 pm*
Animal Behavior, Housing, & Well-Being: Feed Intake and Lameness in Livestock
Breeding & Genetics Poster
Graduate Student Competition: PhD Poster
Nonruminant Nutrition: Protein and Amino Acid Nutrition

**Tuesday, March 17, 2015**

*Poster Session III – Authors present 7:30 am – 8:15 am*
Extension - Dairy Posters
Growth, Development, Meat Science & Muscle Biology Poster
Nonruminant Nutrition: Feed Ingredients

*Poster Session IV – Authors present 12:45 pm – 1:30 pm*
Extension - Swine Poster
Odor And Nutrient Management
Physiology Posters
Ruminant Nutrition I

*Poster Session V – Authors present 5:00 pm – 5:45 pm*
Extension - Beef/Small Ruminant Poster
Nonruminant Nutrition: Feed Additives and Technologies

**Wednesday, March 18, 2015**

*Poster Session VI – Authors present 7:30 am – 8:15 am*
Nonruminant Nutrition: Grow-Finish Nutrition
Ruminant Nutrition II
Teaching
POSTER PRESENTATIONS

Monday, March 16, 2015

Poster Session I
Grand Ballroom

GRADUATE STUDENT COMPETITION: MS POSTER
Presentation Time: 12:45 pm – 1:30 pm

Ab #  Screen #

412  S01  Prevalence of loin bruising and tail lesions in Irish slaughter pigs.
     N. van Staaveren\textsuperscript{1,2}, D. L. Teixeira\textsuperscript{2}, A. Hanlon\textsuperscript{1}, and L. A. Boyle\textsuperscript{2}, \textsuperscript{1}School of Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, \textsuperscript{2}Pig Development Department, Teagasc Animal and Grassland Research and Innovation Centre, Moorepark, Fermoy, Co. Cork, Ireland

413  S02  Seasonal and cryopreservation impacts on semen quality in boars.
     M. M. Krautkramer\textsuperscript{1,2}, J. J. Parrish\textsuperscript{1}, T. M. Loether\textsuperscript{2}, J. R. Miles\textsuperscript{3}, and L. A. Rempel\textsuperscript{2}, \textsuperscript{1}University of Wisconsin, Madison, \textsuperscript{2}USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

414  S03  Weight-shifting and locomotion scoring as measures of lameness in dairy cows: Repeatability and correlation.
     N. A. Olson\textsuperscript{1,2}, B. H. Manning\textsuperscript{2}, and S. A. Wagner\textsuperscript{1}, \textsuperscript{1}North Dakota State University, Fargo, \textsuperscript{2}Zoetis Inc., Kalamazoo, MI

415  S04  Effect of dietary lysine on plasma amino acid profile of finishing pigs.
     N. Regmi\textsuperscript{*1}, T. Wang, M. A. Crenshaw, B. J. Rude, and S. F. Liao, Mississippi State University, Mississippi State

416  S05  Effects of diet form and distillers dried grains with solubles (DDGS) on growth performance, carcass characteristics, and visceral weights of growing-finishing pigs.
     M. F. Overholt\textsuperscript{*1}, J. E. Lowell, I. M. Grossman, H. H. Stein, A. C. Dilger, and D. D. Boler, University of Illinois, Urbana-Champaign

417  S06  Effects of dry acidulant coating of commercial pet food on Salmonella contamination.
     A. M. Jeffrey\textsuperscript{1,2}, C. K. Jones\textsuperscript{3}, C. G. Aldrich\textsuperscript{1}, A. R. Huss\textsuperscript{1}, and C. Kneuven\textsuperscript{2}, \textsuperscript{1}Kansas State University, Manhattan, \textsuperscript{2}Jones Hamilton, Walbridge, OH

418  S07  Influence of algae meal as a replacement of corn in feedlot lamb diets on nutrient digestibility.
     R. S. Stokes\textsuperscript{1}, D. D. Loy, M. L. Van Emon, and S. L. Hansen, Iowa State University, Ames

419  S08  Impact of managing cow-calf pairs on pasture or in a dry lot during a 10 day synchronization period on reproductive performance and weight change in cows and their calves.
     D. N. Black\textsuperscript{1}, M. R. Crosswhite\textsuperscript{1}, B. W. Neville\textsuperscript{2}, and C. R. Dahlen\textsuperscript{1}, \textsuperscript{1}North Dakota State University, Fargo, \textsuperscript{2}North Dakota State University, Streeter
MONDAY, MARCH 16 - POSTER PRESENTATIONS

420 S09 Effects of dietary inclusion of direct-fed microbials on growth performance and carcass traits of finishing pigs.
A. L. Sevarolli*, I. Park, F. Castelini, and S. W. Kim, North Carolina State University, Raleigh

421 S10 Effects of amino acid supplementation of reduced crude protein (RCP) diets formulated on a NE basis on the fatty acid composition of the LM and jowl subcutaneous fat.
D. G. Cook*, J. K. Apple, C. V. Maxwell, A. N. Young, D. L. Galloway, H. J. Kim, and T. C. Tsai, Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville

422 S11 Effects of Cr supplementation during gestation on beef cow performance and the interaction with Cr during finishing on progeny growth performance and carcass characteristics.
S. G. Kneeskern*, A. C. Dilger, S. C. Loerch, D. W. Shike, and T. L. Felix, University of Illinois at Urbana-Champaign, Urbana

423 S12 Determining energy value of oil-extracted corn co-products in feedlot diets.
A. A. Hohertz*, C. C. Zellmer, and A. DiCostanzo, University of Minnesota, St. Paul

UNDERGRADUATE STUDENT COMPETITION POSTER
Presentation Time: 12:45 pm – 1:30 pm

Ab # Screen #

429 S13 Effects of age and time of day on standing behavior between commercially-housed ewes and their lambs.
M. S. Palmer*, T. W. Harris, K. M. Hoelting, and J. D. Allen, Northwest Missouri State University, Maryville

430 S14 Effect of different light sources on discoloration of fresh ground beef.
J. Cooper*, B. R. Wiegand2, A. B. Koc2, L. Schumacher2, and C. L. Lorenzen2, 1Oklahoma State University, Stillwater, 2University of Missouri, Columbia

431 S15 Differences in forage quality when comparing novel and endophyte-infected fescue over the grazing season.
M. E. Bloemer*, M. Srinivasan, F. A. Ireland, D. W. Shike, and T. L. Felix, University of Illinois at Urbana-Champaign, Urbana

432 S16 Impact of porcine respiratory and reproductive virus on behavior and welfare of growing pigs.
H. Wooten*, J. Mcglone1, W. D. Stuart1, K. Schwartz2, N. K. Gabler2, C. F. de Lange1, T. E. Burkey1, and A. Rakhsandeh1, 1Texas Tech University, Lubbock, 2Iowa State University, Ames, 1Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 1University of Nebraska, Lincoln

433 S17 Prediction of primal cut weights in pigs using a non-linear mixed procedure.
C. A. Hegg*, F. A. Cabezon1, A. P. Schinkel1, A. C. Kloth2, C. Northington2, E. B. Sheiss2, and A. W. Duttlinger2, 1Purdue University, West Lafayette, IN, 2Indiana Packers Corporation, Delphi, IN

434 S18 Effects of different applications of pyrethrin/pyrethroid insecticides on bull reproductive parameters.
Role of exogenous estrogen in initiation of estrus and induction of an LH surge.
C. L. Mogck\textsuperscript{1,} \textsuperscript{3}, C. A. Madsen\textsuperscript{1,} \textsuperscript{2}, T. W. Geary\textsuperscript{2}, and G. A. Perry\textsuperscript{1}, 1South Dakota State University; Department of Animal Sciences, Brookings, \textsuperscript{2}USDA ARS Fort Keogh, Miles City, MT

Effects of diet form and distillers dried grains with solubles (DDGS) on stomach morphology and ulceration scores in growing-finishing pigs.

