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NOTICE:

Registration and housing forms can be found on the Midwest Meeting Website. You can register online at: http://www.adsa.asas.org/midwest/2008. You can print forms off the web site listed above. Information for faxing or mailing can be found on the appropriate form or you can call 217-356-9050 for a printed copy.
REGISTRATION
Convention Center, Lobby
Monday, March 17, 9:30 a.m. – 7:30 p.m.
Tuesday, March 18, 7:00 a.m. – 4:00 p.m.
Wednesday, March 19, 9:00 a.m. – 11:00 a.m.

Before February 29   After February 29
ADSA/ASAS Members     $110    $160
Undergraduate Students $10     $10
Graduate Student Members $20    $30
Post Doctoral Fellow Members $20    $30
ASAS-ADSA Fellows     $0      $0
Nonmembers            ***$220 $260
Graduate Student Nonmembers ***$40  $50
Post Doctoral Fellow Nonmembers ***$75  $85

***These prices include membership into your choice of ASAS or ADSA.

Cancellation Policy: To be eligible for a 90% refund of meeting registration fees, requests must be received in writing before February 29, 2008. No refunds will be issued on ticketed events.

IMPORTANT PHONE NUMBERS
Meeting Registration Desk: ................................................... 515/242-2570
Renaissance Savery Hotel: ...................................................... 515/244-2151
Holiday Inn Downtown: ....................................................... 515/283-0151
Hotel Fort Des Moines: ......................................................... 515/243-1161
Embassy Suites: ..................................................................... 515/244-1700
Marriott: ............................................................................... 515/245-5500

REMINDER
All Food Functions in Room 206
Monday Night Reception 6:00 PM
Tuesday Night Reception 6:00 PM
Wednesday Morning Awards Breakfast 6:45 AM

Registration and housing forms can be found on the web.
www.adsa.asas.org/midwest/2008
Looking for a new job?  
Is your company hiring?

The 2008 Placement Center could be the answer!

If you are interested in advertising open positions in your company or department, or if you’re looking for a position in the animal industry or academia, we encourage you to bring position descriptions and résumés to the Placement Center at the 2008 Midwestern Sectional ASAS/ADSA Annual Meeting.

The Placement Center will be located in the Exhibit Hall, Room 206 at the Convention Center. Sign-up sheets for making “connections” and instructions for use of the Placement Center will be posted.

How to Participate

Students, graduates and experienced professionals are encouraged to post résumés at the Placement Center. Professionals from hundreds of companies, universities, and governmental agencies are represented each year at the Midwest Meeting.

Employers from industry academia and government are encouraged to post position announcements.

What To Bring

Employers are asked to bring 25 to 50 copies of all position announcements.

Prospective employees are requested to bring 25 to 50 copies of their (two-page) résumés.

Job descriptions and résumés can be posted at the Placement Center beginning at 12:00 p.m. on Monday, March 19, 2007.

The Placement Center —
New opportunities are waiting!
SCHEDULE OF EVENTS

Monday, March 17

8:00 AM  ASAS/ADSA Midwest Board of Directors, Renaissance Savery Hotel
12:00 PM  Graduate Student Competitive Research Papers, M.S. Oral Division, 146
12:30 PM  Undergraduate Student Competitive Research Papers, Oral Division, 138-140
1:00 PM   David H. Baker Amino Acid Symposium, 204FG
1:30 PM   Graduate Student Competitive Research Papers, Ph.D. Oral Division, 134
2:00 PM   ARPAS Exams, Convention Center, Board Room
4:30 PM   Poster Presentations, Convention Center Complex, Exhibit Hall, Room 206
6:00 PM   Reception, Convention Center Complex, Exhibit Hall, Room 206
7:30 PM   AQ - Quiz Bowl Finals, Room 204FG

Tuesday, March 18, AM

6:30 AM  Program Committee Meeting, Renaissance Savery Hotel
8:00 AM  Animal Behavior, Housing, & Well Being Symposium: Swine Well-Being Issues: How are they being addressed? 142-144
8:00 AM  Billy N. Day Symposium: Delivering Semen to the Swine Industry, 138-140
8:00 AM  Breeding and Genetics I, 148
8:00 AM  Nonruminant Nutrition I: Distillers Grains, 204FG
8:00 AM  Ruminant Nutrition I: Byproducts, 204AB
8:30 AM  Beef/Small Ruminant Extension I: Sulfur in Ruminant Diets Symposium, 134
9:00 AM  Ruminant Nutrition II: Dairy, 205IJ
9:00 AM  ARPAS Exams, Convention Center, Board Room
10:00 AM Swine Extension I, 146
11:30 AM Box Lunch, Convention Center Complex, Exhibit Hall

A box lunch will be served in the Exhibit Hall for those individuals who ordered and paid for it on the registration form. (Ticket will be with badge). There will be a limited number of box lunches available for purchase in the Exhibit Hall for those individuals who did not order a lunch in advance. The box lunches for sale will be on a first-come basis.

Tuesday, March 18, PM

1:00 PM  Dairy Extension Symposium: Focus on Forages — Facts and Fantasies, 204AB
1:00 PM  Nonruminant Nutrition II: Alternative Ingredients, 142-144
1:00 PM  Physiology I, Nutritional Physiology: The role of nutrition in reproduction symposium, 138-140
1:30 PM  Nonruminant Nutrition III: Amino Acids and Additives, 204FG
2:00 PM  Joint Swine Extension II and Growth, Development, Muscle Biology, and Meat Science I: Changing the dietary fatty acid profile and its influence on carcass composition, muscle biology, and meat characteristics symposium, 205IJ
2:00 p.m. ARPAS Exams, Convention Center, Board Room
3:30 PM  Physiology II: Nutritional Physiology, 138-140
4:30 PM  Poster Presentations, Exhibit Hall, 206
6:00 PM  Reception, Convention Complex, Exhibit Hall

**Wednesday, March 19, AM**

6:45 AM  Breakfast, Business Meeting, Awards Program, Convention Center Complex, Exhibit Hall
9:00 AM  Beef/Small Ruminant Extension II: Feedlot Management, 136
9:00 AM  Breeding and Genetics II: Genetic Control of Feed Utilization Symposium, 142-144
9:00 AM  Growth, Development, Muscle Biology, and Meat Science II, 134
9:00 AM  Nonruminant Nutrition IV: Sow and Mineral Nutrition, 204FG
9:00 AM  Odor and Nutrient Management, 146
9:00 AM  Physiology III: Reproductive Physiology, 138-140
9:00 AM  Ruminant Nutrition III: Metabolism & Rumen Function, 204AB
12:30 PM  ASAS/ADSA Midwest Board of Directors, Renaissance Savery Hotel

**NOTE:** All recording devices (audio, video, and still) are prohibited from oral and poster sessions unless approved in advance by MW ASAS Secretary.
Poster Schedule

All posters will be in the Exhibit Hall (Room 206) and will be in place from Monday at 1:00 PM until Noon on Wednesday. Authors are to be present on their assigned day from 4:30 PM to 6:00 PM. Posters entered in Graduate and Undergraduate Research Paper Competitions have been incorporated into their appropriate disciplinary sections. Judging of competition posters will take place during the Monday poster session from 4:30 PM to 6:00 PM.

Monday, March 17
All authors present from 4:30 PM – 6:00 PM

Graduate Student Competitive Research Papers, M.S.
Graduate Student Competitive Research Papers, Ph.D.
Undergraduate Student Competitive Research Papers
Animal Behavior, Housing and Well Being
Nonruminant Nutrition - Session I
Physiology
Ruminant Nutrition – Session I

Tuesday, March 18
All authors present from 4:30 PM – 6:00 PM

Beef Extension
Breeding and Genetics
Growth, Development, Muscle Biology, and Meat Science
Nonruminant Nutrition - Session II
Odor and Nutrient Management
Ruminant Nutrition – Session II
Swine Extension
A SPECIAL THANK YOU
From the Midwestern Section of the American Society of Animal Science and the Midwest Branch of the American Dairy Science Association for support of the 2008 meeting to the following companies:

**Outstanding Young Scientist Awards**
- Extension - Land O’Lakes, Purina Feed, LLC
- Research - DSM Nutritional Products, Inc.
- Teaching – Archer Daniels Midland Company

**National Pork Board Swine Innovation (Abstract) Awards**
- Research - National Pork Board
- Research - National Pork Board
- Education - National Pork Board

**Innovation in Dairy Research Award**
- Land O’Lakes, Purina Feed, LLC

**Agribusiness Award**
- ExSeed Genetics

**Student Competition Paper Awards**
- Graduate M.S., Oral - DeKalb Feeds, Inc.
- Graduate Ph.D., Oral - Akey
- Graduate M.S., Poster - Cargill Animal Nutrition
- Graduate Ph.D., Poster - Cargill Animal Nutrition
- Undergraduate, Oral - Murphy-Brown LLC, Western Operations
- Undergraduate, Poster - ADSA ASAS MW Board

**Academic Quadrathlon**
- Intervet, Inc.
- Iowa State University

**Breakfast (Wednesday)**
- APC, Inc.
- Fort Dodge Animal Health
- Land O’Lakes, Purina Feed, LLC
- VetLife

**Cyber Café & Placement Center**
- Feedstuffs Newspaper

**Abstract Book**
- Fort Dodge Animal Health

**Program Book Sponsor**
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**Poster Sponsor**
- Zinpro

**Refreshment Break**
- Kemin Agri Foods North America, Inc.

**David H. Baker Amino Acid Symposium**
- David H. Baker Appreciation Club

**Billy N. Day Symposium**
- Billy N. Day Appreciation Club

**Animal Behavior, Housing, & Well Being Symposium**
- American Society of Animal Science
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GeneSeek Inc.
Hormel Foods Corporation
ILC Resources
International Ingredient Corporation
Lucta USA Inc.
Pig Improvement Company, Inc.
PREPARATION GUIDELINES FOR ORAL PRESENTATIONS — LCD

Collection of PowerPoint Files Prior to Meeting
Each room will be equipped with a computer and an LCD projector. Again for 2008, in an effort to maximize efficiency onsite and to avoid possible technical issues, we will be collecting PowerPoint files for oral presentations only prior to the meeting. After all presentations have been collected, they will be distributed to the appropriate program chair on site prior to the start of the session. To ensure a smooth presentation, it is critical that you read and follow the instructions provided. Click the link provided below for detailed instructions for creating and submitting your presentations. http://www.adsa.asas.org/midwest/2008/insppt.htm

Upload Process
Presentations must be submitted electronically through our upload site at: http://www.fass-abstracts.org/meetinginfo.asp?meetingcode=130
This is the same application used to submit the meeting abstracts. Select the “Login and Manage Abstracts” Link and be sure to use the same account login information that was created at the time of submission. If you do not recall this information, use the “forgot password” link on the login page. Once you are logged in, click the “add/manage documents” link for your abstract in the table to go to the upload page.
If you are an invited speaker AND you did not upload an abstract, please upload your presentation here:
http://www.fass-abstracts.org/invited_papers/?meetingcode=130

Upload Deadlines
The deadline for final presentations to be submitted is: Monday, March 10, 2008 11:59 PM, Central Standard Time
By using the upload site, PPT files will be linked to the already submitted abstract. Editing will not be allowed on existing abstracts.
There is not a file size limit for uploading presentations, but please be aware that uploading large files will be hindered by connection speeds.

All presentations must be uploaded in PowerPoint format on or before Monday, March 10, 2007 11:59 PM Central Standard Time.

POSTER SESSIONS
All posters will be in the Convention Complex, Exhibit Hall, Room 206 from Monday 1:00 PM until Wednesday, Noon. See each session to find out when authors are to be present.

POSTERS PRESENTED
Monday, March 17 – 4:30–6:00 PM
Tuesday, March 18 – 4:30–6:00 PM
Copper supplementation promotes growth of piglets in the presence of dietary ZnO and antibiotic (carbadox). V. Perez-Mendoza*1, M. Steidinger2, T. Ward3, and J. Pettigrew4, 1University of Illinois, Urbana, IL, 2Swine Nutrition Services Inc., Anchor, IL, 3Zinpro Corporation, Eden Prairie, MN.

Effects of maternal selenium (Se) and dietary restriction on glucose concentrations and placental endothelial nitric oxide synthase (eNOS) expression in the pregnant ewe. L.A. Lekatz*1, J.J. Reed1, R.M. Weigl1, T.L. Neville1, J.S. Caton1, J.B. Taylor2, D.A. Redmer1, L.P. Reynolds1, and K.A. Vonnahme1, 1North Dakota State University, Fargo, ND, USA, 2USDA-ARS, Sheep Experiment Station, Dubois, ID, USA.

Effect of the grains to solubles ratio in diets containing wet distillers grains fed to feedlot steers. C. M. Godsey*, M. K. Luebbe, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln, Nebraska.

Effects of temperature stress on growth performance and bacon quality of grow-finish pigs housed at two housing densities. H. M. White*, M. A. Latour, and S. S. Donkin, Purdue University, West Lafayette, IN, USA.

Nutritional value of flaxseed meal and its effects on pig growth and carcass composition. L. Eastwood*, P. Kish, J.F. Patience, and P. Leterme, Prairie Swine Centre Inc., 2105 - 8th Street East, Saskatoon, SK, S7H 5N9, Canada.


Effect of standing estrus on LH pulses and subsequent progesterone following a fixed-time AI protocol. S. D. Fields*, B. L. Perry, and G. A. Perry, South Dakota State University, Brookings, South Dakota, USA.

Use of 20% dried distillers grains with solubles (DDGS) and high amounts of synthetic amino acids to replace soybean meal in grower-finisher swine diets. A.J. Drescher*1, L.J. Johnston1, G.C. Shurson1, and J. Goihl2, 1University of Minnesota, St. Paul, MN, USA, 2Agri-Nutrition Services, Inc., Shakopee, MN, USA.
Effect of diet and sire on the rates of back fat and marbling deposition in feedlot cattle. C.O. Trejo*, L.L. Berger, and T.G. Nash, University of Illinois, Urbana, Illinois, USA.

Phosphorylation of Perilipin is associated with lipolytic activity in dairy cow. D. Elkins*, H. Park, and D. Spurlock, Iowa State University, Ames, IA, USA.

