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NOTICE:
Registration and housing forms can be found on the Midwest Meeting Website. You can register online at: http://www.asas.org/midwest/2007 You can print forms off the website 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 19, 9:30 a.m. – 7:30 p.m.  
Tuesday, March 20, 7:00 a.m. – 4:00 p.m.  
Wednesday, March 21, 9:00 a.m. – 11:00 a.m.

<table>
<thead>
<tr>
<th></th>
<th>Before March 1</th>
<th>After March 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADSA/ASAS Members</td>
<td>$110</td>
<td>$160</td>
</tr>
<tr>
<td>Undergraduate Students</td>
<td>$10</td>
<td>$10</td>
</tr>
<tr>
<td>Graduate Student Members</td>
<td>$20</td>
<td>$30</td>
</tr>
<tr>
<td>Post Doctoral Fellows</td>
<td>$20</td>
<td>$30</td>
</tr>
<tr>
<td>ASAS-ADSA Fellows</td>
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<td>$0</td>
</tr>
<tr>
<td>Nonmembers</td>
<td>***$220</td>
<td>$260</td>
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<tr>
<td>Graduate Student Nonmembers</td>
<td>***$40</td>
<td>$50</td>
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<tr>
<td>Post Doctoral Fellow Nonmembers</td>
<td>***$75</td>
<td>$85</td>
</tr>
</tbody>
</table>

***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 March 1, 2007. No refunds will be issued on ticketed events.

# IMPORTANT PHONE NUMBERS

- Meeting Registration Desk: ............................... 515/242-2528
- 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

Registration and housing forms can be found on the web.  
Appreciation Club Symposia
David H. Baker Amino Acid Symposium
Sponsored by: David H. Baker Appreciation Club
Monday, March 19 - 1:00 p.m.
Room: 204FG

Billy N. Day Symposium
Optimizing Reproduction in Gilts
Sponsored by: Billy N. Day Appreciation Club
Tuesday, March 20 - 8:00 a.m.
Room: 204FG

Social Events

Reception
Monday, March 19
6:00 p.m. – 7:30 p.m.
Exhibit Hall, Room 206

Academic Quadrathlon - Quiz Bowl
Competition
Monday, March 19
7:30 p.m.
Room 204FG

Reception
Tuesday, March 20
6:00 p.m. – 7:30 p.m.
Exhibit Hall, Room 206

REMINDER
All Food Functions in Room 206
Monday Night Reception
Tuesday Night Reception
Wednesday Morning Awards Breakfast
Looking for a new job?  
Is your company hiring?  

The 2007 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 description and résumés to the Placement Center at the 2007 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 19, PM**

8:00 a.m.  **ASAS/ADSA Midwest Board of Directors**, Renaissance Savery Hotel

12:30 p.m. **Graduate Student Competitive Research Papers, M.S. Division**, Room 205IJ

12:30 p.m. **Graduate Student Competitive Research Papers, Ph.D. Division**, Room 204AB

12:30 p.m. **Undergraduate Student Competitive Research Papers**, Room 204C

1:00 p.m. **David H. Baker Amino Acid Symposium**, Room 204FG

1:00 p.m. **Ruminant Nutrition I - Feedlot Nutrition**, Room 136–138

2:00 p.m. **ARPAS Exams**, Convention Center, Board Room

4:30 p.m. **Poster Presentations**, Convention Center Complex, Exhibit Hall, Room 206

4:30 p.m. **Career Fair**, Convention Center Complex, Exhibit Hall, Room 206

6:00 p.m. **Reception**, Convention Center Complex, Exhibit Hall, Room 206

7:30 p.m. **AQ - Quiz Bowl Finals**, Room 204FG

**Tuesday, March 20, AM**

8:00 a.m. **Beef Extension I – Animal Behavior, Housing, Well Being I, Facility Design and Management for Finishing Beef Cattle Symposium**, Room 205IJ

8:00 a.m. **Billy N. Day Symposium, Optimizing Reproduction in Gilts**, Room 204FG

8:00 a.m. **Nonruminant Nutrition I – Nursery Pig Nutrition I**, Room 136–138

8:00 a.m. **Nonruminant Nutrition II – Swine Feedstuffs**, Room 142–144

8:00 a.m. **Odor and Nutrient Management I**, Room 140

8:00 a.m. **Ruminant Nutrition II – Lipid Metabolism & Supplementation Symposium**, Room 204AB