Effects of a low-protein, high-fiber supplement on performance, blood metabolites, and first-service AI conception rate in beef cows grazing lush pasture.
M. Jarboe\textsuperscript{1}, K. Doungkamchan, W. T. Meteer, W. P. Chapple, and D. W. Shike, University of Illinois at Urbana-Champaign, Urbana

Are porcine epidemic diarrhea virus (PEDv) exposed gilts and sows farrowing problems improved by vitamin E?
R. Becerra\textsuperscript{1}, J. E. Link\textsuperscript{1}, K. C. Turner\textsuperscript{2}, J. T. Gebhardt\textsuperscript{1}, R. L. Stuart\textsuperscript{1}, and G. M. Hill\textsuperscript{1}, 1Michigan State University, East Lansing, 2Michigan State University, Okemos, \textsuperscript{3}Stuart Products Inc, Bedford, TX

Influence of forage inclusion level on growth performance and feeding behavior in finishing steers.
M. C. Ruch\textsuperscript{1}, T. C. Gilbery, S. R. Underdahl, M. L. Bauer, and K. C. Swanson, North Dakota State University, Fargo

Evaluation of further processing methods for soybean meal in diets for nursery pigs.
A. M. Jeffrey\textsuperscript{1}, H. L. Frobose, M. D. Tokach, R. D. Goodband, S. S. Dritz, J. C. Woodworth, and J. M. DeRouchey, Kansas State University, Manhattan

Evaluation of bovine plasma source and whole dried milk in nursery pig diets on growth performance.
C. D. Evans\textsuperscript{1}, H. L. Frobose\textsuperscript{1}, D. W. Dean\textsuperscript{2}, M. D. Tokach\textsuperscript{1}, R. D. Goodband\textsuperscript{1}, S. S. Dritz\textsuperscript{1}, J. C. Woodworth\textsuperscript{1}, and J. M. DeRouchey\textsuperscript{1}, 1Kansas State University, Manhattan, 2International Ingredient Corp, Fenton, MO

Effect of amount and profile of AA supply on mammary AA metabolism.
B. M. Dado\textsuperscript{1}, M. A. C. Danes\textsuperscript{1}, G. A. Broderick\textsuperscript{2}, and M. A. Wattiaux\textsuperscript{1}, 1University of Wisconsin, Madison, 2Broderick Nutrition & Research, LLC, Madison, WI

Novel cecum cannulated pig model to investigate the human microbiota through interspecies transfer of gut microbiota from humans to pigs.
M. E. Kaiser\textsuperscript{1}, C. L. Anderson, N. D. Aluthge, T. E. Burkey, P. S. Miller, D. E. Hostetler, and S. C. Fernando, University of Nebraska, Lincoln

Gross morphology, morphometric characteristics, and sequential changes in digesta fiber fractions of gastrointestinal tract segments from high postpartum piglet mortality extensively reared swine.
S. N. Carr\textsuperscript{2} and Q. S. Baptiste, Berea College, Berea, KY

Effects of detoxifying agents on growth performance of nursery pigs fed deoxynivalenol-contaminated wheat.
H. L. Frobose\textsuperscript{1}, E. W. Stephenson\textsuperscript{1}, M. D. Tokach\textsuperscript{1}, J. M. DeRouchey\textsuperscript{1}, R. E. Musser\textsuperscript{2}, S. S. Dritz\textsuperscript{1}, R. D. Goodband\textsuperscript{1}, J. C. Woodworth\textsuperscript{1}, and J. L. Nelssen\textsuperscript{1}, 1Kansas State University, Manhattan, \textsuperscript{2}NUTRIQUEST, Mason City, IA
Characterization of microbial community structure during Salmonella shedding in beef cattle.
M. Muller*, N. D. Aluthge, C. L. Anderson, A. L. Knoell, C. J. Bittner, G. E. Erickson, and S. C. Fernando, University of Nebraska, Lincoln

**Poster Session II**
**Grand Ballroom**

**ANIMAL BEHAVIOR, HOUSING, & WELL-BEING: FEED INTAKE AND LAMENESS IN LIVESTOCK**

Presentation Time: 5:00 pm – 5:45 pm

**Ab #  Screen #**

229  S01  Health and performance comparison of Pyramid 5 plus Presponse SQ versus Bovi-Shield Gold One Shot.
D. L. Hamlin†, B. L. Vander Ley², W. J. Sexten³, C. A. Payne⁴, S. Zuidhof³, and C. A. Jones⁵,
¹University of Missouri, Columbia, ²Department of Veterinary Medicine and Surgery, University of Missouri, Columbia, ³Division of Animal Sciences, University of Missouri, Columbia, ⁴Department of Veterinary Medicine and Surgery University of Missouri, Columbia, ⁵University of Missouri Extension, Columbia, ⁶Boehringer Ingelheim Vetmedica, Inc., St. Joseph, MO

230  S02  Relationship between lesions observed on farm and on the carcass and the influence of mixing pigs before slaughter.
N. van Staaveren⁶,⁷, D. L. Teixeira⁸, A. Hanlon⁶, and L. A. Boyle⁶, ¹School of Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, ²Pig Development Department, Teagasc Animal and Grassland Research and Innovation Centre, Moorepark, Fermoy, Co. Cork, Ireland

231  S03  Does lameness affect the lying down sequence in sows?
J. A. Calderón Díaz⁶,⁷, J. D. Stock⁸, and K. Stalder⁸, ¹Department of Animal Science, Iowa State University, Ames, ²Iowa State University, Ames

232  S04  Automated monitoring of swine behavior using accelerometers: Classification of behavior of nursery pigs from acceleration patterns.
S. Cui⁶, J. E. Anderson⁶, L. Wang⁶, J. Deen⁷, and Y. Li⁷, ¹University of Minnesota, West Central Research and Outreach Center, Morris, ²University of Minnesota-Morris, Morris, ³University of Minnesota, West Central Research and Outreach Center, Morris

233  S05  Behavior of groups of gestating sows on electronic feeders under commercial conditions.
K. Vande Pol³, M. Ellis⁴, C. Carrillo-Espinola⁴, J. Guldner⁴, S. Vootkar⁴, B. A. Peterson², and A. M. Gaines¹, ¹University of Illinois, Champaign-Urbana, ²The Maschhoffs, Carlyle, IL, ³The Maschhoffs, LLC, Carlyle, IL

234  S06  Physiological characteristics of slow growing pigs from birth to market.
Y. He¹, J. Deen², G. C. Shurson¹, and Y. Li³, ¹Department of Animal Science, University of Minnesota, St. Paul, ²University of Minnesota, St. Paul, ³University of Minnesota, West Central Research and Outreach Center, Morris

235  S07  Identifying risk factors of slow growth of pigs from birth to marketing.
Y. He¹, G. C. Shurson¹, Y. Li³, and J. Deen³, ¹Department of Animal Science, University of Minnesota, St. Paul, ²University of Minnesota, West Central Research and Outreach Center, Morris, ³University of Minnesota, St. Paul
MONDAY, MARCH 16 - POSTER PRESENTATIONS

236 S08 Water disappearance rates in late-finishing pigs.
C. Bernhard\(^1\), A. Nelson\(^1\), N. S. Grohmann\(^1\), M. Ellis\(^1\), T. E. Weber\(^2\), and M. J. Ritter\(^2\),
\(^1\)University of Illinois, Champaign-Urbana, \(^2\)Elanco Animal Health, Greenfield, IN

237 S09 Influence of feeding approaches, adaptation length, and direct-fed microbial inclusion on animal temperament and relationships with growth performance, feeding behavior, and carcass characteristics in feedlot steers.