Determining the optimum ratio of dietary tryptophan to lysine in growing pigs fed non-U.S.-type ingredients. A. D. Quant*1, M. D. Lindemann1, G. L. Cromwell1, B. J. Kerr2, and R. L. Payne3, 1University of Kentucky, Lexington, KY, 2USDA, Ames, IA, 3Degussa Corporation, Kennesaw, GA.


Performance of lactating dairy cows to increasing concentrations of dried distillers grains with solubles on milk production and composition. K. A. Christen*, K. F. Kalscheur, B. W. Pamp, A. R. Hippen, and D. J. Schingoethe, South Dakota State University, Brookings, South Dakota, USA.

Comparison of dried whey permeate (DWP) and a carbohydrate product (CHO) in diets for nursery pigs. V. D. Naranjo*, T. D. Bidner, and L. L. Southern, LSU Agricultural Center, Baton Rouge, LA, USA.

Undergraduate Student Competitive Research Papers, Oral Division
Chair: Gretchen M. Hill, Michigan State University, East Lansing
138-140
Sponsored by: Murphy-Brown LLC, Western Operations

Forage quality and grazing performance of beef cattle grazing brown mid-rib grain sorghum residue. A.K. Schwarz*1, C.M. Godsey1, M.K. Luebbe1, G.E. Erickson1, T.J. Klopfenstein1, R.B. Mitchell2, and J.F. Pedersen2, 1University of Nebraska, Lincoln, NE USA, 2USDA, ARS, Lincoln, NE USA.

Survey of mortality in multi-source nurseries. J. Graham*, J. Waddell2, and K. Bruns1, 1South Dakota State University, Brookings, SD, USA, 2Sutton Veterinary Clinic, Sutton, NE.

Feed value of dry distillers grains plus solubles for feedlot lambs. Y. Diaz*, A. Islas, D. Hallford, and S. A. Soto-Navarro, Department of Animal and Range Sciences; New Mexico State University, Las Cruces, NM USA.

Influence of maternal nutrition on cellular proliferation rates of placental tissues in singleton ovine adolescent pregnancies at Day 50 and 75 of gestation. L. Rensink*1, R. Aitken1, J. Milne1, P. Borowicz2, A. Scheaffer1, D. Carlson2, L. Reynolds2, J. Wallace3, and D. Redmer3, 1Northwestern College, Orange City, IA, USA, 2North Dakota State University, Fargo, ND, USA, 3Rowett Research Institute, Bruckburn, Aberdeen, UK.

Nitrogen utilization in horses fed grass and alfalfa hay. A. L. Minella*, J. Liesman, and N. L. Trottier, Michigan State University, East Lansing, MI, USA.


Coat shedding among Angus cows and its correlation among progeny. H.D. Sigal*, K.A. Gray, and J.P. Cassady, North Carolina State University, Raleigh, NC, US.

The effect of condensed corn solubles on in vitro dry matter disappearance of low-quality forages. T.M. Krafft*, T.T. Marston, and K.W. Harborth, Kansas State University, Manhattan, Kansas, USA.


Effects of administration of bovine colostrum extract (First Pulse® D) on growth, livability and acute phase proteins of disadvantaged pigs in a commercial swine production facility. J.M. Pomereneke*1, J.S. Knott2, R.W. Fent2, and G.C. Shurson1, 1University of Minnesota, St. Paul, MN, USA, 2Ralco Nutrition Inc., Marshall, MN, USA.

Changes in myoblast activity during pig development are not explained by inherent differences in phenotype or global gene expression patterns. B.L. Varnes*, E.E. Helman, C.W. Ernst, J.W. Reum, R.J. Tempelman, A.M. Ramos, and M.E. Doumit, Michigan State University, East Lansing, MI USA.


David H. Baker Amino Acid Symposium
Chair: Kevin M. Halpin, International Ingredient Corp., Fenton (St. Louis), MO
204FG

Sponsored by: David H. Baker Appreciation Club

Introduction. Kevin M. Halpin.

(Invited) Recent developments in human amino acid nutrition. P. Pencharz*1, 1Hospital for Sick Children, Toronto, Ontario, Canada, 2University of Toronto, Toronto, Ontario, Canada.

Comments. David H. Baker.

Cyst(e)ine imbalance and its effect on methionine precursor utilization in chicks. R. N. Dilger* and D. H. Baker, University of Illinois, Urbana, IL, USA.

(Invited) Amino acid idiosyncrasies of the cat. Q. Rogers*, University of California, Davis, CA, USA.

Break.
(Invited) The valine requirement of the young pig and its significance in practical feed formulation. A.M. Gaines*1 and D.C. Kendall2, 1The Maschhoffs Inc., Carlyle, IL, USA, 2Murphy Brown LLC, Rose Hill, NC, USA.

Determination of the lysine requirement and the order of limiting amino acids in diets for 20- to 40-kilogram pigs. M. Roux1, A. Donsbough*1, A. Waguespack1, T. Bidner1, L. Southerin1, and R. Payne2, 1LSU Agricultural Center, Baton Rouge, LA, USA, 2Degussa Corporation, Kennesaw, GA, USA.

(Invited) Regulatory science and the use of amino acids, proteins and related compounds in animal feed. G. Graber*, AFSS Consulting, Gaithersburg, MD, USA.

Graduate Student Competitive Research Papers, Ph.D. Oral Division
Chair: Matthew Wilson, West Virginia University, Morgantown
Sponsored by: Akey


1:45 PM 96 Digestibility and fermentation parameters of barley and oats differing in β-glucan content in the pig intestines. R. Jha*1, B. Rossnagel2, R. Pieper2, A. Van Kessel2, and P. Leterme1, 1Prairie Swine Centre Inc., Saskatoon, SK, Canada, 2University of Saskatchewan, Saskatoon, Canada, 3FBN-Ernahrungsphysiologie, Dummerstorf, Germany.

2:00 PM 97 Effects of corn processing and wet distiller’s grains on metabolism in steers. M. E. Corrigan*, G. E. Erickson, T. J. Klopfenstein, N. F. Meyer, C. D. Buckner, and S. J. Vanness, University of Nebraska, Lincoln.

2:15 PM 98 Assessment of the influence of proximate fractions in meat and bone meals on their apparent nitrogen-corrected metabolizable energy content. O. A. Olukosi* and O. Adeola, Purdue University, West Lafayette, IN, USA.

2:30 PM Break.


3:00 PM 100 Effect of dietary vitamin a on finishing beef cattle. C. L. Pickworth*, S. C. Loerch, and F. L. Fluhraty, The Ohio State University, Wooster, OH USA.

3:15 PM 101 Effect of wintering system, nutrition around breeding, and prostaglandin on gain and reproduction in beef heifers. D.M. Larson*1, R.D. Richardson2, and R.N. Funston3, 1University of Nebraska, Lincoln, NE USA, 2Rex Ranch, Ashby, NE USA, 3West Central Research and Extension Center, North Platte, NE USA.

POSTER PRESENTATIONS

All posters will be in the Exhibit Hall (Room 206) and will be in place from Monday at 1:00 PM until Noon on Wednesday. Authors are to be present on their assigned day from 4:30 PM to 6:00 PM. Posters entered in Graduate and Undergraduate Research Paper Competitions have been incorporated into their appropriate disciplinary sections (Beef Extension, BE; Breeding and Genetics, BG; Growth, Development, Muscle Biology, and Meat Science, GDM; Nonruminant Nutrition, NN; Physiology, P; Ruminant Nutrition, RN). Judging of competition posters will take place during the Monday poster session from 4:30 PM to 6:00 PM.

Graduate Student Competitive Research Papers, M.S. Poster Division
Chair: Ellen Davis, Agtech Products, Waukesha, WI
Exhibit Hall


106 RN Evaluation of milk components, fatty acid profile, and production of cows fed rolled flaxseed on two commercial dairies. N.R. Bork*, G.P. Lardy¹, J.W. Schroeder¹, K.A. Vonnahme¹, P.M. Fricke³, K.B. Koch¹, K.G. Odde², R.D. Shaver³, and S.J. Bertics¹, ¹North Dakota State University, Fargo, ND, USA, ²Kansas State University, Manhattan, KS, USA, ³University of Wisconsin-Madison, Madison, WI, USA.

107 RN Effects of high dietary nitrate on feed intake, weight, and plasma parameters in sheep. R. Cockrum*, K. Austin, P. Ludden, and K. Cammack, University of Wyoming, Laramie, WY, USA.

108 RN Effects of glycerol on cow and calf performance in creep rations. C. Fleenor*, S. Lake, M. Claeys, P. Gunn, and R. Lemenager, Purdue University, West Lafayette, IN.

109 RN Comparison of two grain adaptation systems, one with forage and another using wet corn gluten feed, on ruminal pH, feed intake, and digestibility of feedlot cattle. T.J. Huls*, N.F. Meyer, G.E. Erickson, and T.J. Klopfenstein, University of Nebraska, Lincoln, NE.

110 RN Canola meal replacing dried distillers grains with solubles in lactating dairy cow diets. C.N. Mulrooney*, D.J. Schingoethe, K.F. Kalscheur, and A.R. Hippen, South Dakota State University, Brookings, SD, USA.
Graduate Student Competitive Research Papers, Ph.D. Poster Division
Chair: Ellen Davis, Agtech Products, Waukesha, WI
Exhibit Hall

111 GDM Finishing diets containing wet distillers grains plus solubles affect shelf life of beef. A.S. de Mello Junior*, C.R. Calkins, B.E. Jenschke, L.S. Senaratne, and G.E. Erickson, *University of Nebraska-Lincoln, Lincoln, NE, USA.

112 GDM Impact of birth weight on growth performance and carcass characteristics of pigs – a retrospective analysis. B. A. Peterson*1, M. Ellis1, R. Bowman2, N. H. Williams3, and B. F. Wolter3, 1University of Illinois, Urbana, IL, USA, 2The Maschhoffs, Inc., Carlyle, IL, USA, 3PIC USA, Franklin, KY, USA.

113 P Use of transcriptional profiling to understand genetic mechanisms responding to fasting in pigs. Sender Lkhagvadorj*1, Long Qu1, Oliver Couture1, Jack Dekkers1, and Chris Tuggle1, 1Iowa State University, Ames, 2United States Department of Agriculture Animal Research Service, Athens, 3University of Georgia, Athens.

114 NN Effects of replacement of corn with rice in weaned pig diets under commercial conditions. M.T. Che*1, M.U. Steidinger2, and J.E. Pettigrew3, 1Department of Animal Sciences, University of Illinois, Urbana, IL 61801, 2Swine Nutrition Services Inc., Anchor, IL.

115 RN Autocrine signaling mechanism of vitamin D in the bovine innate immune response. C.D. Nelson*1,3, D.C. Beitz1,2, T.A. Reinhardt1, and J.L. Lippolis3, 1Department of Biochemistry, Biophysics and Molecular Biology, Iowa State University, 2Department of Animal Science, Iowa State University, Ames, IA 50011, USA, 3Periparturient Diseases of Cattle Research Unit, National Animal Disease Center, Agriculture Research Service, United States Department or Agriculture, 2300 Dayton Ave, Ames, IA 50010, USA.

Undergraduate Student Competitive Research Papers, Poster Division
Chair: Gretchen M. Hill, Michigan State University, East Lansing
Exhibit Hall


302 NN Efficacy of oral electrolyte supplementation for growth enhancement of weanling piglets. Paula Matuszak* and Gary Onan, University of Wisconsin-River Falls, River Falls, WI USA.

303 RN The effects of extruding distillers grain on particle size and extruder emissions. J.D. Lee*1, P.M. Walker1, A.L. Shreck1, and G.A. Apgar2, 1Illinois State University, Normal, IL USA, 2Southern Illinois University, Carbondale, IL USA.

304 RN Economic analysis of beef cattle finishing diets containing corn and soybean co-products. D.S. Stoner*1, P.M. Walker1, and L.A. Forster2, 1Illinois State University, Normal, IL USA, 2Archer Daniels Midland Company, Decatur, IL USA.

Animal Behavior, Housing and Well Being - Posters
Chair: Anna Johnson, Iowa State University, Ames
Exhibit Hall

1 Sensitivity and specificity of lameness assessment in sows. L. Anil*, S. S. Anil, and J. Deen, University of Minnesota, St. Paul.
Evaluation of an analgesic intervention based decision-support system for sow removals for lameness on sow performance. S. S. Anil*1, L. Anil1, J. Deen1, S. L. Van Westen2, and S. K. Baidoo2, 1University of Minnesota, St. Paul, 2University of Minnesota, Waseca.

Endocrine response to acute stress in pigs with differing backtest scores. J. P. Cassady*, J. L. Cagle, B. J. Skelly, K. M. Youngs, and C. S. Whisnant, North Carolina State University, Raleigh, NC, US.


The effects of feeder space and feed form on pig growth performance and carcass yield in a commercial wean-to-finish facility. B. A. Peterson*, M. Ellis1, R. Bowman2, O. Mendoza1, A. Rojo1, and B. F. Wolter2, 1University of Illinois, Urbana, 2The Maschhoffs, Inc., Carlyle, IL.

Dietary inclusion of Colicin E: Effect on pig behavior. A. K. Johnson*1, T. Hoff1, L. Sadler1, and C. H. Stahl2, 1Iowa State University, Ames, 2North Carolina State University, Raleigh.


Effect of trailer floor space allowance on environmental conditions inside a livestock trailer. C. M. Murphy*, M. Ellis1, R. Bowman2, J. Brinkman2, T. Funk1, A. Lenkaitis1, X. Wang1, and B. F. Wolter2, 1University of Illinois, Urbana, 2The Maschhoffs, Inc., Carlyle, IL.

Effects of swine transport trailer design and season on environmental conditions in the trailer during transport of market weight pigs. C. M. Murphy*1, M. Ellis1, D. Orellana1, R. Bowman2, B. A. Peterson1, M. J. Ritter1, J. M. Young1, and B. F. Wolter2, 1University of Illinois, Urbana, 2The Maschhoffs, Inc., Carlyle, IL.