8:30 a.m. **Breeding and Genetics I – Quantitative Genetics**, Room 148

9:00 a.m. **Teaching and Career Development – Undergraduate Teaching**, Room 146

9:00 a.m. **ARPAS Exams**, Convention Center, Board Room

11:30 a.m. **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 20, PM

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00 p.m.</td>
<td>Breeding and Genetics II - Molecular and Quantitative Genetics</td>
<td>Room 140</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Dairy Extension I – Dairy Extension Symposium</td>
<td>Room 204AB</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Growth and Development, Muscle Biology and Meat Science I - Pork Quality: Integrating Biology to Carcass Value and Consumer Demand Symposium</td>
<td>Room 205IJ</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Nonruminant Nutrition III - Grow-Finish Swine Nutrition</td>
<td>Room 136–138</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Physiology I – Recent Advances in Our Understanding of Oocyte Quality Symposium</td>
<td>Room 204FG</td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Ruminant Nutrition III – Feedlot Co-product Utilization</td>
<td>Room 146</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Animal Behavior, Housing, Well Being II</td>
<td>Room 204C</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Nonruminant Nutrition IV - Nursery Pig Nutrition II</td>
<td>Room 142–144</td>
</tr>
<tr>
<td>1:30 p.m.</td>
<td>Ruminant Nutrition IV – Fat and Fatty Acid Supplementation</td>
<td>Room 148</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>ARPAS Exams</td>
<td>Convention Center, Board Room</td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>Swine Extension</td>
<td>Room 140</td>
</tr>
<tr>
<td>3:15 p.m.</td>
<td>Physiology II – Basic and Applied Advances in Reproductive Technologies</td>
<td>Room 204FG</td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>Growth and Development, Muscle Biology and Meat Science II</td>
<td>Room 205IJ</td>
</tr>
<tr>
<td>4:30 p.m.</td>
<td>Poster Presentations</td>
<td>Convention Complex, Exhibit Hall, Room 206</td>
</tr>
<tr>
<td>6:00 p.m.</td>
<td>Reception</td>
<td>Convention Complex, Exhibit Hall, Room 206</td>
</tr>
</tbody>
</table>

### Wednesday, March 21, AM

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:45 a.m.</td>
<td>Breakfast, Business Meeting, Awards Program</td>
<td>Convention Center Complex, Exhibit Hall, Room 206</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Dairy Extension II - Dairy Session</td>
<td>Room 148</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Nonruminant Nutrition V - DDGS in Swine Diets</td>
<td>Room 136–138</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Nonruminant Nutrition VI - Swine Breeding Herd Nutrition</td>
<td>Room 142–144</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Odor and Nutrient Management II, Beef Extension II – Cow Calf Management Effects on Water Quality Symposium</td>
<td>Room 204FG</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Physiology III - Nutritional Influences on Reproductive Physiology</td>
<td>Room 205IJ</td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>Ruminant Nutrition V - Pasture &amp; Forages</td>
<td>Room 204AB</td>
</tr>
<tr>
<td>10:45 a.m.</td>
<td>Beef Extension III</td>
<td>Room 204AB</td>
</tr>
<tr>
<td>12:15 p.m.</td>
<td>ASAS/ADSA Midwest Board of Directors</td>
<td>Renaissance Savery Hotel</td>
</tr>
</tbody>
</table>
Poster Schedule

All posters will be on display 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.

Monday, March 19
All authors present from 4:30 PM – 6:00 PM

Animal Behavior, Housing and Well-Being
Beef Extension
Growth and Development, Muscle Biology and Meat Science
Nonruminant Nutrition
Physiology
Swine Extension

Tuesday, March 20
All authors present from 4:30 PM – 6:00 PM

Breeding and Genetics
Dairy Extension
Nonruminant Nutrition
Ruminant Nutrition
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 2007 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 - ADSA ASAS MW Board
- Graduate Ph.D., Poster - Cargill Animal Nutrition
- Undergraduate - Murphy-Brown LLC, Western Operations

**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**
- Cargill Animal Health
- Feedstuffs Newspaper

**Abstract Book**
- Danisco Animal Nutrition
- Fort Dodge Animal Health

**Program Book Sponsor**
- Kemin AgriFoods North America, Inc.

**Poster Sponsor**
- Zinpro

**Career Fair**
- Elanco Animal Health
- Land O’Lakes Purina Feed, LLC

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

**Billy N. Day Symposium**
- Billy N. Day Appreciation Club
Current Advances in Our Understanding of Oocyte Quality Symposium
USDA, ARS

Dairy Extension Symposium
Pioneer, The DuPont Company

Lipid Metabolism & Supplementation Symposium
Cargill Animal Nutrition

Facility Design and Management for Finishing Beef Cattle Symposium
Land O’Lakes Purina Feed LLC

Program Sponsors

Nursery Pig Nutrition I
Hubbard Feeds/FeedRite

Quantitative Genetics
Newsham Genetics

Swine Extension
Pig Improvement Company

Molecular and Quantitative Genetics
GeneSeek, Inc

Grow-Finish Swine Nutrition
National Pork Board

Nursery Pig Nutrition II
Kent Feeds, Inc.

DDGS in Swine Diets
JBS United, Inc.