BREEDING & GENETICS POSTER
Presentation Time: 5:00 pm – 5:45 pm

238 S10 Differences in feed efficiency during the nursery phase of pigs divergently selected for residual feed intake during grow-finish phase.
J. R. Steckelberg\(^*\), E. D. Mauch, A. M. Dannen, N. V. L. Serão, and J. C. M. Dekkers, Iowa State University, Ames

239 S11 Impact of harvest weight on the relative growth performance and carcass characteristics of progeny of two swine sire lines.
N. S. Grohmann\(^1\), M. Ellis\(^1\), C. M. Shull\(^2\), and B. A. Peterson\(^2\), \(^1\)University of Illinois, Champaign-Urbana, \(^2\)The Maschhoffs, Carlyle, IL

240 S12 Association of IgG concentration in Colostrum with diarrhea in piglets born to Minpig and Landrace sows.
S. Cui\(^1\), X. Huang\(^1\), Y. Xu\(^1\), X. Wang\(^1\), and Y. Li\(^2\), \(^1\)Northeast Agricultural University, Harbin, China, \(^2\)University of Minnesota, West Central Research and Outreach Center, Morris

241 S13 Identification of early blood differentially expressed genes between two pig lines divergently selected for feed efficiency: Potential biomarkers for feed efficiency.
H. Liu\(^1\), Y. Nguyen\(^2\), D. Nettleton\(^1\), J. C. M. Dekkers\(^3\), and C. K. Tuggle\(^1\), \(^1\)Bioinformatics and Computational Biology Program, Department of Animal Science, Iowa State University, Ames, \(^2\)Department of Statistics, Iowa State University, Ames, \(^3\)Iowa State University, Ames

242 S14 A simulation study on the effect of nested vs factorial mating on response to pedigree and genomic selection.
W. L. Hsu\(^1\), R. L. Fernando\(^1\), J. C. M. Dekkers\(^1\), J. Arango\(^2\), P. Settar\(^2\), J. E. Fulton\(^2\), N. P. O'Sullivan\(^2\), and A. Wolc\(^1\), \(^1\)Iowa State University, Ames, \(^2\)Hy-Line International, Dallas Center, IA

243 S15 Timing of ovulation in gilts relative to last Matrix\textsuperscript{®} feeding.
B. L. Quick\(^*\) and T. J. Safranski, University of Missouri, Columbia

244 S16 Hair coat shedding and the relationship with productive traits in beef cattle.
L. D. Watson\(^1\), B. Kutz\(^1\), J. G. Powell\(^2\), and A. H. Brown, Jr.\(^2\), \(^1\)University of Arkansas, Fayetteville, \(^2\)Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville

245 S17 Economic gain associated with genomic selection for health in a terminal sire line in pigs.
C. M. Dematawewa\(^1\), A. Grosse Holthaus\(^2\), H. Simianer\(^3\), and J. C. M. Dekkers\(^1\), \(^1\)Iowa State University, Ames, \(^2\)University of Goettingen, Goettingen, Germany, \(^3\)Georg-August-University, Göttingen, Germany

GRADUATE STUDENT COMPETITION: PHD POSTER
MONDAY, MARCH 16 - POSTER PRESENTATIONS

Presentation Time: 5:00 pm – 5:45 pm

Ab # Screen #

424 S18 Effects of standardized ileal digestible lysine and added tribasic copper chloride on growth performance and carcass characteristics of finishing pigs.

425 S19 Effect of dietary lysine on carcass dressing percentage and lean cut yield in late finishing pigs.
T. Wang, N. Regmi, M. A. Crenshaw, J. R. Blanton, and S. F. Liao, Mississippi State University, Mississippi State

426 S20 Feeding vitamin E may reverse sarcoplasmic reticulum membrane instability caused by feeding wet distillers grains plus solubles to cattle.
M. D. Chao, K. Domenech-Perez, and C. R. Calkins, University of Nebraska, Lincoln

427 S21 Oral administration of amino acids as energy sources for newborn piglets.
N. E. Manzke, G. C. Hoch, B. Gomes, M. Kutschoko, E. G. Xavier, J. M. M. De Lima, and E. Nogueira, Universidade Federal de Pelotas, Pelotas, Brazil, North Carolina State University, Raleigh, Universidade Federal do Pampa, Uruguaiana, Brazil, Ajinomoto do Brasil/Ajinomoto Animal Nutrition, São Paulo, Brazil, Universidade Federal de Pelotas (UFPEL) - Brazil, Pelotas, Brazil, Embrapa, Cordoba, Brazil

428 S22 Differential MicroRNA expression in sperm cells and seminal plasma due to PRRSV infection.
S. M. Calcatera, D. L. Reicks, A. Felts, and S. L. Pratt, Clemson University, Clemson, SC, Swine Vet Center, Saint Peter, MN

NONRUMINANT NUTRATION: PROTEIN AND AMINO ACID NUTRITION
Presentation Time: 5:00 pm – 5:45 pm

Ab # Screen #

269 S23 Effects of increasing crystalline amino acids in sorghum- or corn-based diets on nursery pig growth performance.

270 S24 Effects of increasing standardized ileal digestible threonine:lysine ratio on performance of weaned pigs challenged with Escherichia coli K88.
B. Jayaraman, J. K. Htoo, and C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada, Evonik Industries AG, Hanau-Wolfgang, Germany

271 S25 Effects of dietary protein and rapidly fermentable carbohydrate contents on bacterial metabolites and intestinal microbiota composition in weanling pigs.
V. V. Almeida, M. C. Thomaz, A. J. C. Nuñez, P. V. A. Alvarenga, F. R. Castelini, Y. V. Silva-Guillen, and K. M. Ajayoh, Department of Animal Sciences, Purdue University, West Lafayette, IN, Department of Animal Science, São Paulo State University, J saboticalal/SP, Brazil, Department of Animal Science, São Paulo State University, J saboticalal/SP, Brazil

272 S26 Evaluation of rendered animal protein sources on growth performance and blood chemistry in growing pigs.
Y. Lei, S. C. Kim, M. Mohammadi Gheisar, M. C. Nyachoti, and I. H. Kim, Department of
Animal Resource & Science, Dankook University, Cheonan, South Korea, University of Manitoba, Winnipeg, MB, Canada

273 S27 Determination of protein and amino acid digestibility of microbially-converted soybean meal in comparison to fish meal.
S. M. Sinn*, W. Gibbons¹, M. Brown¹, J. M. DeRouchey², and C. L. Levesque¹, ¹South Dakota State University, Brookings, ²Kansas State University, Manhattan

274 S28 Concentration of nutrients and predicted concentration of swine ME among types and sources of animal protein by-products.
P. E. Urriola¹*, B. J. Kerr², and G. C. Shurson¹, ¹Department of Animal Science, University of Minnesota, St. Paul, ²USDA-ARS, Ames, IA
**Tuesday, March 17, 2015**

**Poster Session III**

**Grand Ballroom**

**EXTENSION - DAIRY POSTERS**

Presentation Time: 7:30 am – 8:15 am

<table>
<thead>
<tr>
<th>Ab #</th>
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<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>250</td>
<td>S01</td>
<td>Relationships between in vitro ruminal fermentation parameters and dairy performance.</td>
<td>K. Mjoun(^1) and A. M. Gehman(^2), (^1)Alltech, Brookings, (^2)Alltech, Inc., Nicholasville, KY</td>
</tr>
<tr>
<td>251</td>
<td>S02</td>
<td>Mature cow body weight associations with calf growth and feed intake traits.</td>
<td>D. L. Beam(^1), K. J. Stalder(^3), A. J. Heinrichs(^2), and C. D. Dechow(^2), (^1)Iowa State University, Ames, (^2)Pennsylvania State University, University Park</td>
</tr>
<tr>
<td>252</td>
<td>S03</td>
<td>Conception rate for postpartum dairy cows treated with different gonadorelin (GnRH) products for first or resynchronized timed AI.</td>
<td>S. E. Poock(^1) and M. C. Lucy, University of Missouri, Columbia</td>
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**GROWTH, DEVELOPMENT, MEAT SCIENCE & MUSCLE BIOLOGY POSTER**