Piglet mortality in an outdoor farrowing hut: What behaviors contribute to their demise? J. R. Garvey*1, J. J. McGlone2, L. J. Sadler1, and A. K. Johnson1, 1Iowa State University, Ames, 2Pork Industry Institute, Texas Tech University, Lubbock.

Behavioral validation for nursery pigs. J. M. Bowden*, A. K. Johnson2, K. J. Stalder2, and L. A. Karriker1, 1Iowa State University, Ames, IA, 2Department of Animal Science, Iowa State University, Ames, IA.

Validation of scan sampling techniques for lactating sows kept outdoors. A. K. Johnson*1 and J. J. McGlone2, 1Iowa State University, Ames, 2Pork Industry Institute, Texas Tech University, Lubbock.

Nonruminant Nutrition - Posters Session I

Exhibit Hall


Effects of restricting energy intake during development and genetic line on productivity through three parities. R. K. Johnson*, P. S. Miller, M. W. Anderson, and R. Moreno, University of Nebraska, Lincoln.

Effects of sow parity and L-arginine treatment during early gestation on litter size and birth weight. M. Hahn*1, S. Town1, M. Smit1, J. Patterson1, A. Pasternak1, D. Guggenbiller2, C. Smits3, P. Ramaeker3, M. Dyck1, and G. Foxcroft1, 1Swine Research & Technology Centre, University of Alberta, Edmonton, Alberta, Canada,

171 Effect of dietary vitamin levels and group size on performance of growing pigs. Y. Huang*, Y. Wang¹, J. H. Cho¹, Y. J. Chen¹, J. S. Yoo¹, H. J. Kim¹, K. Y. Whang², and I. H. Kim¹, ¹Dankook University, Cheonan, Choongnam, Korea, ²Korea University, Seoul, Korea.

302 Efficacy of oral electrolyte supplementation for growth enhancement of weanling piglets. Paula Matuszak* and Gary Onan, University of Wisconsin-River Falls, River Falls, WI USA.

172 Effects of combinational uses of zinc sulfate and zinc-amino acid chelate on zinc bioavailability in broiler chickens. S. J. Park*, B. J. Min², R. A. Royce³, and S. W. Kim², ¹Texas Tech University, Lubbock, ²North Carolina State University, Raleigh, ³Albion-Advanced Nutrition, Clearfield, UT.

173 Effects of single or multi-enzyme preparations supplementation in corn distillers dried grains with solubles diet on growth performance, nutrients digestibility and serum characteristics in 50 kg pigs. Y. Wang¹, J. H. Cho¹, Y. J. Chen¹, J. S. Yoo¹, Y. Huang¹, H. J. Kim¹, S. O. Shin¹, I. H. Kim¹, H. K. Moon², and I. C. Kim², ¹Dankook University, Cheonan, Choongnam, Korea, ²Korea University, Seoul, Korea.


176 Effects of dietary probiotic complex( Lactobacillus acidophilus, Bacillus subtilis & Aspergillus oryzae) on growth performance, blood immunological parameters and fecal malodor gas emission in growing pigs. H. D. Jang*, H. J. Kim¹, J. H. Cho¹, Y. J. Chen¹, J. S. Yoo¹, K. Y. Whang², I. H. Kim¹, J. C. Park³, and H. J. Jung³, ¹Dankook University, Cheonan, Choongnam, Korea, ²Korea University, Seoul, Korea, ³National Institute of Animal Science, SeongHwan, Choongnam, Korea.

177 Effects of transgenic Bacillus subtilis secreting chitinase supplementation on growth performance, nutrient digestibility, blood characteristics and carcass traits in finishing pigs. H. J. Kim*, J. H. Cho¹, Y. J. Chen¹, J. S. Yoo¹, Y. Wang³, Y. Huang¹, K. Y. Whang², and I. H. Kim¹, ¹Dankook University, Cheonan, Choongnam, Korea, ²Korea University, Seoul, Korea.


180 Effects of two TID lysine concentrations, Optipak®, Paylean®, and their combinations, on the growth performance and carcass characteristics of finishing

181 Evaluation of arabinogalactan (Larafeed® AG) as a neutraceutical growth promoter in starter diets for weanling pigs. J. R. Bergstrom*, J. L. Nelssen1, M. D. Tokach1, S. S. Dritz1, and J. C. Woodworth2, 1Kansas State University, Manhattan, 2Lonza, Inc., Allendale, NJ.


**Physiology - Posters**

**Exhibit Hall**

222 POSILAC® efficacy on six commercial dairy farms. T. H. Klusmeyer*, J. M. Ballam, and J. L. Vicini, Monsanto Company, St. Louis, MO.

223 Effects of summer climatic conditions on body temperature in beef females. D. McGee*, R. Rasby, M. Nielsen, T. Mader, L. Kovarik, and Z. Hall, University of Nebraska-Lincoln, Lincoln, NE, USA.

224 Effects of administration of prostaglandin F₂α (PG) 5 or 7 d after receiving human chorionic gonadotropin (hCG) or gonadotropin releasing hormone (GnRH) in replacement beef heifers. G. Marquezini*, C. R. Dahlen2, M. Blason3, S. L. Bird1, J. E. Larson1, B. J. Lovas1, S. L. Lares1, and G. C. Lamb1, 1NCROC, University of Minnesota, Grand Rapids, MN, USA, 2NWROC, University of Minnesota, Crookston, MN, USA.


225 Sildenafil citrate (Viagra™) influences ovarian hemodynamics and progesterone concentrations in Rambouillet ewes. E. J. Windorski*, K. A. Vonnahme1, C. S. Schauer2, J. D. Kirsch1, L. A. Silva, L. P. Reynolds1, and J. S. Luther1, 1North Dakota State University, Fargo, ND, United States, 2Hettinger Research Extension Center, North Dakota State University, Hettinger, ND, United States, 3University of Florida, Gainesville, FL, United States.

226 Effects of genistein on serum and anterior pituitary (AP) concentrations of IGF-I and IGF binding proteins (IGFBP) in barrows. A. K. Knorr* and J. A. Clapper, South Dakota State University, Brookings, SD, USA.

113 Use of transcriptional profiling to understand genetic mechanisms responding to fasting in pigs. Sender Lkhagvadorj*, Long Qu1, Oliver Couture1, Jack Dekkers1, and Chris Tuggle1, 1Iowa State University, Ames, 2United States Department of Agriculture Animal Research Service, Athens, 3University of Georgia, Athens.

**Ruminant Nutrition – Posters Session I**

**Exhibit Hall**

115 Autocrine signaling mechanism of vitamin D in the bovine innate immune response. C. D. Nelson1,3, D. C. Beitz1, T. A. Reinhardt4, and J. L. Lippolis3,

Effects of time of soybean oil supplementation on diurnal rumen activity and total tract nutrient digestibility in lambs fed a high forage diet. Q. S. Baptiste*, J. Gulas, M. Packard, S. Chavez, and E. E. D. Felton, West Virginia University, Morgantown, WV USA.


Supplemental trace minerals (Zn, Cu, Mn, and Co) as Availa® or inorganic sources for shipping-stressed cattle. M. Pass, J. C. Moore*, E. B. Kegley, and C. K. Larson, University of Arkansas, Fayetteville, Zinpro Corp., Eden Prairie, MN.

Comparison of two grain adaptation systems, one with forage and another using wet corn gluten feed, on ruminal pH, feed intake, and digestibility of feedlot cattle. T. J. Huls*, N. F. Meyer, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln, NE.

Effects of dietary ingredients composition on plasma ghrelin concentrations of beef cattle in negative energy balance. J. S. Jennings*, A. E. Wertz-Lutz, and J. A. Clapper, South Dakota State University, Brookings, SD.

Phosphorus concentrations of forage selected by grazing beef cattle. D. Assman*, M. M. Haan, and J. R. Russell, Iowa State University, Ames, IA USA.

Effects of source of energy on performance, ultrasonic, carcass, and economic characteristics of early-weaned heifers. P. S. Bedwell, D. W. Shike*, F. A. Ireland, T. G. Nash, and D. B. Faulkner, University of Illinois, Urbana-Champaign, IL, USA.

Effects of distillers dried grains supplementation of smooth bromegrass hay on hay intake and diet digestibility. P. W. Lasley* and J. R. Russell, Iowa State University, Ames, IA USA.

Evaluation of milk components, fatty acid profile, and production of cows fed rolled flaxseed on two commercial dairies. N. R. Bork*, G. P. Lardy, J. W. Schroeder, K. A. Vonnhame, P. M. Fricke, K. B. Koch, K. G. Odde, R. D. Shaver, and S. J. Bertschi, University of Nebraska State University, Fargo, ND, USA, Kansas State University, Manhattan, KS, USA, University of Wisconsin-Madison, Madison, WI, USA.

Pasture and natural finishing influences performance, carcass, and economic characteristics of early-weaned steers. D. B. Faulkner*, D. Shike, and F. A. Ireland, University of Illinois, Urbana, IL, USA.

Supplementing beef cows grazing constalk residue with a distillers grains based cube during late gestation. Z. C. Hall*, R. J. Rasby, L. M. Kovarik, and D. A. McGee, University of Nebraska - Lincoln, Lincoln, NE 68583-0908.

Effects of increasing the dietary energy density by replacing grass hay with soybean hulls and dried distillers grains with solubles on nutrient digestibility and rumen function. R. D. Zelinsky*, A. E. Wertz-Lutz, and J. E. Held, South Dakota State University, Brookings, SD.
Effects of glycerol on cow and calf performance in creep rations. C. Fleenor*, S. Lake, M. Claeys, P. Gunn, and R. Lemenager, Purdue University, West Lafayette, IN.

Replacing grass hay with soybean hulls and dried distillers grains with solubles alters ewe milk composition and lamb performance. R. D. Zelinsky*, A. E. Wertz-Lutz, and J. E. Held, South Dakota State University, Brookings, SD.

Tuesday, March 18

SYMPOSIA AND ORAL SESSIONS

Animal Behavior, Housing, & Well Being Symposium
Swine Well-Being Issues: How are they being addressed?
Chair: Anna Johnson, Iowa State University, Ames

Sponsored by: American Society of Animal Science

8:00 AM  Introduction and welcome.


8:50 AM 14 (Invited) Drinking behavior of seven week old pigs when water is either withheld or provided ad libitum. A. K. Johnson* and C. J. Jackson, Iowa State University, Ames.

9:35 AM  Break.


11:15 AM  Break.

11:30 AM 17 Effects of handling intensity, distance moved, and transport floor space on the stress responses of market weight pigs. M. J. Ritter*, M. Ellis, C. M. Murphy, B. A. Peterson, and A. Rojo, Elanco Animal Health, Greenfield, IN, University of Illinois, Urbana.

11:45 AM 18 Factors that increase the frequency of stressed, crippled, and dead pigs at a commercial abattoir. R. Fitzgerald*, K. Stalder, N. Matthews, C. Schultz-Kaster, and A. Johnson, Iowa State University, Ames, Farmland Foods, Milan, MO.

12:00 PM 19 Factors associated with open mouth breathing and mortality in market hogs following transport to a packing plant. K. B. Kephart* and M. T. Harper, Penn State University, University Park.

Billy N. Day Symposium
Delivering Semen to the Swine Industry
Chair: Tim Safranski, University of Missouri, Columbia

Sponsored by: Billy N. Day Appreciation Club

8:00 AM Introduction. Tim Safranski.

8:05 AM 21 (Invited) Benefits accrued by the swine industry following adoption of artificial insemination. R. G. Campbell*, Pork CRC, Willaston, South Australia, Australia.

8:45 AM 22 (Invited) An overview of the current status of technology for artificial insemination in the swine industry. E. A. Martinez*, J. M. Vazquez, J. Roca, M. A. Gil, C. Cuello, I. Parrilla, X. Lucas, and J. L. Vazquez, Murcia University, Murcia, Spain.

9:25 AM 23 (Invited) Opportunities to increase the benefits of artificial insemination to the swine industry. R. Schmitt*, Seaboard Foods, Guymon, OK.

9:45 AM Questions and Discussion. Tim Safranski.

10:00 AM Break.


10:45 AM 25 (Invited) Opportunities to improve liquid and frozen storage of boar semen. H. D. Guthrie* and G. R. Welch, Animal Biosciences and Biotechnology Laboratory, Agricultural Research Service, Beltsville, MD.


11:45 AM Summary and Questions. Tim Safranski.

Breeding and Genetics I
Chair: Eric Antoniou, University of Missouri, Columbia

Sponsored by: Pig Improvement Company

8:00 AM 27 A multivariate approach for Parma’s ham quality evaluation. N. Bacciu*1, A. Rossi2, and N. P. P. Macciotta1, 1University of Sassari, Sassari, Italy, 2C.R.P.A., Reggio Emilia, Italy.

8:15 AM 28 Application of various selection methods for genetic improvement of rate of gain and lion depth while maintaining back-fat thickness constant in pigs. A. Toosi*1, R. Fernando1, F. Pita2, and F. Gunsett2, 1Iowa State University, Ames, 2Newsham Genetics, West Des Moines, IA.

8:30 AM 29 Heritability estimates for structural soundness traits in commercial gilts. M. Nikkilae*1, K. Stalder1, B. Mote1, J. Lampe2, B. Thorn3, M. Rothschild1, A. Johnson1, L. Karriker1, and T. Serenius4, 1Iowa State University, Ames, 2Swine Graphics Enterprises, Webster City, IA, 3Newsham Genetics, West Des Moines, IA, 4FABA Breeding, Vantaa, Finland.

8:45 AM 30 Association of candidate genes to leg and body conformation traits in pigs. S. K Onteru*, B Fan, B Mote, T Serenius, M Nikkilae, K. J. Stalder, and M. F. Rothschild, Iowa State University, Ames.


Covariance functions for weights of young dual purpose Simmental bulls using splines. M. Kaps*1,2 and W. R. Lamberson2, 1University of Zagreb, Zagreb, Croatia, 2Univeristy of Missouri, Columbia.

Maternal inheritance of pulmonary arterial pressure in Angus cattle and its correlation with growth. D. W. Beckman*1 and D. J. Garrick1,2, 1Iowa State University, Ames, 2Massey University, Palmerston North, New Zealand.

Coat shedding among Angus cows and its correlation among progeny. H.D. Sigal*, K.A. Gray, and J.P. Cassady, North Carolina State University, Raleigh, NC, US.