Presentation Time: 7:30 am – 8:15 am

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<th>Ab #</th>
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<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>258</td>
<td>S04</td>
<td>Impact of narasin (Skycis) on live performance and carcass traits of pigs sold in a three-phase marketing system.</td>
<td>E. K. Arkfeld(^1), S. N. Carr(^2), P. J. Rinker(^3), G. L. Allee(^4), A. C. Dilger(^5), and D. D. Boler(^6), (^1)University of Illinois, Urbana, (^2)Elanco Animal Health, Greenfield, IN, (^3)Pork Tech, LLC, Columbia, MO, (^4)University of Illinois at Urbana-Champaign, Urbana</td>
</tr>
<tr>
<td>259</td>
<td>S05</td>
<td>Effect of silicate on growth performance, meat quality and characteristics in finishing pigs.</td>
<td>V. Sharma(^1), M. Bakhtiar(^1), S. Mohana Devi(^1), J. H. Cho(^2), and I. H. Kim(^3), (^1)Department of Animal Resource &amp; Science, Dankook University, Cheonan, South Korea, (^2)Department of Animal Science, Chungbuk National University, Cheongju, South Korea</td>
</tr>
<tr>
<td>260</td>
<td>S06</td>
<td>Effect of genotype and dietary supplement on live weight changes and average daily gains in ram lambs.</td>
<td>T. Wuliji(^1), J. D. Caldwell(^1), B. C. Shanks(^1), H. Smith(^2), H. Hilsenbeck(^1), L. S. Wilbers(^1), A. Bax(^1), and S. Azarpajouh(^1), (^1)Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, (^2)Callaway County Extension Center, Fulton, MO</td>
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<tr>
<td>261</td>
<td>S07</td>
<td>The effect of adipose tissue inclusion over pork loins on dual-energy x-ray absorptiometry (DXA) measurements.</td>
<td>M. Kipper(^1), (^2)C. Pomar(^2), and M. Marcoux(^2), (^1)Universidade Federal de Santa Maria, Santa Maria, Brazil, (^2)Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada</td>
</tr>
<tr>
<td>262</td>
<td>S08</td>
<td>Effects of feeding generic ractopamine (Actogain) with or without the combination of monensin and tylosin phosphate on growth performance, carcass characteristics, and tenderness of finishing steers.</td>
<td>B. M. Bohrer(^1), H. O. Galloway(^1), D. M. Meeuwse(^2), J. L. Beckett(^1), M. D. Edmonds(^3), E. D. Sharman(^1), W. M. Moseley(^2), H. B. Vaminissetti(^2), A. L. Schroeder(^1), A. C. Dilger(^1), and D. D.</td>
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TUESDAY, MARCH 17 - POSTER PRESENTATIONS

263  S09  Effects of cold rearing temperature on meat quality parameters on loin and ham muscles in pigs.  
J. Faure¹, L. M. Lefaucheur², and B. Lebret³, INRA Agrocampus Ouest, Rennes, France,  
¹INRA, Saint-Gilles, France, ²INRA, Saint-Gilles, France

264  S10  Correlation of fatty acid composition and iodine value (IV) among 3 fat depots in pork carcasses.  
C. C. E. J. Villela¹, R. B. Cox¹, G. C. Shurson¹, K. M. Compart¹, P. E. Urriola¹, and L. J. Johnston²,  
¹Department of Animal Science, University of Minnesota, St. Paul, ²West Central Research and Outreach Center, University of Minnesota, Morris

265  S11  Quality of broiler meat fed by-product of guava during the initial phase.  

266  S12  Effects of dietary level and withdrawal period of distillers dried grains with solubles on pork belly fat iodine value.  
J. E. Estrada¹, M. Ellis², S. J. Hardman¹, A. M. Gaines², B. A. Peterson², and O. F. Mendoza²,  
¹University of Illinois, Champaign-Urbana, ²The Maschhoffs, LLC, Carlyle, IL

267  S13  Effectiveness of flavor enhancers in reduced sodium natural deli-style turkey breast.  
C. G. Bower¹, B. Cleveland, D. E. Burson, and G. Sullivan, University of Nebraska-Lincoln, Lincoln

268  S14  Effects of varying corn or soybean co-product inclusion in finishing diets of feedlot heifers on carcass characteristics and fresh meat quality.  
M. A. Nelson¹, J. Johnston, A. DiCostanzo, and R. B. Cox, University of Minnesota, St. Paul

NONRUMINANT NUTRITION: FEED INGREDIENTS  
Presentation Time: 7:30 am – 8:15 am

Ab #  Screen #  Presentation Title

297  S15  Influence of pineapple byproduct in nursery pig performance.  
U. D. S. Ruiz¹, G. F. Ramos¹, F. E. L. Budiño², G. D. V. Polycarpo³, T. S. Vasconcelos¹, C. D. Silva Júnior¹, J. A. Oliveira¹, and A. Faria³, ¹Univ. Estadual Paulista - UNESP, Dracena, Brazil, ²Institute of Animal Science and Pastures, Nova Odessa, Brazil, ³University of São Paulo - USP, Pirassununga, Brazil

298  S16  Digestibility of crude fat and energy from a micro-algae meal for nursery pigs.  
R. M. Delles¹, S. Gregory², C. L. Levesque², and R. S. Samuel¹, ¹Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech Inc., Nicholasville, KY, ²Alltech Inc., Nicholasville, KY, ³South Dakota State University, Brookings

299  S17  Lipid digestibility and energy values of corn and soybean oil containing varying levels of free fatty acids (FFA) in nursery pigs.  
B. J. Kerr¹ and G. C. Shurson¹, ¹USDA - ARS, Ames, IA, ²Department of Animal Science, University of Minnesota, St. Paul

300  S18  Effect of feeding wheat millrun on diet nutrient digestibility and growth performance in starter pigs.  
H. García¹,², L. F. Wang¹, J. L. Landero², E. Beltranena²³, M. Cervantes¹, A. Morales¹, and R.
Effect of dietary inclusion of insoluble fiber from sugar cane on carcass traits of finishing pigs.
M. S. F. Oliveira¹, M. C. Thomaz², M. M. Lima³, P. V. A. Alvarenga¹, F. F. Castro¹, M. V. Marujo¹, and D. J. Rodrigues³, ¹Dep of Animal science, São Paulo State University, Jaboticabal/SP, Brazil, ²Department of Animal Science, São Paulo State University, Jaboticabal/SP, Brazil, ³Department of Animal Science, São Paulo State University, Jaboticabal/SP, Brazil

Effects of corn distillers’ whole stillage and condensed distillers’ solubles on growth performance, carcass characteristics, and pork sensory quality of growing-finishing pigs.
X. Yang¹, C. Nath², A. Doering³, J. H. Goihl⁴, and S. Baidoo¹, ¹Southern Research and Outreach Center, University of Minnesota, Waseca, ²Agricultural Utilization and Research Institute, Marshall, MN, ³Agricultural Utilization and Research Institute, Waseca, MN, ⁴Agri-Nutrition Services, Inc., Shakopee, MN

Effects of extrusion of corn and oats on the digestibility of energy and nutrients in diets fed to pigs.
Y. Liu¹, O. J. Rojas, and H. H. Stein, University of Illinois, Urbana

Effects of chemical, physical, or enzymatic treatments on concentration of digestible and metabolizable energy and on apparent total tract digestibility of energy, organic matter, and detergent fiber in distillers dried grains with solubles fed to growers.
O. J. Rojas³ and H. H. Stein, University of Illinois, Urbana

Effect of feeding distillers dried grains with solubles and conjugated linoleic acid on growth performance, carcass characteristics, and fat quality in finishing pigs.
C. B. Brown¹, M. Ellis¹, B. A. Peterson², A. M. Gaines², and D. I. Golz¹, ¹University of Illinois, Champaign-Urbana, ²The Maschhoffs, LLC, Carlyle, IL, ³BASF Corporation, Florham Park, NJ

Feeding value of cull lentils for growing and finishing swine.
L. Eastwood, D. A. Gillis, M. R. Deibert, and D. Beaulieu*, Prairie Swine Centre, Inc., Saskatoon, SK, Canada

Amino acid digestibility in rice co-products fed to growing pigs.
G. A. Casas¹, J. Almaeida², and H. H. Stein¹, ¹University of Illinois at Urbana-Champaign, Urbana, ²Lindenwood University, Saint Louis, MO

Effects of wheat source and particle size in pelleted diets on finishing pig growth performance and caloric efficiency.

Effects of 30% dried distillers grains with solubles and 5% added fat prior to slaughter on growth performance and carcass characteristics of finishing pigs.
K. F. Coble¹, J. M. DeRouche, M. D. Tokach, R. D. Goodband, J. C. Woodworth, and S. S. Dritz, Kansas State University, Manhattan

Poster Session IV
Grand Ballroom
EXTENSION - SWINE POSTER
### TUESDAY, MARCH 17 - POSTER PRESENTATIONS

**Presentation Time: 12:45 pm – 1:30 pm**

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<tr>
<td>253</td>
<td>S01</td>
<td>A decision support tool to evaluate sow housing options.</td>
<td>R. O. Bates¹, R. A. Betz², and E. A. Ferry¹, ¹Department of Animal Science, Michigan State University, East Lansing, ²Michigan State University Extension, Marshall, ³Michigan State University Extension, Cassopolis</td>
</tr>
<tr>
<td>254</td>
<td>S02</td>
<td>Labor requirements and repeatability of sow body condition measures.</td>
<td>M. Knauer* and M. Bryan, North Carolina State University, Raleigh</td>
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<td>255</td>
<td>S03</td>
<td>Effect of lactation feeder type on sow performance in a commercial unit.</td>
<td>A. J. Cross¹, A. Gelderman², and R. C. Thaler¹, ¹South Dakota State University, Brookings, ²Standard Nutrition, Sioux Falls, SD</td>
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<td>256</td>
<td>S04</td>
<td>Documentation of factors that contribute to the variation of pork nutrient composition.</td>
<td>M. Kerns¹, B. Rossman¹, S. Liewer¹, M. Powell¹, S. Herb¹, S. Taylor¹, J. Colletti¹, S. M. Lonergan¹, P. Boettcher¹, and R. Charrondiere¹, I²Towa State University, Ames, ³Food and Agriculture Organization of the United Nations, Rome, Italy</td>
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<td>257</td>
<td>S05</td>
<td>Concentration of the non-starch polysaccharide 1,3 β-glucan and α-mannan protein in corn derived distillers grains with solubles.</td>
<td>J. E. Ferrel¹, A. A. Ahmed, B. J. Krabel, D. M. Anderson, and T. A. Marsteller, Elanco Animal Health, Greenfield, IN</td>
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<td>448</td>
<td>S06</td>
<td>Impact of farrowing induction on the time of farrowing in sows.</td>
<td>J. J. Nankivil¹, M. Ellis¹, B. A. Peterson², C. M. Shull², and E. Parr², ¹University of Illinois, Champaign-Urbana, ²The Maschhoffs, Carlyle, IL</td>
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**ODOR AND NUTRIENT MANAGEMENT**

**Presentation Time: 12:45 pm – 1:30 pm**

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<tr>
<td>325</td>
<td>S07</td>
<td>Anaerobic digestion of high ash, open lot beef cattle manure.</td>
<td>A. K. Watson¹, G. E. Erickson, T. J. Klopfenstein, and A. M. Schmidt, University of Nebraska, Lincoln</td>
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<tr>
<td>326</td>
<td>S08</td>
<td>Anaerobic digestion of feces from finishing swine fed with diferents levels of soluble fiber.</td>
<td>D. J. Rodrigues¹, M. C. Thomaz², U. D. S. Ruiz³, M. M. Lima¹, P. V. A. Alvarenga¹, F. F. Castro¹, and S. Sgavioli², ¹Department of Animal Science, São Paulo State University, Jaboticabal/SP, Brazil, ²Department of Animal Science, São Paulo State University, Jaboticabal/SP, Brazil, ³Univ. Estadual Paulista - UNESP, Dracena, Brazil, ⁴Department of Morphology and Animal Physiology, São Paulo State University, Jaboticabal, Brazil</td>
</tr>
<tr>
<td>327</td>
<td>S09</td>
<td>Impact of feedlot facility design, diet and cattle type on manure nutrient capture.</td>
<td>N. Kenney-Rambo¹, A. Nesseth², and A. DiCostanzo¹, ¹University of Minnesota, St. Paul, ²Extended Ag Services, Lakefield, MN, ³University of Minnesota, St. Paul</td>
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### PHYSIOLOGY POSTERS

**Presentation Time: 12:45 pm – 1:30 pm**

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328 S10 Differential MicroRNA expression in sperm cells and seminal plasma due to PRRSV infection.
S. M. Calcatera*, D. L. Reicks, A. Feltus, and S. L. Pratt, Clemson University, Clemson, SC, Swine Vet Center, Saint Peter, MN

329 S11 Dairy cattle pregnancy rates and progesterone concentrations in Kuwait following single and double injection PGF2α estrus synchronization protocols.
M. A. Aali*, Aridland Agriculture Department, Kuwait Institute for Scientific Research, Kuwait City, Kuwait

330 S12 Nyctothermal rhythm of dromedary camel’s body temperature using two measurement techniques.
A. Al-Haidary*, K. Abdoun, E. Samara, and A. Okab, Departments of Animal Production, College of Food and Agriculture Sciences, King Saud University, Riyadh, Saudi Arabia, Department of Animal Production, College of Food and Agriculture Sciences, King Saud University, Al-Rayidh, Saudi Arabia

331 S13 Receiver Operator Curve (ROC) characteristics for a pregnancy test based on Milk Progesterone (mP4) concentration before or one week after Timed AI (TAI).
L. J. Wilsdorf, S. E. Poock, and M. C. Lucy, University of Missouri, Columbia

332 S14 Effect of in utero exposure to Lipotropic (One-Carbon) nutrients on mammary developmental genomic signals in rat offspring.
W. S. Choi*, K. Cho, L. Mabasa, C. Crane, M. Ribeiro de Almeida, and C. S. Park, North Dakota State University, Fargo, University of Sao Paulo, Ribeirao Preto, Brazil, North Dakota State University Animal Sciences, Fargo, ND

333 S15 Effects of sire breed, gender, and postnatal litter size on plasma concentrations of acyl ghrelin and its relationship with growth traits and feeding behavior in swine.

334 S16 Type I Interferon response in calves experimentally infected with bovine viral diarrhea virus type 1b and Mannheimia haemolytica.