Placental transcriptome profile differences associated with selection for uterine capacity. B. A. Freking*, J. R. Miles1, S. R. Bischoff2, Y. Xia3, D. J. Nonneman1, J. L. Vallet1, and J. A. Piedrahita2, 1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE., 2North Carolina State University, Raleigh, 3University of Nebraska, Lincoln.

A novel estimator for the proportion of true null hypotheses based on subsampling with applications to microarray data. L. Qu*, D. Nettleton, and J. C. M. Dekkers, Iowa State University, Ames.


Analysis of incidence of Porcine Circovirus Associated Disease (PCVAD) in a Landrace/Large White composite population. J. Bates*, R. Johnson, and A. Doster, University of Nebraska, Lincoln.

Nonruminant Nutrition I
Distillers Grains
Chair: Steve Dritz, Kansas State University, Manhattan
204FG
Sponsored by: JBS United, Inc.

Feeding distillers dried grains with solubles (DDGS) to pigs. H. H. Stein*, University of Illinois, Urbana.

Effects of increasing levels of distillers dried grains with solubles (DDGS) on growth performance of weanling pigs. T. E. Burkey*, P. S. Miller, R. Moreno, S. S. Shepherd, and E. E. Carney, University of Nebraska, Lincoln.

Use of 20% dried distillers grains with solubles (DDGS) and high amounts of synthetic amino acids to replace soybean meal in grower-finisher swine diets. A.J. Drescher*, L.J. Johnston1, G.C. Shurson1, and J. Goihl2, 1University of Minnesota, St. Paul, MN, USA, 2Agri-Nutrition Services, Inc., Shakopee, MN, USA.

Feeding pelleted DDGS-based diets to finishing pigs in deep-bedded hoop barns. D. Stender* and M. S. Honeyman, Iowa State University, Ames.
9:15 AM 156 Effects of expander conditioning on the nutritional value of diets with corn- and sorghum-based distillers dried grains with solubles in nursery and finishing pigs. C. Feoli*1, J. D. Hancock1, T. L. Gugle1, and S. D. Carter2, 1Kansas State University, Manhattan, 2Oklahoma State University, Stillwater.

9:30 AM 157 Effects of feeding increasing levels of distillers dried grains with solubles to grow-finish pigs on growth performance and carcass quality. D. Weimer, J. Stevens*, A. Schinckel, M. Latour, and B. Richert, Purdue University, West Lafayette, IN.

9:45 AM 158 (National Pork Board Research Award) Effects of adding increasing levels of corn dried distillers grains with solubles (DDGS) to corn-soybean meal diets on pork fat quality of growing-finishing pigs. G. Xu*1, S. K. Baidoo1, L. J. Johnston1, J. E. Cannon2, D. Bibus1, and G. C. Shurson1, 1University of Minnesota, St. Paul, 2Hormel Foods, Austin, MN.


10:15 AM 160 Withdrawal of distillers dried grains with solubles (DDGS) prior to slaughter in finishing pigs. G. M. Hill*, J. E. Link1, D. O. Liptrap2, M. A. Giesemann3, M. J. Dawes1, J. A. Snedegar, N. M. Bello, and R. J. Tempelman1, Michigan State University, E. Lansing, 2Hubbard Feeds, Mankato, MN, 3Dakota Gold Research Association, Sioux Falls, SD.

10:30 AM 161 Effects of dietary corn distillers grains with solubles (DDGS), and DDGS withdrawal intervals, on pig growth performance, carcass traits, and fat quality. G. Xu*1, S. K. Baidoo1, L. J. Johnston1, J. E. Cannon2, D. Bibus1, and G. C. Shurson1, 1University of Minnesota, St. Paul, 2Hormel Foods, Austin, MN.

10:45 AM 162 Effects of adding beef tallow and palm oil to diets with sorghum-based distillers dried grains with solubles on growth performance and carcass characteristics in finishing pigs. C. Feoli*1, J. D. Hancock1, S. Issa1, T. L. Gugle1, and S. D. Carter2, 1Kansas State University, Manhattan, 2Oklahoma State University, Stillwater.

11:00 AM 163 Effects of adding stearic acid and coconut oil to diets with sorghum-based distillers dried grains with solubles on growth performance and carcass characteristics in finishing pigs. C. Feoli*1, J. D. Hancock1, D. H. Kropf2, S. Issa1, T. L. Gugle1, and S. D. Carter2, 1Kansas State University, Manhattan, 2Oklahoma State University, Stillwater.

11:15 AM 164 Standardized ileal digestibility of reactive lysine in distillers dried grains with solubles (DDGS) fed to growing pigs. A. A. Pahm*1, C. Pedersen2, and H. H. Stein1, 1University of Illinois, Urbana, 2DANISCO Animal Nutrition, Wiltshire, UK.

11:30 AM 165 Amino acid digestibility and energy content of corn distillers meal for swine. J. Y. Jacela*1, J. M. DeRouchey1, S. S. Dritz1, M. D. Tokach1, R. D. Goodband4, J. L. Nelssen1, R. C. Sulabo1, and R. C. Thaler2, 1Kansas State University, Manhattan, 2South Dakota State University, Brookings.

11:45 AM 166 Selected additives do not improve flowability of dried distillers grains with solubles (DDGS) in commercial systems. L. J. Johnston*1, A. M. Hilbrands1, G. C. Shurson2, and J. Goihl3, 1West Central Research and Outreach Center, University of Minnesota, Morris, MN, 2University of Minnesota, St. Paul, 3Agri-Nutrition Services, Inc., Shakopee, MN.
Ruminant Nutrition I
Byproducts
Chair: Eugene Felton, West Virginia University, Morgantown

204AB

8:00 AM  97  Effects of corn processing and wet distiller’s grains on metabolism in steers. M. E. Corrigan*, G. E. Erickson, T. J. Klopfenstein, N. F. Meyer, C. D. Buckner, and S. J. Vanness, University of Nebraska, Lincoln.

8:15 AM  259  Effects of dietary fat and crude protein on feedlot performance and carcass characteristics in steers fed differing levels of distiller’s dried grains with solubles. P. Gunn*, S. Lake, M. Claeys, and R. Lemenager, Purdue University, West Lafayette, IN.

8:30 AM  260  Increasing range capacity with the use of wet distillers grains. B.L. Nuttelman*, T. J. Klopfenstein, W.H. Schacht, L.A. Stalker, J.A. Musgrave, and J.D. Volesky, University of Nebraska, Lincoln, NE, USA.

8:45 AM  82  Effect of the grains to solubles ratio in diets containing wet distillers grains fed to feedlot steers. C. M. Godsey*, M. K. Luebbe, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln, Nebraska.

9:00 AM  261  Feeding wet distillers grains and wheat straw to growing calves. B.L. Nuttelman*, T. J. Klopfenstein, G. E. Erickson, and M. K. Luebbe, University of Nebraska, Lincoln, NE, USA.

9:15 AM  262  Dried distiller’s grains in steam-flaked corn finishing diets with alfalfa hay or corn silage. S. Uwituze*1, G. L. Parsons1, M. K. Shelor1, B. E. Depenbusch1, K. K. Karges2, M. L. Gibson3, and J. S. Drouillard1, 1Kansas State University, Manhattan, KS, USA, 2USDA, ARS, Lincoln, NE USA.

9:30 AM  93  Performance of lactating dairy cows to increasing concentrations of dried distillers grains with solubles on milk production and composition. K. A. Christen*, K. F. Kalscheur, B. W. Pamp, A. R. Hippen, and D. J. Schingoethe, South Dakota State University, Brookings, South Dakota, USA.


10:00 AM  264  Effect of distiller’s grains composition on digestibility in growing steers. M. E. Corrigan*, T. J. Klopfenstein, G. E. Erickson, and N. F. Meyer, University of Nebraska, Lincoln.

10:15 AM  Break.

10:30 AM  288  Forage quality and grazing performance of beef cattle grazing brown mid-rib grain sorghum residue. A. K. Schwarz*1, C. M. Godsey1, M. K. Luebbe1, G. E. Erickson1, T. J. Klopfenstein1, R. B. Mitchell2, and J. F. Pedersen2, 1University of Nebraska, Lincoln, NE USA, 2USDA, ARS, Lincoln, NE USA.

10:45 AM  265  Distillers dried grains supplementation of stockpiled forage for fall-calving cows or calves over winter on performance of cows and calves. P. W. Lasley*, J. R. Russell, D. G. Morrical, D. R. Strohbehn, and J. D. Lawrence, Iowa State University, Ames, Iowa USA.

11:00 AM  266  Effects of distillers dried grains supplementation of fall-calving cows or their calves grazing stockpiled forage over winter on calf performance in a pasture-based finishing program in the subsequent summer. P. W. Lasley*, J. R. Russell, D. G. Morrical, D. R. Strohbehn, and J. D. Lawrence, Iowa State University, Ames, IA USA.
Feeding solubles or wet distillers grains plus solubles and corn stalks to growing calves. M. F. Wilken*, M. K. Luebbe, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska - Lincoln.


Effect of inclusion level of modified wet distillers grains plus solubles on feedlot performance and carcass characteristics. T. J. Huls*, M. K. Luebbe, G. E. Erickson, and T. J. Klopfenstein, University of Nebraska, Lincoln, NE.

Beef/Small Ruminant Extension I
Sulfur in Ruminant Diets Symposium
Chair: Cody Wright, South Dakota State University, Brookings

Chair: Barry Bradford, Kansas State University, Manhattan

Introduction.

Sources of dietary sulfur in ruminant diets. R. Pritchard, South Dakota State University, Brookings.

Metabolism of sulfur in the rumen. L. Kung, Jr.*, University of Delaware, Newark.

Sulfur amino-acid nutrition. L. Armentano, University of Wisconsin, Madison.

Break.

Influence of sulfur on mineral nutrition. J. Spears, North Carolina State University, Raleigh.

Relationship between sulfur and polioencephalomalacia. D. Gould, Colorado State University, Fort Collins.

Ruminant Nutrition II
Dairy
Chair: Barry Bradford, Kansas State University, Manhattan


Abstract Withdrawn.

Break.

Effects of feeding three types of corn milling co-products to Holstein dairy cattle. J. M. Kelzer*, P. J. Kononoff1, A. M. Gehman1, K. Karges2, and M. L. Gibson2, 1University of Nebraska, Lincoln, NE, USA, 2Dakota Gold Research Association, Sioux Falls, SD, USA.

Evaluation of distillers grains as a source of rumen-undegradable protein for lactating dairy cows. B. W. Pamp* and K. F. Kalscheur, South Dakota State University, Brookings, SD, USA.
11:00 AM  274  (Invited Young Scholar) Effect of forage quality on dairy cow performance, diet digestibility and rumen parameters. M. L. Raeth-Knight*, J. G. Linn¹, H. G. Jung¹², D. R. Mertens¹³, and P. R. Peterson¹, ¹University of Minnesota, St. Paul, MN, ²USDA Agricultural Research Service, ³US Dairy Forage Research Center, Madison, WI.


11:45 AM  276  Performance of lactating dairy cows fed corn as whole plant silage and grain produced from a genetically modified event DAS-59122-7 or a nontransgenic, near isogenic control. M. Brouk*, B. Cvetkovic¹, D. Rice², B. Smith², M. Hinds², F. Owens², and T. Sauber², ¹Kansas State University, Manhattan, KS USA, ²Pioneer Hi-Bred, Johnston, IA USA.

Swine Extension I
Chair: Jason Woodworth, Lonza, Inc., Enterprise, KS

10:00 AM  289  Survey of mortality in multi-source nurseries. J. Graham*, J. Waddell¹, and K. Bruns¹, ¹South Dakota State University, Brookings, SD, USA, ²Sutton Veterinary Clinic, Sutton, NE.


10:30 AM  75  Survey of swine nutrition and feed industry practices in the United States for development of a national swine nutrition guide. M. S. Carlson*, S. D. Carter², J. M. DeRouchey³, D. J. Meisinger⁴, D. E. Reese⁵, B. T. Richert⁶, K. J. Stalder⁷, H. H. Stein⁸, E. van Heugten⁹, and M. H. Whitney¹⁰, ¹University of Missouri, Columbia, ²Oklahoma State University, Stillwater, ³Kansas State University, Manhattan, ⁴US Pork Center of Excellence, Ames, IA, ⁵University of Nebraska, Lincoln, ⁶Purdue University, West Lafayette, IN, ⁷Iowa State University, Ames, ⁸University of Illinois, Urbana, ⁹North Carolina State University, Raleigh, ¹⁰University of Minnesota, Mankato.

10:45 AM  76  A production barrow show that focuses on lean gain and pork quality at the Missouri state fair. M. S. Carlson*, C. L. Lorenzen¹, R. Disselhorst¹, and L. Wilson², ¹University of Missouri, Columbia, ²Missouri Department of Agriculture, Jefferson City, MO.

Dairy Extension Symposium
Focus on Forages — Facts and Fantasies
Chair: J.W. Schroeder, North Dakota State University, Fargo

204AB

1:00 PM  65  (Invited) Novel techniques to improve the measurement of neutral detergent fiber digestibility. D. K. Combs*, G. P. Goeser, and P. C. Hoffman, University of Wisconsin, Madison.

1:30 PM  66  (Invited) The interaction of starch particle size and storage proteins on corn silage starch hydrolysis potential. A. E. Dorshorst and P. C. Hoffman*, University of Wisconsin, Madison.
2:00 PM 67 (Invited) CornPicker: A partial budget approach to choosing corn hybrids for silage. M. S. Allen*, Michigan State University, East Lansing.

2:30 PM Techniques Q & A.

3:00 PM Break.

3:20 PM 68 (Invited) Fermentation – Beyond the basics. L. Kung*, University of Delaware, Newark.

3:50 PM 69 (Invited) The fawlty towers of corn silage. F. Owens* and B. Mahanna, Pioneer Hi-Bred, A DuPont Business, Johnston, IA.

4:20 PM Troubleshooting Q & A.

Nonruminant Nutrition II

Alternative Ingredients

Chair: Aaron Gaines, The Maschhoff’s Inc., Carlyle, IL

Sponsored by: Kent Feeds, Inc.