335 S17 Effects of mid- to late gestational energy source on jejunal crypt cell proliferation in the ewe and fetus.
J. M. Larson*, A. R. Smith, M. A. Berg, A. E. Radunz, and A. M. Meyer, Division of Animal Sciences, University of Missouri, Columbia, Department of Animal Sciences, University of Wisconsin, Madison, Department of Animal and Food Science, University of Wisconsin, River Falls

336 S18 Prepartum somatotropin administration affects IGF-I and NEFA concentrations in serum and follicular fluid of first postpartum dominant follicle in Holstein heifers.
D. A. Velasco Acosta*, A. Schneider, C. Bespalhok Jacometo, J. A. Rincon, F. C. Cardoso, and M. Nunes Corrêa, University of Illinois, Urbana, Federal University of Pelotas, Pelotas, Brazil

337 S19 Effect of methionine and choline supplementation on postpartum follicular development in Holstein cows.
TUESDAY, MARCH 17 - POSTER PRESENTATIONS

RUMINANT NUTRITION I
Presentation Time: 12:45 pm – 1:30 pm

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<td>338</td>
<td>S20</td>
<td>Total mixed ration vs. component feeding does not improve individually-fed high-producing cow performance: Common wisdom challenged.</td>
<td>A. Nikkhah*, University of Zanjan, Zanjan, Iran</td>
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<td>339</td>
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<td>Component vs. total mixed ration feeding improves peripheral energetics in high-producing lactating dairy cows.</td>
<td>A. Nikkhah*, University of Zanjan, Zanjan, Iran</td>
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<td>340</td>
<td>S22</td>
<td>Sugar beets for growing and finishing feedlot cattle.</td>
<td>V. L. Anderson¹ and C. L. Engel², ¹North Dakota State University, Carrington, ND,</td>
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<td>²Carrington Research Extension Center, North Dakota State University, Carrington, ND</td>
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<tr>
<td>341</td>
<td>S23</td>
<td>The influence of dry-rolled corn particle size and dried corn distiller's grains plus solubles inclusion levels on digestibility in steers.</td>
<td>F. E. Doscher*, M. C. Ruch, J. D. Kirsch, M. L. Bauer, and K. C. Swanson, North Dakota State University, Fargo</td>
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<td>342</td>
<td>S24</td>
<td>Effect of particle size and exogenous enzymes on degradability of corn grain rehydrated and ensiled for a short time.</td>
<td>N. M. Lopes¹, M. N. Pereira¹, and F. C. Cardoso², ¹Federal University of Lavras, Lavras, Brazil, ²University of Illinois, Urbana</td>
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<td>343</td>
<td>S25</td>
<td>Effect of supplementing feedlot steers with a DHA-rich microalgae meal on performance, insulin sensitivity, and meat quality.</td>
<td>J. R. R. Carvalho¹, K. M. Brennan², and J. P. Schoonmaker*, ¹Universidade Federal de Lavras, Lavras, Brazil, ²Alltech, Nicholasville, KY, ³Purdue University, West Lafayette, IN</td>
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<td>344</td>
<td>S26</td>
<td>Forage production and stocker cattle performance on BMR sudangrass and vegetative corn in upper Midwestern grazing systems.</td>
<td>C. C. Nieman*, University of Wisconsin Madison, Madison, WI</td>
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<td>345</td>
<td>S27</td>
<td>Effect of trace mineral injection on growth and trace mineral status of nursing beef calves.</td>
<td>C. J. Brasche¹, J. B. Hall², and M. E. Drewnoski¹, ¹University of Nebraska - Lincoln, Lincoln, NE, ²University of Idaho, Carmen, ID</td>
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<td>346</td>
<td>S28</td>
<td>Performance of Nellore beef cattle fed with whole corn diet.</td>
<td>A. M. Mobiglia¹, F. R. Camilo¹, A. A. Miszura¹, V. R. M. Couto¹, F. G. F. Castro², B. P. C. Mendonça², and J. J. R. Fernandes³, ¹Universidade Federal de Goiás, Goiânia, Brazil, ²AgroCria, Goiânia, Brazil</td>
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<td>348</td>
<td>S30</td>
<td>Roughage removal from feedlot diets improve feed efficiency in feedlot cattle.</td>
<td>N. O. Minton*, A. M. Meyer, W. J. Sexten, and M. S. Kerley, Division of Animal Sciences, University of Missouri, Columbia</td>
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</table>

¹ - North Dakota State University, Carrington, ND
² - Carrington Research Extension Center, North Dakota State University, Carrington, ND
³ - University of Illinois, Urbana
⁴ - Purdue University, West Lafayette, IN
**Poster Session V**
**Grand Ballroom**

**EXTENSION - BEEF/SMALL RUMINANT POSTER**
**Presentation Time: 5:00 pm – 5:45 pm**

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<td>246</td>
<td>S01</td>
<td>Effect of estrus activity when evaluating feed efficiency in heifers.</td>
<td>G. R. Dahlke$^1$ and P. J. Gunn$^2$, $^1$Iowa State University, Ames, $^2$Department of Animal Science, Iowa State University, Ames</td>
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<td>247</td>
<td>S02</td>
<td>Effects of diet, housing and season systems on feedlot cattle finishing programs.</td>
<td>J. G. Njoka$^1$, M. P. Hoffman, P. J. Berger, and L. L. Schulz, Iowa State University, Ames</td>
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<td>248</td>
<td>S03</td>
<td>Harvest method and feeder type effect on corn stover intake and waste.</td>
<td>N. E. Mertz$^1$, D. J. Tomczak$^1$, and W. J. Sexten$^2$, $^1$University of Missouri, Columbia, $^2$Division of Animal Sciences, University of Missouri, Columbia</td>
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<tr>
<td>249</td>
<td>S04</td>
<td>Herd health observations in an intensively managed cow-calf production system.</td>
<td>J. M. Warner$^1$, K. H. Jenkins$^2$, R. J. Rasby$^1$, M. K. Luebbe$^2$, D. R. Smith$^1$, G. E. Erickson$^1$, and T. J. Klopfenstein$^1$, $^1$University of Nebraska, Lincoln, $^2$University of Nebraska, Scottsbluff, $^3$Mississippi State University, Mississippi State</td>
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**NONRUMINANT NUTRITION: FEED ADDITIVES AND TECHNOLOGIES**
**Presentation Time: 5:00 pm – 5:45 pm**

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<td>275</td>
<td>S05</td>
<td>Effects of feeding increasing levels of a proprietary yeast blend on sow reproductive performance over a two-parity period.</td>
<td>R. Song$^1$, K. W. Purser, R. E. Musser, and C. D. Hagen, NUTRIQUEST, Mason City, IA</td>
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<td>276</td>
<td>S06</td>
<td>Efficacy of adding β-mannanase to hulled (44% CP) and dehulled (48%) soybean meal on growth performance, blood chemistry, fecal microflora and fecal noxious gas emission in growing pigs.</td>
<td>M. Jung$^1$, Y. Lei$^1$, V. Sharma, S. D. Upadhaya, and I. H. Kim, Department of Animal Resource &amp; Science, Dankook University, Cheonan, South Korea</td>
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<tr>
<td>277</td>
<td>S07</td>
<td>Influence of protected organic acid blends in diets with different nutrient densities on growth performance, nutrient digestibility and fecal noxious gas emission in growing pigs.</td>
<td>B. Balamuralikrishnan$^1$, D. Jung$^1$, K. Y. Lee$^1$, S. D. Upadhaya$^1$, and I. H. Kim$^1$, $^1$Department of Animal Resource &amp; Science, Dankook University, Cheonan, South Korea, $^2$Morningbio Co., Cheonan, South Korea</td>
</tr>
<tr>
<td>278</td>
<td>S08</td>
<td>Protected organic acid blends as an alternative to antibiotics in finishing pigs.</td>
<td>J. K. Kim$^1$, M. Jung$^1$, K. Y. Lee$^1$, S. Mohana Devi$^1$, and I. H. Kim$^1$, $^1$Department of Animal Resource &amp; Science, Dankook University, Cheonan, South Korea, $^2$Morningbio Co., Cheonan, South Korea</td>
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<td>279</td>
<td>S09</td>
<td>A study on the effect of phytogenic supplementation in growing-finishing pigs.</td>
<td>M. Mohammadi Gheisar$^1$, P. Y. Zhao$^1$, S. Shankugam$^1$, D. Jung$^1$, J. D. Hancock$^2$, and I. H. Kim$^1$, $^1$Department of Animal Resource &amp; Science, Dankook University, Cheonan, South Korea, $^2$Kansas State University, Manhattan</td>
</tr>
</tbody>
</table>
A study on the effect of phytogenics in weanling pigs challenged with Escherichia coli K88.
M. Begum, A. Hosseindoust, H. Y. Shin, J. D. Hancock, and I. H. Kim, Department of Animal Resource & Science, Dankook University, Cheonan, South Korea, Kansas State University, Manhattan

Effects of fermented, aged garlic concentration supplementation in diets of lactating sows and their piglets.
S. C. Kim, T. S. Li, P. Y. Zhao, M. C. Nyachoti, and I. H. Kim, Department of Animal Resource & Science, Dankook University, Cheonan, South Korea, University of Manitoba, Winnipeg, MB, Canada

Effects of a novel protease enzyme (CIBENZA) on finishing pig growth performance and carcass characteristics.

Impact of an endo 1,4 β-D mannanase in nursery diets on two genetic populations of pigs selected for soybean meal allergic response.
J. E. Ferrel, F. A. Cabezon, A. P. Schinckel, B. T. Richert, J. S. Radcliffe, and T. S. Stewart, Elanco Animal Health, Greenfield, IN, Purdue University, West Lafayette, IN

Antioxidants reduce lipid peroxidation of dried distillers grains with solubles (DDGS) and distillers corn oil (DCO) stored under high temperature and humidity conditions.
A. R. Hanson, P. E. Urriola, L. J. Johnston, and G. C. Shurson, Department of Animal Science, University of Minnesota, St. Paul, West Central Research and Outreach Center, University of Minnesota, Morris

Effects of a multi-component enzyme product in diets with/without wheat middlings on the performance of nursery pigs during the first 23 d post-weaning.

Effects of Endo-1,4-β-D-mannanase on growth performance and carcass characteristics of finishing pigs fed ractopamine HCl and marketed in a 3-cut strategy.

Chromium yeast in diet for early finishing pigs.
D. Baffa, M. I. Hannas, H. Rostagno, L. Albino, F. Rutz, C. Pereira, M. Almeida, and L. Lopes, Universidade Federal de Viçosa, Viçosa, Brazil, Universidade Federal de Pelotas, Pelotas, Brazil, Universidade Estadual de Santa Cruz, Itabuna, Brazil

Effect of probiotic on energy and nutrient digestibility in growing pigs.
G. Silva, A. Saraiva, M. I. Hannas, H. Rostagno, S. Salgueiro, G. Viana, and M. Almeida, Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Brazil, Universidade Federal de Viçosa, Viçosa, Brazil

Effect of feeding encapsulated butyric acid (ButiPEARL) in nursery diets containing reduced lactose levels on the growth performance of weaning pigs.
B. T. Kremer, L. Ochoa, and A. L. Wagner, Kemin Agrifoods North America, Madison, WI, Kemin Industries, Inc., Des Moines, IA, Cooperative Research Farms, Richmond, VA
TUESDAY, MARCH 17 - POSTER PRESENTATIONS

290 S20 Chromium yeast and ractopamine in diets for finishing pigs.  
D. Baffa, M. I. Hannas*, H. Rostagno, L. Albino, G. Viana, and M. Xavier Júnior, Universidade Federal de Viçosa, Viçosa, Brazil

291 S21 A standardized protected blend of phytogenics improves performance of lactating sows.  
C. Oguey¹ and C. Bruneau²,¹Pancosma, Geneva, Switzerland, ²Pancosma, Saint-Hyacinthe, QC, Canada

292 S22 Effect of supplying a nucleotide product (NuPro) to sow diets on growth performance and immune response of the offspring in the nursery.  
I. F. Hung¹⁴, R. S. Samuel², K. A. Dawson⁷, and M. D. Lindemann¹,¹ University of Kentucky, Lexington, ²Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech Inc., Nicholasville, KY

293 S23 Enzyme supplementation to improve soy hull value in finishing diets.  
G. A. Apgar and O. Falomo*, Southern Illinois University, Carbondale

294 S24 Effect of dietary betaine and ractopamine on growth and carcass characteristics in finishing pigs housed under high ambient temperatures.  
S. M. Mendoza¹¹, E. van Heugten¹, C. E. Zier-Rush², and R. D. Boyd¹²,¹North Carolina State University, Raleigh, ²The Hanor Company, Inc., Franklin, KY

H. Manu*, A. Owusu-Asiedu, and S. K. Baidoo, Southern Research and Outreach Center, University of Minnesota, Waseca, ²DuPont Industrial Biosciences-Danisco Animal Nutrition, Waukesha, WI

296 S26 Impact of soybean meal level and β-mannanase in nursery diets on two genetic populations of pigs selected for soybean meal allergenic response.  
J. E. Ferrel,¹ E. R. Otto-Tice², M. D. Asmus*, A. M. Jones², A. P. Schinckel², B. T. Richert², J. S. Rudolff², and T. S. Stewart,¹Elanco Animal Health, Greenfield, IN, ²Purdue University, West Lafayette, IN
### NONRUMINANT NUTRITION: GROW-FINISH NUTRITION

**Presentation Time:** 7:30 am – 8:15 am

<table>
<thead>
<tr>
<th>Ab #</th>
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<th>Authors</th>
<th>Affiliations</th>
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<tr>
<td>310</td>
<td>S01</td>
<td>Effects of vitamin D, injection or drinking water administration on serum 25-hydroxycholecalciferol status of nursery pigs.</td>
<td>Y. D. Jang(^1), J. Y. Ma(^1), N. Lu(^1), J. Lim(^1), R. L. Stuart(^2), and M. D. Lindemann(^1), (^1)University of Kentucky, Lexington, KY, (^2)Stuart Products Inc, Bedford, TX</td>
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<td>311</td>
<td>S02</td>
<td>Effect of dietary level of spray dried plasma on performance of weaned pigs.</td>
<td>J. D. Crenshaw(^*), J. M. Campbell, and J. Polo, APC, Inc., Ankeny, IA</td>
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<td>312</td>
<td>S03</td>
<td>Comparison of spray dried bovine plasma versus spray dried porcine plasma in diets for weaned pigs.</td>
<td>J. D. Crenshaw(^*), J. M. Campbell, and J. Polo, APC, Inc., Ankeny, IA</td>
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<tr>
<td>313</td>
<td>S04</td>
<td>Effect of different level of fiber and protein on growth performance and fecal characteristics of weaned pigs.</td>
<td>H. L. Li(^1), M. K. Jung(^1), M. M. Hossain(^1), M. C. Nyachoti(^2), and I. H. Kim(^1), (^1)Department of Animal Resource &amp; Science, Dankook University, Cheonan, South Korea, (^2)University of Manitoba, Winnipeg, MB, Canada</td>
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<td>314</td>
<td>S05</td>
<td>Evaluation of different zinc sources and levels on nursery pig performance.</td>
<td>K. E. Jordan(^*), M. A. Goncalves, S. Nitikanchana, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. M. DeRouchey, and J. C. Woodworth, Kansas State University, Manhattan</td>
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<td>315</td>
<td>S06</td>
<td>Response of weaned pigs to spray-dried porcine plasma and feed-grade antibiotics compared with antibiotic free vegetarian diet supplemented with 3 different levels of a source of phytoneutrients.</td>
<td>F. Sandberg(^1), J. Calderon(^2), J. England(^1), and D. Hall(^1), (^1)Furst McNess Company, Freeport, IL, (^2)Iowa State University, Ames</td>
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<tr>
<td>316</td>
<td>S07</td>
<td>Response of weaned pigs to spray-dried porcine plasma and feed-grade antibiotics compared with antibiotic free diets supplemented with polyclonal IgY antibodies (Wean Right) and plant extracts (Natures Fuel).</td>
<td>F. Sandberg(^1), J. Calderon(^2), J. England(^1), D. Hall(^1), C. Phillips(^2), and B. Mitteness(^3), (^1)Furst McNess Company, Freeport, IL, (^2)Iowa State University, Ames, (^3)Camas Inc, Le Center, MN</td>
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<td>317</td>
<td>S08</td>
<td>Can the effects of lactose on nursery pig performance and immune parameters be attributed to glucose, galactose, a combination of both, or sucrose?</td>
<td>Y. S. Li(^1), H. Tran, T. E. Burkey, and P. S. Miller, University of Nebraska, Lincoln</td>
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<td>318</td>
<td>S09</td>
<td>Differential expression of PEPT1 and PEPT2 mRNA in small intestine of Chinese Dongchuan pigs.</td>
<td>Z. Liu(^1), Y. Hao, W. Fang, H. Xuan, L. Yu, W. Bao, and G. Zhao, Yangzhou University, Yangzhou, China</td>
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Effect of a precision feeding strategy applied to groups of pigs in a commercial setting. 
L. Cloutier*, J. Rivest, G. Berthiaume, and M. Morin, Centre de Développement du Porc du Québec inc., Québec, QC, Canada