1:00 PM 130 (Invited) The challenge of incorporating novel energy sources into practical swine diets. J. F. Patience*, A. D. Beaulieu, and P. Leterme, Prairie Swine Centre, Inc., Saskatoon, SK, Canada.

1:30 PM 131 Prediction of energy digestibility of wheat in grower pigs using an in vitro digestibility procedure. P. R. Regmi*, N. S. Ferguson, A. Pharazyn, and R. T. Zijlstra, 1University of Alberta, Edmonton, AB, Canada, 2Nutreco Canada, Guelph, ON, Canada.


2:00 PM 133 Digestible and net energy contents of field peas in growing pigs. P. Leterme*, P. Kish, A. Samarawera, A. D. Beaulieu, and J. F. Patience, Prairie Swine Centre Inc., Saskatoon, SK, Canada.

2:15 PM 84 Nutritional value of flaxseed meal and its effects on pig growth and carcass composition. L. Eastwood*, P. Kish, J.F. Patience, and P. Leterme, Prairie Swine Centre Inc., 2105 - 8th Street East, Saskatoon, SK, S7H 5N9, Canada.

2:30 PM 134 The interaction of dietary flaxseed and length of feeding on the fatty acid profile of subcutaneous fat in grower-finisher pigs. J. F. Patience, A. D. Beaulieu*, M. E. R. Dugan, J. L. Aalhus, P. Leterme, I. U. Haq, and R. T. Zijlstra, 1Prairie Swine Centre, Inc., Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada Lacombe Research Centre, Lacombe, AB, Canada, 3University of Alberta, Edmonton, AB, Canada.


3:00 PM 98 Assessment of the influence of proximate fractions in meat and bone meals on their apparent nitrogen-corrected metabolizable energy content. O. A. Olukosi* and O. Adeola, Purdue University, West Lafayette, IN, USA.

3:15 PM 136 Nutrient digestibility of lupin and air-classified protein and starch fractions of field pea and faba bean in grower pigs. C. K. Gunawardena*, R. T. Zijlstra, and E Beltranena, 1University of Alberta, Edmonton, Alberta, Canada, 2Alberta Agriculture and Food, Edmonton Alberta, Canada.

3:45 PM 138 Faba bean and field pea protein concentrates as replacements for specialty proteins in nursery diets for weaned pigs. C. K. Gunawardena*, R. T. Zijlstra1, L. A. Goonewardene1,2, and E. Beltranena1,2, 1University of Alberta, Edmonton, Alberta, Canada, 2Alberta Agriculture and Food, Edmonton, Alberta, Canada.

4:00 PM 139 Full-fat oat groats for weaned pigs. P. Leterme*, B. Rossnagel2, A. Samaraweera1, and J. F. Patience1, 1Prairie Swine Centre Inc., Saskatoon, SK, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada.

4:15 PM 140 Impact of increasing levels of soybean hulls on nitrogen and energy digestibility in growing pigs. D. M. Sholly*, B. E. Aldridge1, K. L. Saddoris2, A. L. Sutton1, and B. T. Richert1, 1Purdue University, West Lafayette, IN, 2Akey, Lewisburg, OH.


4:45 PM 142 Use of glycerol in nursery pig diets. R. Hinson*, L. Ma, and G. Allee, University of Missouri, Columbia.

Physiology I
Nutritional Physiology: The role of nutrition in reproduction symposium
Chair: George Perry, South Dakota State University, Brookings 138-140

1:00 PM 219 (Invited) Regulation of transporter and enzyme expression by cellular energy. J. C. Matthews*, University of Kentucky, Lexington.


2:30 PM 221 (Invited) Influence of maternal nutrition on offspring performance. K. A. Vonnahme*, North Dakota State University, Fargo.

Nonruminant Nutrition III
Amino Acids and Additives
Chair: Dustin Kendall, Murphy-Brown LLC, Rose Hill, NC 204FG
Sponsored by: Kent Feeds, Inc.

1:30 PM 143 Preference of weanling pigs for different sources of supplemental methionine. M. Wang*1,2, M. D. Lindemann1, G. L. Cromwell1, H. J. Monegue1, and R. L. Payne3, 1University of Kentucky, Lexington, 2Zhejiang University, Hangzhou, P.R. China, 3Degussa Corporation, Kennesaw, GA.

1:45 PM 91 Determining the optimum ratio of dietary tryptophan to lysine in growing pigs fed non-U.S.-type ingredients. A. D. Quant*, M. D. Lindemann1, G. L. Cromwell1, B. J. Kerr2, and R. L. Payne3, 1University of Kentucky, Lexington, KY, 2USDA, Ames, IA, 3Degussa Corporation, Kennesaw, GA.

Effect of increasing lysine/net energy concentration on growth performance and plasma urea nitrogen concentration of late-finishing barrows fed low-protein amino acid-supplemented diets and Paylean. R. Moreno*, P. S. Miller, and T. E. Burkey, University of Nebraska, Lincoln.

True ileal digestible lysine requirement of finishing pigs fed low or high synthetic amino acid Paylean® diets. R. Hinson*, A. Gaines, J. Usry, and G. Allec, 1University of Missouri, Columbia, 2The Maschhoffs Inc., Carlyle, IL, 3Ajinomoto Heartland LLC, Chicago, IL.


Effect of individual or combined xylanase and phytase supplementation on site of nutrient digestion of a diet with reduced nutrient specifications containing wheat and millrun fed to weaned pigs. T. Nortey*, J. Sands, and R. Zijlstra, 1Shur-Gain/Nutreco, St Mary’s, Ontario, Canada, 2Danisco Animal Nutrition, Marlborough, U.K, 3Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Alberta, Canada.


Nitrogen utilization in horses fed grass and alfalfa hay. A. L. Minella*, J. Liesman, and N. L. Trottier, Michigan State University, East Lansing, MI, USA.
Joint Swine Extension II and Growth, Development, Muscle Biology, and Meat Science I

Changing the dietary fatty acid profile and its influence on carcass composition, muscle biology, and meat characteristics symposium


205IJ

2:00 PM  70  (Invited) Changes in live performance and carcass composition associated with feeding diets formulated with fats and/or oils. J. K. Apple*, University of Arkansas, Fayetteville.

2:30 PM  71  (Invited) Influence of fatty acids on muscle and adipose tissue development. J. P. Schoonmaker* and D. C. Beitz, Iowa State University, Ames.


3:30 PM  73  (Invited) Industry perspective: How does changing the fatty acid profile of the carcass alter meat characteristics and subsequent consumer acceptance? M. E. England* and A. T. Waylan Brackenridge, Cargill, Inc., Wichita, KS.

Physiology II

Nutritional Physiology

Chair: Matthew Wilson, West Virginia University, Morgantown

138-140

3:30 PM  101  Effect of wintering system, nutrition around breeding, and prostaglandin on gain and reproduction in beef heifers. D.M. Larson*1, R.D. Richardson2, and R.N. Funston3, 1University of Nebraska, Lincoln, NE USA, 2Rex Ranch, Ashby, NE USA, 3West Central Research and Extension Center, North Platte, NE USA.

3:45 PM  216  Effect of wintering system, nutrition around breeding and prostaglandin on gain, reproduction, and calf production in beef heifers. D.M. Larson*1, R.D. Richardson2, and R.N. Funston3, 1University of Nebraska, Lincoln, NE USA, 2Rex Ranch, Ashby, NE, USA, 3West Central Research and Extension Center, North Platte, NE, USA.

4:00 PM  96  Digestibility and fermentation parameters of barleys and oats differing in β-glucan content in the pig intestines. R. Jha*1, B. Rossnagel2, R. Pieper3, A. Van Kessel2, and P. Leterme1, 1Prairie Swine Centre Inc., Saskatoon, SK, Canada, 2University of Saskatchewan, Saskatoon, Canada, 3FBN-Ernährungsphysiologie, Dummerstorf, Germany.

4:15 PM  217  Effect of barley and oat β-glucans on intestinal microbiota in the pig. R. Pieper1, R. Jha2, P. Leterme2, B. Rossnagel1, W. Souffrant1, and A. Van Kessel1, 1FBN-Ernährungsphysiologie, 18196 Dummerstorf, Germany, 2Prairie Swine Centre Inc., Saskatoon, SK, Canada, 3University of Saskatchewan, Saskatoon, SK, Canada.

4:30 PM  90  Phosphorylation of Perilipin is associated with lipolytic activity in dairy cow. D. Elkins*, H. Park, and D. Spurlock, Iowa State University, Ames, IA, USA.
Effect of shortening or eliminating the dry period on milk production of lactating cows for a full lactation. A.C. Fitzgerald*, T.H. Klusmeyer, A.C. Fabellar, J.M. Ballam, and J.L. Vicini, Monsanto Company, 800 N. Lindbergh Blvd., St. Louis, MO 63167.

POSTER PRESENTATIONS
Sponsored by: Zinpro

All posters will be in the Exhibit Hall (Room 206) from Monday at 1:00 PM until Noon on Wednesday. Authors are to be present on their assigned days from 4:30 PM to 6:00 PM.

Beef Extension - Posters
Chair: Cody Wright, South Dakota State University, Brookings

Exhibit Hall

Characterizing the ensiling properties of sugar beets with dry feedstuffs. T.C. Gilbery*, G.P. Lardy, B.W. Neville, B.A. Stoltenow, and M.L. Bauer, North Dakota State University, Fargo, ND, USA.

Impact of growing rate of gain on subsequent feedlot performance, carcass characteristics, and Warner-Bratzler shear force. B.A. Stoltenow*, G.P. Lardy, M.M. Stamm, and R.J. Maddock, North Dakota State University, Fargo, North Dakota, USA, Hettinger Research Extension Center, NDSU, Hettinger, North Dakota, USA.

Read distance performance of low frequency radio frequency identification (RFID) panel transceivers varies across transponder manufacturer. S.E. Ryan*, D.A. Blasi, K.E. Fike, C.O. Anglin, A.M. Bryant, and B.A. Rickard, Kansas State University, Manhattan, KS, USA, Kansas Animal Health Department, Topeka, KS, USA.


Breeding and Genetics - Posters
Chair: Doug Newcom, Genetic Improvement Services, Newton Grove, NC

Genetics relationships among breeds of beef cattle. Y. Huang*, M.D. MacNeil, L.J. Alexander, and J.P. Cassady, North Carolina State University, Raleigh, USDA, Agricultural Research Service., Miles City, MT.

Estimation of heritability, phenotypic and genetic trends for monthly test day fat corrected milk yield using Legendre function. R. Lotfi*1, H. Farhangfar2, and H. Naeemipour2,1Tarbiat Modares University, Tehran, Iran, 2Birjand University, Birjand, Iran.

Advanced selection for feed efficiency, carcass composition and growth using FIRE-stations and computer tomography (CT). B. Holm*, Norsvin USA, Harmony, MN.

Evidence of allelic suppression for transcripts expressed in day 30 pig embryos by SNP genotyping. B. A. Freking*1, D. J. Nonneman1, G. A. Rohrer1, S. R. Bischoff2, S. Tsai2, and J. A. Piedrahita2,1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 2North Carolina State University, Raleigh.

Association of insulin-like growth factor binding protein 2 genotypes with growth, carcass and meat quality traits in pigs. S. Prasongsook*1,2, R. O. Bates1, I. S. Choi1, V. D. Rilington1, N. E. Raney1, C. C. Beattie1, M. E. Doumit1, and C. W. Ernst1,1Michigan State University, East Lansing, 2Kasetsart University, Bangkok, Thailand.

Competition effects in a Large White/Landrace composite population of pigs. W. L. Hsu*1, R. K. Johnson1, and L. D. Van Vleck1,2,1Department of Animal Science, University of Nebraska, Lincoln, NE, USA 68583, 2USMARC, ARS, USDA, Lincoln, NE, USA 68583.

Growth, Development, Muscle Biology, and Meat Science - Posters
Chair: Ann Waylan Brackenridge, Cargill, Inc., Wichita, KS
Exhibit Hall

Interactions of mammalian synemin with the costameric protein talin. N. Sun* and R.M. Robson, Iowa State University, Ames, IA, USA.

Impact of birth weight on growth performance and carcass characteristics of pigs – a retrospective analysis. B. A. Peterson*1, M. Ellis1, R. Bowman2, N. H. Williams3, and B. F. Wolter2,1University of Illinois, Urbana, IL, USA, 2The Maschhoffs, Inc., Carlyle, IL, USA, 3PIC USA, Franklin, KY, USA.

Identification of chlortetracycline (CTC)-sensitive pathways in the liver and longissimus dorsi tissues in beef steers using microarray technology. K. R. Brown*1, L. Huang2, A. J. Stromberg3, D. Wall3, K. Chen4, J. A. Boling1, and J. C. Matthews1,1Department of Animal and Food Sciences, 2Department of Statistics, 3MicroArray Core Facility, 4Department of Molecular and Biomedical Pharmacology, Lexington, Kentucky, USA.

Growth of protein, moisture, lipid and ash of two genetic lines of barrows and gilts from twenty to one hundred twenty-five kilograms body weight. A. Schinckel*1, D. Mahan2, T. Wiseman2, and M. Einstein1,1Purdue University, West Lafayette, IN, USA, 2The Ohio State University, Columbus, OH, USA.

A rapid technique for predicting oxidation capacity of fresh beef. L.S. Senaratne*, C.R. Calkins, and T.P. Carr, University of Nebraska-Lincoln, Lincoln, NE, USA.


Finishing diets containing wet distillers grains plus solubles affect shelf life of beef. A.S. de Mello Junior*, C.R. Calkins, B.E. Jenschke, L.S. Senaratne, and G.E. Erickson, University of Nebraska-Lincoln, Lincoln, NE, USA.

Finishing diets containing wet distillers grains plus solubles increase the levels of polyunsaturated, omega 6 and C 18:2 fatty acids in yearling beef steers. A.S.
Predicting aged beef tenderness with hyperspectral imaging and the relationship to muscle properties. L.M. Grimes*, G. Konda Naganathan, J. Subbiah, and C.R. Calkins, University of Nebraska-Lincoln, Lincoln, NE, USA.


Digestible and net energy contents of field peas in gestating sows. R. Premkumar*, A. Samaraweera, P. Kish, J.F. Patience, and P. Leterme, Prairie Swine Centre Inc., 2105 - 8th Street East, Saskatoon, SK, S7H 5N9, Canada.


Milling characteristics of yellow, short season field peas for swine diets. A. L. Meteer*1, B. R. Wiegand2, K. R. Brooks3, J. W. Rickard1, and H. L. Evans2, 1Illinois State University, Normal, 2University of Missouri, Columbia, 3Oklahoma State University, Stillwater.

Digestibility energy determination of canola meal and full-fat canola seeds in pigs: limitations of the substitution method. P. Leterme*, P. Kish, and A. D. Beaulieu, Prairie Swine Centre Inc., Saskatoon, SK, Canada.

Effects of dietary pine cone meal on growth performance, blood characteristics, carcass quality and fecal odor emission gases in finishing pigs. S. O. Shin*1, J. H. Lee2, K. W. Park3, J. H. Cho1, Y. J. Chen1, J. S. Yoo1, K. Y. Whang4, and I. H. Kim1, 1Dankook University, Cheonan, Choongnam, Korea, 2Korea National Arboretum, gyeongi, Korea, 3Korea University, Seoul, Korea.

Effects of replacement of corn with rice in weaned pig diets under commercial conditions. M.T. Che*1, M.U. Steidinger2, and J.E. Pettigrew1, 1Department of Animal Sciences, University of Illinois, Urbana, IL 61801, 2Swine Nutrition Services Inc., Anchor, IL.


Effects of feeding fermented soy protein (FSP) on nitrogen balance and apparent ileal amino acid digestibility in weaned pigs. J. S. Yoo*1, J. H. Cho1, Y. J. Chen1, S. O. Shin1, H. J. Kim1, Y. Hwang1, Y. Wang1, K. Y. Whang2, I. H. Kim1, S. B. Cho3, and D. W. Kim1, 1Dankook University, Cheonan, Choongnam, Korea, 2Korea University, Seoul, Korea, 3National Institute of Animal Science, Suwon, Korea.

Evaluation of FSP (fermented soy protein) to replace soybean meal in weaned pigs: growth performance, blood urea nitrogen and total protein concentrations in serum and nutrient digestibility. J. H. Cho*1, B. J. Min 1, Y.J. Chen1, J. S. Yoo1, Q. Wang1, J. H. Ahn2, I. B. Chung2, and I. H. Kim1, 1Dankook University, Cheonan, Choongnam, Korea, 2Korea University, Seoul, Korea, 3National Institute of Animal Science, Suwon, Gyeonggi-do, Korea.

Comparative efficacy of import fish meals and fermented fish meal on ileal nutrient digestibility in weaned pigs. J. H. Cho*1, Y. J. Chen1, J. S. Yoo1, Y.
Effects of plant protein source containing multienzyme supplementation on performance, nutrient digestibility and milk characteristics in sow. H. J. Kim*1, J. H. Cho1, Y. J. Chen1, J. S. Yoo1, S. O. Shin1, Y. Huang1, I. H. Kim1, S. J. Lee2, and H. J. Jung2, 1Dankook University, Cheonan, Choongnam, Korea, 2National Institute of Animal Science, Seonghwan, Choongnam, Korea.

Glucose release correlates with piglet’s preference for cereal based feeds. D. Solà-Oriol1, S. Pujol1,2, T. van Kempen2, E. Roura*3, and D. Torrallardona1, 1IRTA, Mas de Bover, Constantí, Spain, 2Provimi RTC, Belgium, 3Lucta SA, Barcelona, Spain.

Evaluation of alternative energy systems when applied to two genetic populations of pigs with different body composition. A. Schinckel*1, D. Mahan2, T. Wiseman2, and M. Einstein1, 1Purdue University, West Lafayette, IN, 2The Ohio State University, Columbus.

Effect of microbial phytase inclusion on phosphorus digestibility from flaxseed meal for pigs. L. Eastwood*1, A. Owusu-Asiedu2, P. Kish1, A. Jasnier3, A.D. Beaulieu1, and P. Leterme1, 1Prairie Swine Centre Inc., 2105 - 8th Street East, Saskatoon, SK, S7H 5N9, Canada, 2Danisco Animal Nutrition, Box 777, Marlborough, Wilshire, SN8 1XN, United Kingdom, 3ESITPA, 27100 Val de Reuil, France.


Evaluation of the effectiveness of a biocurtain and electrostatic space-charge system for reducing total suspended particulate matter from swine building exhaust streams. A. Rojo*, M. Ellis, B. A. Peterson, T. Funk, Y. Zhang, S. Jerez, Y. Su, and M. Robert, University of Illinois, Urbana, IL, USA.

Effects of rumen-protected Ca salts of conjugated linoleic acid (CLA) and previous rate of gain on fatty acid composition. J. W. S. Yancey*, H. Flórez-Díaz, E. B. Kegley, and J. K. Apple, Department of Animal Science, Division of Agriculture, University of Arkansas, Fayetteville, AR.

Effects of rumen-protected Ca salts of conjugated linoleic acid (CLA) and previous rate of gain on visual display, and sensory characteristics of beef steaks. J. W. S. Yancey*, H. Flórez-Díaz, E. B. Kegley, and J. K. Apple, Department of Animal Science, Division of Agriculture, University of Arkansas, Fayetteville, AR.

Canola meal replacing dried distillers grains with solubles in lactating dairy cow diets. C.N. Mulrooney*, D.J. Schingoethe, K.F. Kalscheur, and A.R. Hippen, South Dakota State University, Brookings, SD, USA.

Effect of dietary cation-anion difference on intake and urinary pH in high concentrate diets. M.K. Luebbe*, G.E. Erickson, T.J. Klopfenstein, and N.F. Meyer, University of Nebraska, Lincoln, NE.

Effects of WDGS or DDGS inclusion in medium concentrate receiving diets fed to beef calves on intake, average daily gain, and gain efficiency. B. W. Neville*, M. L. Bauer, K. Karges, M. Gibson, and G. P. Lardy, North Dakota State University, Fargo, ND, USA, Poet Nutrition, Sioux Falls, SD, USA.

Effects of high dietary nitrate on feed intake, weight, and plasma parameters in sheep. R. Cockrum*, K. Austin, P. Ludden, and K. Cammack, University of Wyoming, Laramie, WY, USA.

Effects of prepartum whole cottonseed or whole raw soybean supplementation on response to estrus synchronization and timed AI by suckled mature beef cows. M. D. Thomas*, K. C. Olson, J. S. Stevenson, J. R. Jaeger, J. W. Bolte, N. A. Sproul, and D. R. Linden, Kansas State University, Manhattan.

Effect of Optaflexx inclusion on feedlot performance and carcass characteristics of yearling steers. C. R. Dahlen*, G. I. Crawford, and A. DiCostanzo, University of Minnesota Northwest Research and Outreach Center, Crookston, Extension Regional Center, Hutchinson, Department of Animal Science, Saint Paul.

Effect of water consumption on rumen temperature. T. K. Dye and C. J. Richards*, Oklahoma State University, Stillwater, Oklahoma, United States.

The effects of extruding distillers grain on particle size and extruder emissions. J. D. Lec*, P. M. Walker, A. L. Shreck, and G. A. Appgar, Illinois State University, Normal, IL USA, Southern Illinois University, Carbondale, IL USA.


Economic analysis of beef cattle finishing diets containing corn and soybean co-products. D. S. Stoner*, P. M. Walker, and L. A. Forster, Illinois State University, Normal, IL USA, Archer Daniels Midland Company, Decatur, IL USA.

Swine Extension - Posters
Chair: Jason Woodworth, Lonza, Inc, Enterprise, KS
Exhibit Hall

Impact of weaning weight and early postweaning growth of pigs to late finishing growth when fed either corn-soybean meal based diets or low nutrient excretion diets. A. Schinckel*, B. Richert, D. Sholly, J. Radcliffe, and M. Einstein, Purdue University, West Lafayette, IN.

Effect of birth weight on growth, composition, mortality and endpoint value. J. S. Fix* and M. T. See, North Carolina State University, Raleigh.

### Wednesday, March 19
**SYMPOSIA AND ORAL SESSIONS**

**Beef/Small Ruminant Extension II**
**Feedlot Management**
Chair: Erik Loe, South Dakota State University, Brookings

<table>
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<th>Time</th>
<th>Session</th>
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<tr>
<td>9:00 AM</td>
<td>Factors influencing Certified Angus Beef© acceptance rates. G.D. Fike* and M.E. King, Certified Angus Beef LLC, Wooster, OH USA.</td>
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<tr>
<td>9:15 AM</td>
<td>Factors affecting lot CAB© acceptance rate of beef calves in the Iowa Tri-County Steer Carcass Futurity. G.D. Fike¹, M.E. King¹, and W.D. Busby*², ¹Certified Angus Beef LLC, Wooster, OH USA; ²Iowa State University, Ames, IA USA.</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Effect of health on feedlot performance and carcass traits in beef calves. W.D. Busby¹, D. Strohbehn¹, L.R. Corah*², and M.E. King², ¹Iowa State University, Ames, IA, USA; ²Certified Angus Beef LLC, Wooster, OH, USA.</td>
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<tr>
<td>9:45 AM</td>
<td>Effect of varying corn price on the economics of two cattle production systems. W.A. Griffin*, T.J. Klopfenstein, and G.E. Erickson, University of Nebraska, Lincoln, NE, USA.</td>
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**Breeding and Genetics II**
**Genetic Control of Feed Utilization Symposium**
Chair: Joe Cassady, North Carolina State University, Raleigh

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<tr>
<td>9:45 AM</td>
<td>(Invited) The role of rumen function in efficiency of feed utilization. V. Fellner*, North Carolina State University, Raleigh.</td>
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<tr>
<td>10:30 AM</td>
<td>Break.</td>
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<tr>
<td>11:30 AM</td>
<td>(Invited) Residual feed intake of heifers sired by high or low residual feed intake EBV Angus bulls. J. Minick Bormann*, D. W. Moser, and T. T. Marston, Kansas State University, Manhattan.</td>
</tr>
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Growth, Development, Muscle Biology, and Meat Science II
Chair: Ann Waylan Brackenridge, Cargill, Inc., Wichita, KS

134

9:00 AM  116 Genetic parameter estimates of fatty acid composition and meat quality traits in Duroc pigs selected for intramuscular fat content for six generations. J. L. Burkett*, T. J. Baas, D. C. Beitz, C. R. Schwab, N. L. Berry, and S. Zhang, Iowa State University, Ames, IA, USA.

9:15 AM  117 Birth weight, but not litter size, impacts growth performance of pigs. J.F. Patience¹, A.D. Beaulieu*¹, P. Leterme¹, and J.L. Aalhus², ¹Prairie Swine Centre, Inc., Saskatoon, SK, Canada, ²Agriculture and Agri-Food Canada Lacombe Research Centre, Lacombe, AB, Canada.

9:30 AM  118 Piglet birth weight has very little impact on carcass quality, muscle composition, or eating quality of pork. A.D. Beaulieu*¹, J.L. Aalhus², J.F. Patience¹, and I.L. Larsen², ¹Prairie Swine Centre, Inc., Saskatoon, SK, Canada, ²Agriculture and Agri-Food Canada Lacombe Research Centre, Lacombe, AB, Canada.

9:45 AM  Break.

10:00 AM  119 Effect of castration or raw potato starch supplementation prior to slaughter on growth performance, carcass characteristics, and meat quality of entire male pigs. C. Pauly²¹, S. Ampuero ¹, S. Dubois¹, J. Messadène¹, and G. Bee*¹, ¹Agroscope Liebefeld Posieux, Posieux, Switzerland, ²Swiss College of Agriculture, Zollikofen, Switzerland.


10:30 AM  121 Effects of wet distillers grains plus solubles on marbling attributes and fat content of beef. A.S. de Mello Junior*, C.R. Calkins, B.E. Jenschke, L.S. Senaratne, and G.E. Erickson, University of Nebraska-Lincoln, Lincoln, NE, USA.

Nonruminant Nutrition IV
Sow and Mineral Nutrition
Chair: Chad Hastad, Swine Nutrition Services, Truman, MN

204FG
Sponsored by: Alltech, Inc.

9:00 AM  195 The feeding of dry distillers grain with solubles to lactating sows. L. L. Greiner*¹, X. Wang², G. Allee², and J. Connor¹, ¹Innovative Sow Solutions, LLC, Carthage, IL, ²University of Missouri, Columbia, ³Professional Swine Management, LLC, Carthage, IL.

9:15 AM  196 Plasma insulin concentrations of sows fed omega-3 fatty acids or high protein diet individually or in combination during late gestation and lactation. B. J. Min*¹, R. D. Mateo², and S. W. Kim¹, ¹North Carolina State University, Raleigh, ²Texas Tech University, Lubbock.


9:45 AM  198 Effects of varying creep feeding duration on pre-weaning performance and the proportion of pigs consuming creep feed. R. C. Sulabo*, M.

10:00 AM 199 Response of cull sows to ad libitum feeding. M. T. Knauer*1, M. T. See1, J. A. Hansen2, A. L. P. de Souza2, and D. C. Kendall2, 1North Carolina State University, Raleigh, 2Murphy-Brown LLC.

10:15 AM 200 The effects of organic trace minerals on sow reproductive and litter performance. J. S. Jolliff* and D. C. Mahan, The Ohio State University, Columbus.

10:30 AM 201 Factors affecting sow mortality may be related to nutrition. D. C. Mahan*, B. L. Bishop, and J. C. Peters, The Ohio State University, Columbus.

10:45 AM 202 Copper supplementation promotes growth of piglets in the presence of dietary ZnO and antibiotic (carbadox). V. Perez-Mendoza*1, M. Steidinger2, T. Ward3, and J. Pettigrew3, 1University of Illinois, Urbana, IL, 2Swine Nutrition Services Inc., Anchor, IL, 3Zinpro Corporation, Eden Prairie, MN.