Apparent digestible energy content of commercial lipid sources fed to growing pigs. 
P. L. Chang1, D. S. Rosero1,2, O. Medina1, A. Terpening1, and E. van Heugten1,1Department of Animal Science, North Carolina State University, Raleigh, 2The Hanor Company, Inc., Franklin, KY

Effects of algae derived β-glucans on nursery pig growth performance and immune response under commercial conditions. 
M. A. Goncalves1, S. S. Dritz, J. M. DeRouchey, M. D. Tokach, R. D. Goodband, and J. C. Woodworth, Kansas State University, Manhattan

Effects of tri-basic copper chloride on growth performance and carcass characteristics of finishing pigs. 
J. Cohen1, J. L. Usry2, N. R. Augspurger1, and C. R. Little1, 1Micronutrients, Indianapolis, IN, 2Micronutrients, Social Circle, GA, 3JBS United, Inc., Sheridan, IN

Effect of Zn sources and inclusion rate on growth performance and carcass composition in grower-finisher pigs. 
T. C. Tsai1, H. J. Kim1, J. L. Usry2, J. Cohen1, J. J. Chewning1, J. K. Apple1, and C. V. Maxwell1, 1Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, 2Micronutrients, Social Circle, GA, 3Micronutrients, Indianapolis, IN, 4Swine Research Services, Inc., Springdale, AR

Predicting disease-challenged pig performance and energy and nutrient requirements using the NRC 2012 modelling module. 
S. M. Curry*, W. P. Schweer, and N. K. Gabler, Iowa State University, Ames

Ruminant Nutrition II
Presentation Time: 7:30 am – 8:15 am

Effects of Saccharomyces cerevisiae fermentation product on rumen VFA concentrations. 

The effects of Cysteamine on rumen fermentation, microbial protein synthesis, and bacterial abundance in lactating dairy cows. 
H. Liu*, H. Yang, M. Lin, H. M. Babekir, G. Zhao, T. Ma, and Z. Chen, College of Animal Science and Technology, Yangzhou University, Yangzhou, China

Effects of feeding stockpiled tall fescue versus tall fescue hay to late gestation beef cows on circulating plasma amino acid concentrations in neonatal calves. 
K. N. Niederecker*, B. L. Vander Ley*, M. C. Heller*, and A. M. Meyer*, 1Division of Animal Sciences, University of Missouri, Columbia, 2Department of Veterinary Medicine and Surgery University of Missouri, Columbia, 3Department of Veterinary Medicine and Epidemiology, University of California, Davis, CA

Effects of corn processing method and particle size on feedlot performance and carcass traits of yearling steers. 
C. L. Engel1, V. L. Anderson2, and C. S. Schauer3, 1North Dakota State University, Carrington Research Extension Center, Carrington, 2North Dakota State University, Carrington, 3North Dakota State University, Hettinger Research Extension Center, Hettinger
**WEDNESDAY, MARCH 18 - POSTER PRESENTATIONS**

353  S20  **Effects of pennycress meal on rumen fermentation using a continuous culture system.**  
* M. M. Masiero* and M. S. Kerley, University of Missouri, Columbia

354  S21  **Performance by Katahdins grazing stockpiled toxic tall fescue, non-toxic tall fescue, or "Persist" orchardgrass: 1-year summary.**  
* T. N. Drane*¹, J. D. Caldwell², A. L. Bax³, B. C. Shanks⁴, L. S. Wilbers⁴, A. J. Kempker⁴, J. D. Walker⁴, C. A. Clifford-Rathert⁴, and A. K. Busalacki⁴, ¹Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, ²Department of Life and Physical Sciences, Lincoln University, Jefferson City, MO

355  S22  **Ruminal degradability and intestinal digestibility of crude protein in sorghum distillers dried grains compared to soybean meal and corn co-products.**  
* B. J. Wild*¹, J. L. Anderson, and A. D. Garcia, Dairy Science Department, South Dakota State University, Brookings

356  S23  **Influence of conventional vs. natural feeding approaches, adaptation length, and direct-fed microbial inclusion on growth performance and feeding behavior in finishing steers.**  
* J. J. Gaspers*¹, G. L. Stokka, J. M. Young, T. C. Gilbery, S. R. Underdahl, M. L. Bauer, G. P. Lardy, and K. C. Swanson, North Dakota State University, Fargo

357  S24  **Treatment of mature switchgrass and cornstalks with calcium hydroxide and comparison of untreated mature switchgrass and cornstalks as roughage in beef cattle feedlot diets.**  
* C. A. Clark¹, G. R. Dahlke², D. L. Maxwell², S. K. Clark², M. L. Van Emon², D. D. Loy², and S. L. Hansen², ¹Armstrong Memorial Research and Demonstration Farm, Iowa State University, Lewis, IA, ²Iowa State University, Ames

358  S25  **Effects of increasing supplementation of rumen undegradable protein on plasma essential amino acid concentrations in beef cows consuming low quality forage.**  
* T. C. Geppert¹, A. M. Meyer², and P. J. Gunn¹, ¹Department of Animal Science, Iowa State University, Ames, ²Division of Animal Sciences, University of Missouri, Columbia

359  S26  **Effect of crude glycerin and soybean oil on intake and digestibility of Nellore bulls.**  
* A. José Neto¹, E. Garbin Sgobi¹, G. Fiorentini¹, E. A. Oliveira¹, L. F. Prados², G. E. Erickson³, and T. T. Berchelli¹, ¹São Paulo State University - UNESP, Jaboticabal, Brazil, ²University of Nebraska, Lincoln

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**TEACHING**

**Presentation Time: 7:30 am – 8:15 am**

360  S27  **University of Nebraska-Lincoln feedyard management internship interest survey.**  
* M. L. Bremer*, R. A. Oglesbee, K. L. Gillespie, G. E. Erickson, J. C. MacDonald, and T. J. Klopfenstein, University of Nebraska, Lincoln

361  S28  **An assessment of the reproductive physiology course at North Dakota state university reveals students are aware of the practical applications of hormones despite hormones being an unpopular topic in the classroom.**  
* L. A. Lekatz¹ and K. A. Vonnahme², ¹Illinois State University, Normal, ²North Dakota State University, Fargo

362  S29  **Conservation of livestock biodiversity: Improving awareness of the contribution of local breeds to food security and local economies.**  
* M. Smith¹, J. R. Levey¹, N. Jackosky¹, B. Tenold¹, S. Taylor¹, J. Colletti¹, S. M. Lonergan*¹, and P. Boettcher¹, ¹Iowa State University, Ames, ²Food and Agriculture Organization of the United Nations, Rome, Italy