11:00 AM 202 Net portal absorption of zinc from zinc sulfate and zinc amino acid chelate in growing pigs. S. W. Kim*1, M. I. Perret-Gentil1, M. W. Hart1, and R. A. Samford3, 1North Carolina State University, Raleigh, 2Texas Tech Health Sciences Center, Lubbock, TX, 3Albion-Advanced Nutrition, Clearfield, UT.

11:15 AM 203 Evaluating organic trace mineral levels on growth, tissue mineral and plasma responses in weanling and grower pigs. R. E. Howdyshell* and D. C. Mahan, The Ohio State University, Columbus.

11:30 AM 204 Effects of dietary supplementation of benzoic, formic, and lactic acids on growth and health of pigs. S. W. Kim*1, J. O. Vaughn2, and D. A. Monson3, 1North Carolina State University, Raleigh, 2Emerald Performance Materials, Kalama, WA, 3Texas Tech University, Lubbock.

11:45 AM 205 Effects of dietary supplementation of benzoic, formic, and lactic acids on carcass characteristics of pigs. B. J. Min*1, J. O. Vaughn2, and S. W. Kim1, 1North Carolina State University, Raleigh, 2Emerald Performance Materials, Kalama, WA.

Odor and Nutrient Management
Chair: Marc L. Bauer, North Dakota State University, Fargo

9:00 AM 206 Fermentable non-starch polysaccharides increase the excretion of bacterial proteins in the pig’s faeces and reduce urinary N excretion. J. Bindelle1, P. Leterme2, J. Wavreille1, J.P. Destain1, and A. Buldgen1, 1Gembloux Agricultural University, passage des Déportés, B-5030 Gembloux, Belgium, 2Prairie Swine Centre Inc., 2105 - 8th Street East, Saskatoon, SK, S7H 5N9, Canada, 3Centre Wallon de Recherches agronomiques, B-5030 Gembloux, Belgium.

9:15 AM 207 The effect of common antimicrobial feed additives on the survival and viability of MicroSource S in swine excreta. T. Parrott*1, A. Veldkamp1, C. Wehnes1, J. Tchetter2, and R. Stock3, 1Agtech Products, Inc., Waukesha, WI, USA, 2Pleasant Valley Colony Farm, Flandreau, SD, USA, 3DSM Nutritional Products, Inc., Parsippany, NJ, USA.

9:30 AM 208 Prevalence of antibiotic resistant E. coli in water runoff collected from soil to which swine manure was applied. J. P. Holt*, E. van Heugten, A. K. Graves, M. T. See, and W. E. M. Morrow, North Carolina State University, Raleigh, North Carolina, USA.
Effects of a phytase enzyme formulated for meal diets on piglet performance. C. Starkey*, D. Campbell, N. Ward, and J. Wilson, DSM Nutritional Products, Parsippany, NJ, USA.

Effects of dietary manipulation on the mass balance of N and P during the swine finishing phase. M. B. Lachmann*, S. D. Carter, and J. W. Bundy, Oklahoma State University, Stillwater, OK.

Effects of soybean hull addition to a low nutrient excretion diet on pig performance and nutrient excretion during the finishing phase. J. W. Bundy*, S. D. Carter, M. B. Lachmann, and J. P. Jarrett, Oklahoma State University, Stillwater, OK.

Aerobic composting or anaerobic stockpiling of feedlot manure. M.K. Luebbe*, G.E. Erickson, T.J. Klopfenstein, and M.A. Greenquist, University of Nebraska, Lincoln, NE.

Physiology III
Reproductive Physiology
Chair: Kim Vonnahme, North Dakota State University, Fargo 138-140

(Invited Young Scholar) Parturition and Mycobacterium avium subsp. paratuberculosis: a potential interface for the pathogenesis of Johne's disease. E.L. Karcher*, D.C. Beitz¹, and J.R. Stabel¹, ¹Iowa State University, Ames, IA, ²USDA-ARS-National Animal Disease Center, Ames, IA.

(Invited Young Scholar) Automated body condition scoring: Technical and economic feasibility. J.M. Bewley*¹² and M.M. Schutz¹, ¹Purdue University, West Lafayette, IN, ²University of Kentucky, Lexington, KY.

(Invited Young Scholar) (Dairy Innovation Award) Regulatory role of the novel oocyte specific gene JY-1 in control of granulosa cell function and early embryonic development in cattle. A. Bettegowda*¹ and G.W. Smith¹², ¹Department of Animal Science, Michigan State University, East Lansing, MI, USA, ²Department of Physiology, Michigan State University, East Lansing, MI, USA.


Effect of standing estrus on LH pulses and subsequent progesterone following a fixed-time AI protocol. S. D. Fields*, B. L. Perry, and G. A. Perry, South Dakota State University, Brookings, South Dakota, USA.

11:45 AM 233 Conceptus development during embryo elongation in lines of pigs selected for ovulation rate or uterine capacity. J.R. Miles*, B.A. Freking1, L.A. Blomberg2, and J.L. Vallet1, 1USDA-ARS, US Meat Animal Research Center, Clay Center, NE, USA, 2USDA-ARS, Beltsville Agricultural Research Center, Beltsville, MD, USA.

12:00 PM 234 Maternal plasma progesterone and estradiol concentrations prior to farrowing are not associated with either birth intervals or stillbirth rates in pigs. J.L. Vallet*, J. A. Nienaber, T. M. Brown-Brandl, and J. R. Miles, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, Nebraska, USA.

12:15 PM 235 Gilt development traits associated with whether a gilt farrows a litter. M. T. Knauer*, M. T. See1, and D. W. Newcom2, 1North Carolina State University, Raleigh, NC, 2Genetic Improvement Services, Newton Grove, NC.

Ruminant Nutrition III
Metabolism & Rumen Function
Chair: Alvaro Garcia, South Dakota State University, Brookings

204AB

9:00 AM 277 Effects of roughage source and dried distiller’s grains on ruminal fermentation and apparent total tract digestibility of finishing diets. S. Uwituze*, G.L. Parsons1, M. K. Shelor3, B.E. Depenbusch1, K.K. Karges2, M.L. Gibson3, and J.S. Drouillard1, 1Kansas State University, Manhattan, KS, USA, 2Poet Nutrition, Sioux Falls, SD, USA.

9:15 AM 278 Correlation of insulin (I), glucose (G), and insulin-like growth factor-1 (IGF-1) to residual feed intake (RFI), average daily gain (ADG) and feed intake (FI) in beef steers. M. P. Davis*, J. W. Golden, J. H. Porter, M. S. Kerley, and D. H. Keisler, University of Missouri.

9:30 AM 279 Ruminal and abomasal infusion of starch hydrolysate differentially decreases expression of cationic amino acid transporter (CAAT) mRNA by small intestinal epithelia of forage-fed beef steers. S. F. Liao*, E. S. Vanzant, D. L. Harmon, K. R. McLeod, J. A. Boling, and J. C. Matthews, Department of Animal and Food Sciences, University of Kentucky, Lexington, KY, USA.

9:45 AM 280 Effects of crude glycerin on performance and carcass traits of finishing heifers. G. L. Parsons*, M. K. Shelor, and J. S. Drouillard, Kansas State University, Manhattan, Kansas.

10:00 AM 281 Comparison of two calf wintering systems utilizing cornstalk grazing and dry lotting. W.A. Griffin*, T.J. Klopfenstein, and G.E. Erickson, University of Nebraska, Lincoln, NE, USA.

10:15 AM Break.


10:45 AM 283 Effect of Dietary Cation-Anion Difference on Feedlot Performance, N mass balance, and Manure pH. M.K. Luebbe*, G.E. Erickson, T.J. Klopfenstein, M.A. Greenquist, and J.R. Benton, University of Nebraska, Lincoln, NE.

11:00 AM 284 Effect of finishing ration protein reduction on performance and carcass characteristics of feedlot steers. J. J. Wagner1, K.L. Neuhold*, T.C. Bryant2,

11:30 AM 286 Post-weaning performance of fall-born beef steers weaned from endophyte-infected tall fescue pastures on different dates in the spring. J. D. Caldwell*, K. P. Coffey1, W. K. Coblentz2, J. A. Jennings3, D. S. Hubbell, III1, D. L. Kreider1, and C. F. Rosenkrans, Jr.1, University Of Arkansas, Fayetteville, AR, USA, USDA-ARS, Marshfield, WI, USA, Cooperative Extension Service, Little Rock, AR, USA.

11:45 AM 287 Ruminal fermentation and apparent total tract digestibility of finishing diets containing distiller’s dried grains with dry-rolled or steam-flaked corn. M. L. May*, M. L. Hands, M. J Quinn, J. O. Wallace, C. D. Reinhardt, L. Murray, and J. S. Drouillard, Kansas State University, Manhattan, KS, USA.
MIDWEST SECTION ADSA/ASAS
Committee Assignments
2007-2008

Animal Behavior, Housing, Well Being
Anna Johnson, Chair
Janeen Salak-Johnson
Ernest Minton

Breeding and Genetics
Joseph Cassady, Chair
Eric Antoniou
Douglas W. Newcom

Extension - Beef / Small Ruminant
Cody Wright, Chair
Galen Erickson
Daniel Buskirk

Extension – Swine
Jason Woodworth, Chair
Mark Whitney
Janet Snow

Extension - Dairy
J.W. Schroeder, Chair
Dave Fischer
James Paulson
Richard Pursley

Growth, Development, Muscle Biology, and Meat Science
Ann Waylan Brackenridge, Chair
Dan Nonneman
Terry Houser

Nonruminant Nutrition
Steve Dritz, Chair
John F. Patience
Aaron Gaines
Odor and Nutrient Management
Marc Bauer, Chair
Dustin Kendall
Joel DeRouchey

Physiology
George Perry, Chair
Carolyn Komar
Matt Wilson

Ruminant Nutrition
Gene Felton, Chair
Alvaro Garcia
Barry Bradford

Teaching
Brad Skaar, Chair
Miriam Weber-Nielsen
Kelly Bruns

David H. Baker Symposium
Kevin Halpin, Chair
Gail Czarnecki-Maulden
Terri Parr

Billy Day Symposium
William R. Lamberson, Chair
Ronald Christenson
Stephen K. Webel
Duane Davis

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Jess Miner
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Gretchen Hill, Chair
Amer AbuGhazaleh
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YOUNG ANIMAL / DAIRY SCIENCE LEADERS AWARDS
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Ron Bates
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Ronny Moser, Chair
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Nathan R. Augspurger

Innovation in Dairy Research
Mike Schutz, Chair
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Ric Grummer
David Carlson
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OUTSTANDING EXTENSION SPECIALIST AWARD

1971  G. E. Ricketts, University of Illinois
1972  V. B. Mayrose, Purdue University
1974  M. R. Geasler, Iowa State University
1976  R. J. Vatthauer, University of Wisconsin
1977  R. J. Epley, University of Minnesota
1978  W. L. Singleton, Purdue University
1979  D. E. Schaefer, Kansas State University
1980  L. R. Corah, Kansas State University
1981  M. G. Hogberg, Michigan State University
1982  C. W. Spaeth, Kansas State University
1983  L. H. Thompson, University of Illinois
1984  M. F. Hutjens, University of Illinois
1985  G. L. Kuhl, Kansas State University
1986  D. D. Simms, Kansas State University
1987  F. K. Brazle, Kansas State University
1988  S. B. Laudert, Kansas State University
1989  M. A. Russell, Purdue University
1990  D. F. Parrett, University of Illinois
1991  D. B. Faulkner, University of Illinois
1992  J. L. Nelssen, Kansas State University
1993  A. P. Schinckel, Purdue University
1994  D. A. Funk, University of Wisconsin, Madison
1995  G. C. Shurson, University of Minnesota
1996  R. D. Shaver, University of Wisconsin, Madison
1997  R. D. Goodband, Kansas State University
1998  Not given
1999  M. D. Tokach, Kansas State University
2000  J. F. Smith, Kansas State University
2001  W. O. Herring, University of Missouri
2002  M. J. Brouk, Kansas State University
2003  W. J. Powers, Iowa State University
2004  S. J. Moeller, The Ohio State University
2005  K. J. Stalder, Iowa State University
2006  P. Fricke, University of Wisconsin
2007  G. C. Lamb, University of Minnesota

OUTSTANDING RESEARCHER AWARD

1971  D. H. Baker, University of Illinois
1972  C. E. Allen, University of Minnesota
1974  F. N. Owens, University of Illinois
1976  W. G. Bergen, Michigan State University
1977  D. E. Bauman, University of Illinois
1978  G. L. Allee, Kansas State University
1979  S. E. Curtis, University of Illinois
1980  T. L. Veum, University of Missouri
1982  B. D. Schanbacher, Roman L. Hruska U.S. Meat Animal Research Center
1983  H. A. Garverick, University of Missouri
1984  G. C. Fahey, Jr., University of Illinois
1985  J. J. Ford, Roman L. Hruska U.S. Meat Animal Research Center
1986  C. L. Ferrell, Roman L. Hruska U.S. Meat Animal Research Center
1987  D. Gianola, University of Illinois
1988  S. P. Ford, Iowa State University
1989  L. L. Berger, University of Illinois
1990  M. F. Rothschild, Iowa State University
1991  M. F. Smith, University of Missouri
1992  D. L. Harmon, Kansas State University
1993  M. Koohmaraie, Roman L. Hruska, U.S. Meat Animal Research Center
1994  L. G. Sheffield, University of Wisconsin, Madison
1995  J. Odle, University of Illinois
1996  J. L. Nelssen, Kansas State University
1997  R. S. Prather, University of Missouri
1998  D. Pomp, University of Nebraska
1999  R. W. Johnson, University of Illinois
2000  M. C. Lucy, University of Missouri
2001  C. K. Tuggle, Iowa State University
2002  M. Morrison, Ohio State University
2003  T. P. L. Smith, USDA, NE
2004  C. W. Ernst, Michigan State University
2005  E. Huff-Lonergan, Iowa State University
2006  A. S. Cupp, University of Nebraska
2007  J. C. Matthews, University of Kentucky

**OUTSTANDING TEACHER AWARD**

1971  B. G. Harmon, University of Illinois
1972  R. E. Hunsley, Purdue University
1974  D. H. Gee, South Dakota State University
1976  T. R. Cline, Purdue University
1977  P. J. Cunningham, University of Nebraska
1978  B. D. Moser, University of Nebraska
1979  C. L. Hauser, Southern Illinois University
1980  T. R. Carr, University of Illinois
1981  M. E. Dikeman, Kansas State University
1982  R. E. Morrow, University of Missouri
1983  D. J. Kesler, University of Illinois
1984  R. A. Easter, University of Illinois
1985  D. F. Parrett, University of Illinois
1986  J. G. Sebranek, Iowa State University
1987  D. R. Brink, University of Nebraska
1988  K. M. Irvin, The Ohio State University
1989  R. P. Lemenager, Purdue University
1990  B. R. Skaar, Iowa State University
1991  D. A. Nichols, Kansas State University
1992  M. A. Russell, Purdue University
1993  D. K. Combs, University of Wisconsin, Madison
1994  L. C. Martin, Kansas State University
1995  M. E. Benson, Michigan State University
1996  B. D. Banks, Michigan State University
1997  H. D. Tyler, Iowa State University

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1998  C. R. Youngs, Iowa State University  
1999  J. N. Spain, University of Missouri  
2000  M. E. Doumit, Michigan State University  
2001  S. M. Lonergan, Iowa State University  
2002  W. N. Osburn, Michigan State University  
2003  S. C. Kelm, University of Wisconsin-River Falls  
2004  M. S. Weber Nielsen, Michigan State University  
2005  B. D. Nielsen, Michigan State University  
2006  B. A. Reiling, University of Nebraska  
2007  K. W. Bruns, South Dakota State University  

AGRICULTURE AWARD  
1995  P. L. Houghton, Heartland Cattle Co., McCook, Nebraska  
1996  J. A. Barmore, Vita Plus Corp., Madison, Wisconsin  
1997  D. E. Dill, Dairy Strategies, Mendota Heights, MN  
1998  C. M. Luhman, Land O’lakes Research Farm, Webster City, IA  
1999  Not Given  
2000  D. L. Hancock, Elanco Animal Health, Greenfield, IN  
2001  J. M. Lynch, Heartland Cattle Co., McCook, NE  
2002  Not Given  
2003  J. M. Campbell, APC, Inc., IA  
2004  D. M. Webel, United Feeds, IN  
2005  T. A. Rathje, Danbred North America, Columbus, NE  
2006  T. E. Sauber, Pioneer, A Dupont Company  
2007  M. J. Pettitt, Prairie Swine Centre, LLC, Canada  

PAST WINNERS OF INVITATIONAL  
COMPETITIVE RESEARCH PAPER AWARDS  

UNDERGRADUATE STUDENTS - ORAL  
1987  R. E. Raw, University of Missouri  
1988  J. A. Ragains, University of Missouri  
1989  G. L. Ambrose, South Dakota State University  
1990  C. N. Kemper, University of Missouri  
1991  T. R. Eberle, North Dakota State University  
1992  B. J. MacDonald, North Dakota State University  
1993  B. L. Dunn, Kansas State University  
1994  S. M. Nelson, University of Nebraska  
1995  L. J. Trinity, Iowa State University  
1996  M. E. Cunningham, Oklahoma State University  
1997  C. E. Sorenson, South Dakota State University  
1998  J. L. Strickland, University of Nebraska  
1999  B. A. DeMontigny, North Dakota State University  
2000  K. S. Freise, University of Illinois  
2001  K. R. Nollette, University of Nebraska  
2002  B. Meyer, University of Nebraska  
2003  A. Harvey, South Dakota State University  
2004  L. H. Bach, Michigan State University  
2005  A. M. Meyer, Michigan State University  
2006  L. D. Holmes, Southern Illinois University
R. Schnobrich, University of Minnesota

2007
B. H. Godsey, Kansas State University

**Graduate Students - Oral**

1976 D. G. Haught, Iowa State University
1977 L. L. Berger, University of Nebraska
1978 G. F. Collings, Michigan State University
1979 R. D. Boyd, University of Nebraska
1980 D. G. Cieslak, University of Wisconsin
1981 W. F. Pope, University of Nebraska
1982 P. F. Saenger, Purdue University
1983 D. A. Redmer, University of Missouri
1984 W. F. Brown, University of Nebraska
1985 J. H. Brendemuhl, University of Nebraska
1986 P. L. Houghton, Purdue University
1987 M. H. Wilde, The Ohio State University
1988 T. R. Radke, University of Nebraska
1989 K. K. Kreikemeier, Kansas State University
1990 R. A. Nold, Kansas State University
1991 M. D. Tokach, University of Minnesota
1992 G. F. Louis, University of Nebraska
1993 B. T. Larson, University of Missouri
1994 L. H. Anderson, The Ohio State University
1995 M. L. Augenstein, University of Minnesota
1996 D. D. Koehler, University of Minnesota
1997 R. A. Nold, South Dakota State University
1998 K. J. Rozeboom, University of Minnesota
1999 L. A. Averette, North Carolina State University
2000 T. A. Armstrong, North Carolina State University
2001 T. G. McDanel, University of Nebraska*
J. H. Hampton, University of Missouri**
2002 K. M. Hargrave, University of Nebraska*
M. J. Hersom, Oklahoma State University**
2003 J. Luther, North Dakota State University*
R. Main, Kansas State University**
2004 R. C. Bott, University of Nebraska*
M. M. Martinez, Michigan State University**
2005 J. M. Koch, West Virginia University*
N. D. Fastinger, The Ohio State University**
2006 D. M. Larson, North Dakota State University*
M. Gorocica-Buenfil, The Ohio State University**
2007 P. E. Urriola, University of Minnesota*
R. N. Dilger, University of Illinois**

**Graduate Students - Poster**

2007 P. L. Nester, North Dakota State University*
N. DiLorenzo, University of Minnesota**

*M.S. Division
**Ph.D. Division
PAST WINNERS OF UNDERGRADUATE CONTEMPORARY ISSUES COMPETITION

1998  M. Bode, University of Missouri
       D. Hasekamp, University of Missouri
       J. Rumph, Michigan State University
       M. Schoenfield, University of Minnesota

1999  L. Becker, University of Minnesota

2000  R. Hawkins, North Dakota State University

2001  Discontinued

ASAS MIDWESTERN SECTION PRESIDENTS

1963  O. G. Bentley, University of Illinois
1964-65 R. H. Grummer, University of Wisconsin
1966-67 G. R. Johnson, The Ohio State University
1968  R. J. Meade, University of Minnesota
1969  J. A. Hoefer, Michigan State University
1970-71 W. E. Dinusson, North Dakota State University
1972  J. F. Lasley, University of Missouri
1973  U. S. Garrigus, University of Illinois
1974-75 V. C. Speer, Iowa State University
1976  H. S. Teague, The Ohio State University
1977  R. M. Luther, South Dakota State University
1978  B. N. Day, University of Missouri
1979-80 D. R. Zimmerman, University of Nebraska
1981  A. L. Pope, University of Wisconsin
1982  R. D. Goodrich, University of Minnesota
1983  E. R. Miller, Michigan State University
1984  W. R. Woods, Purdue University
1985  L. R. Corah, Kansas State University
1986  B. D. Moser, University of Missouri
1987  S. E. Curtis, University of Illinois
1988  R. G. Zimbelman, Upjohn; D. J. Meisinger, Indiana
1989  T. J. Klopfenstein, University of Nebraska
1990  J. R. Romans, South Dakota State University
1991  J. E. Pettigrew, University of Minnesota
1992  C. E. Sasse, Cenex/Land O’Lakes
1993  M. G. Hogberg, Michigan State University
1994  G. L. Allee, University of Missouri
1995  S. K. Webel, Purina Mills, Bloomington, IL
1996  D. L. Meeker, National Pork Producers Council, Des Moines, IA
1997  T. S. Stahly, Iowa State University
1998  R. P. Lemenager, Purdue University
1999  S. P. Ford, Iowa State University
2000  J. R. Males, Oregon State University
2001  M. L. Day, The Ohio State University
2002  R. K. Johnson, University of Nebraska
2003  C. L. Ferrell, USDA, Clay Center
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<tr>
<th>Year</th>
<th>Name</th>
<th>Institution</th>
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<tr>
<td>2004</td>
<td>G. C. Shurson</td>
<td>University of Minnesota</td>
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<td>2005</td>
<td>A. L. Grant</td>
<td>Purdue University</td>
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<td>2006</td>
<td>D. L. Hancock</td>
<td>Elanco Animal Health, Greenfield, IN</td>
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<td>2007</td>
<td>R. L. Moser</td>
<td>JBS United, Inc., Sheridan, IN</td>
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ADSA MIDWEST BRANCH PRESIDENTS

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<tr>
<th>Year</th>
<th>Name</th>
<th>Institution</th>
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<tbody>
<tr>
<td>1992</td>
<td>J. F. Keown</td>
<td>University of Nebraska</td>
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<td>1993</td>
<td>J. G. Linn</td>
<td>University of Minnesota</td>
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<td>1994</td>
<td>D. J. Schingoethe</td>
<td>South Dakota State University</td>
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<td>1995</td>
<td>J. L. Morrill</td>
<td>Kansas State University</td>
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<td>1996</td>
<td>M. F. Hutjens</td>
<td>University of Illinois</td>
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<td>1997</td>
<td>M. A. Faust</td>
<td>Iowa State University</td>
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<td>1998</td>
<td>J. K. Drackley</td>
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<td>R. D. Shaver</td>
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<td>R. J. Grant</td>
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<td>2001</td>
<td>M. L. Eastridge</td>
<td>The Ohio State University</td>
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<td>2002</td>
<td>J. D. Quigley III</td>
<td>APC, Inc.</td>
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<td>2003</td>
<td>S. T. Franklin</td>
<td>University of Kentucky</td>
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<td>2004</td>
<td>D. K. Combs</td>
<td>University of Wisconsin</td>
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<td>2005</td>
<td>L. L. Timms</td>
<td>Iowa State University</td>
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<td>2006</td>
<td>P. Hoffman</td>
<td>University of Wisconsin - Madison</td>
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<td>2007</td>
<td>M. M. Schutz</td>
<td>Purdue University</td>
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</tbody>
</table>
POLK COUNTY CONVENTION COMPLEX
Upper Level
POLK COUNTY CONVENTION COMPLEX
Lower Level
Room Assignments

**Monday PM**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>ROOM</th>
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<tbody>
<tr>
<td>Graduate Student Competitive Research Papers, M.S. Oral Division</td>
<td>146</td>
</tr>
<tr>
<td>Undergraduate Student Competitive Research Papers, Oral Division</td>
<td>138-140</td>
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<tr>
<td>David H. Baker Amino Acid Symposium</td>
<td>204FG</td>
</tr>
<tr>
<td>Graduate Student Competitive Research Papers, Ph.D. Oral Division</td>
<td>134</td>
</tr>
<tr>
<td>ARPAS Exams, Convention Center</td>
<td>Board Room</td>
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<tr>
<td>AQ - Quiz Bowl Finals</td>
<td>204FG</td>
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</tbody>
</table>

**Poster Presentations**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Graduate Student Competitive Research Papers, M.S.</td>
<td>Exhibit Hall</td>
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<tr>
<td>Graduate Student Competitive Research Papers, Ph.D.</td>
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<tr>
<td>Undergraduate Student Competitive Research Papers</td>
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<tr>
<td>Animal Behavior, Housing and Well Being</td>
<td>Exhibit Hall</td>
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<tr>
<td>Nonruminant Nutrition - Session I</td>
<td>Exhibit Hall</td>
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<tr>
<td>Physiology</td>
<td>Exhibit Hall</td>
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<tr>
<td>Ruminant Nutrition – Session I</td>
<td>Exhibit Hall</td>
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**Tuesday AM**

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<thead>
<tr>
<th>ACTIVITY</th>
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<tbody>
<tr>
<td>Animal Behavior, Housing, &amp; Well Being Symposium: Swine Well-Being Issues:</td>
<td>142-144</td>
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<tr>
<td>How are they being addressed?</td>
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<tr>
<td>Billy N. Day Symposium: Delivering Semen to the Swine Industry</td>
<td>138-140</td>
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<tr>
<td>Breeding and Genetics I</td>
<td>148</td>
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<tr>
<td>Nonruminant Nutrition I: Distillers Grains</td>
<td>204FG</td>
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<tr>
<td>Ruminant Nutrition I: Byproducts</td>
<td>204AB</td>
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<tr>
<td>Beef/Small Ruminant Extension I: Sulfur in Ruminant Diets Symposium</td>
<td>134</td>
</tr>
<tr>
<td>Ruminant Nutrition II: Dairy</td>
<td>205IJ</td>
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<tr>
<td>ARPAS Exams, Convention Center</td>
<td>Board Room</td>
</tr>
<tr>
<td>Swine Extension I</td>
<td>146</td>
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**Tuesday PM**

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<tbody>
<tr>
<td>Dairy Extension Symposium: Focus on Forages — Facts and Fantasies</td>
<td>204AB</td>
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<tr>
<td>Nonruminant Nutrition II: Alternative Ingredients</td>
<td>142-144</td>
</tr>
<tr>
<td>Physiology I, Nutritional Physiology: The role of nutrition in reproduction symposium</td>
<td>138-140</td>
</tr>
<tr>
<td>Nonruminant Nutrition III: Amino Acids and Additives</td>
<td>204FG</td>
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<tr>
<td>Joint Swine Extension II and Growth, Development, Muscle Biology, and Meat Science I: Changing the dietary fatty acid profile and its influence on carcass composition, muscle biology, and meat characteristics symposium</td>
<td>205IJ</td>
</tr>
<tr>
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</table>
Physiology II: Nutritional Physiology ................................................................. 138-140

Poster Presentations
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Breeding and Genetics .................................................................................. Exhibit Hall
Growth, Development, Muscle Biology, and Meat Science ......................... Exhibit Hall
Nonruminant Nutrition - Session II ............................................................. Exhibit Hall
Odor and Nutrient Management .................................................................. Exhibit Hall
Ruminant Nutrition – Session II ................................................................. Exhibit Hall
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Physiology III: Reproductive Physiology ...................................................... 138-140
Ruminant Nutrition III: Metabolism & Rumen Function .............................. 204AB

FUTURE MEETINGS

2009  March 16–18
2010  March 15–17