General Meeting
Agri-Nutrition Services, Inc.
Ajinomoto Heartland LLC
American Angus Association
Babcock Genetics, Inc.
BASF Corporation Animal Nutrition
DSM Nutritional Products, Inc.
Elanco Animal Health
Hormel Foods Corporation
ILC Resources
International Ingredient Corporation
Land O’Lakes, Purina Feed, LLC
Lucta USA Inc.
Nestle Purina Petcare
Pfizer Animal Health
Prince Agri Products, Inc.
Ralco-Mix Products
Saf Agri/Lesaffre Feed Additives
Seaboard Foods LP
Tasco
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Fort Dodge Animal Health
Hubbard Feeds/FeedRite
Intervet, Inc.
Iowa State University
JBS United, Inc.
Kemin AgriFoods North America, Inc.
Land O’Lakes Purina Feed, LLC
Murphy-Brown LLC, Western Operations
National Pork Board
Nestle Purina Petcare
Pfizer Animal Health
Pioneer, The DuPont Company
Prince Agri Products, Inc.
Ralco-Mix Products
Saf Agri/Lesaffre Feed Additives
The Kent Group
USDA, ARS
VetLife
Zinpro

Bronze
Agri-Nutrition Services, Inc.
American Angus Association
Babcock Genetics, Inc.
BASF Corporation Animal Nutrition
DeKalb Feeds, Inc.
ExSeed Genetics
GeneSeek Inc.
Hormel Foods Corporation
ILC Resources
International Ingredient Corporation
Lucta USA Inc.
Newsham Genetics
Pig Improvement Company, Inc.
Seaboard Foods LP
Tasco
PREPARATION GUIDELINES FOR ORAL PRESENTATIONS — LCD

Collection of PowerPoint Files Prior to Meeting
Again this year each room will be equipped with a computer and an LCD projector. NEW PROCEDURES for 2007: In an effort to maximize efficiency onsite and to avoid possible technical issues, PowerPoint files for oral presentations will be collected 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.

Upload Process
Presentations must be submitted electronically through our upload site at: http://www.fass-abstracts.org/meetinginfo.asp?meetingcode=121
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/meetinginfo.asp?meetingcode=121

Upload Deadlines
The deadline for final presentations to be submitted is: Monday, March 12, 2007 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 12, 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 19 – 4:30–6:00 PM
Tuesday, March 20 – 4:30–6:00 PM
SCIENTIFIC SESSIONS

Monday, March 19
SYMPOSIA AND ORAL SESSIONS

Graduate Student Competitive Research Papers
M.S. Oral Division
Chair: Matthew Wilson, West Virginia University, Morgantown

205IJ
Sponsored by: DeKalb Feeds, Inc.


12:45 PM 82 Nutrient digestibility in growing pigs fed wheat-based diets supplemented with phytase and xylanase alone or in combination. T.A. Woyengo*1, J.S. Sands2, W. Guenter3, and C.M. Nyachoti4, 1University of Manitoba, Winnipeg, MB Canada, 2Danisco Animal Nutrition, Marlborough, UK.

1:00 PM 83 In vitro maturation of porcine oocytes in two defined media with and without gonadotropins. J.L. Lowe* and R.L. Krisher, Purdue University, West Lafayette, IN USA.

1:15 PM 84 Conjugated linoleic acid (CLA) in milk increases in cows fed condensed corn distillers solubles and fish oil. M. Bharathan*, D.J. Schingoethe, A.R. Hippen, and K.F. Kalscheur, South Dakota State University, Brookings, SD, USA.

1:30 PM 85 Starch and protein digestion rates affect nitrogen retention in growing pigs. T.C. Schafer*1, R.T. Zijlstra2, and M.D. Drew3, 1University of Saskatchewan, Saskatoon, SK, Canada, 2University of Alberta, Edmonton, AB, Canada.

1:45 PM Break.

2:00 PM 86 Correlation of measures of disposition with gain performance of steers. F.E. Creason* and R.L. Weaber, University of Missouri-Columbia, Columbia, MO USA.

2:15 PM 87 Effects of immunization against two inhibin antigens on hormone concentrations and daily sperm production (DSP) in ram lambs. J.L. Voge* and J.E. Wheaton, University of Minnesota, St. Paul, MN.

2:30 PM 88 Optimum Levels of Dry Distillers Grains with Solubles for Finishing Steers. C.D. Buckner*, T.L. Mader, G.E. Erickson1, S. Colgan1, K.K. Karges2, and M.L. Gibson, 1University of Nebraska, Lincoln, 2Dakota Gold Marketing, Sioux Falls, SD.

2:45 PM 89 Dietary phosphorus and genetic background interact to affect growth performance and bone integrity in pigs. L.S. Alexander*, S.A. Cutler, M.F. Rothschild, and C.H. Stahl, Iowa State University, Ames, IA, USA.

3:00 PM Break.
Lean growth of 1980 vs. 2005 pigs when fed 1980 or 2005 feeding programs. J. S. Fix*, D. J. Hanson, E. van heugten, J. P. Cassady, and M. T. Sec, North Carolina State University, Raleigh, NC USA.

Comparison of grazing stockpiled tall fescue versus traditional strategies for wintering spring-calving beef cows. A. M. Meyer*, R. L. Kallenbach, M. S. Kerley, and K. P. Ladyman, University of Missouri, Columbia, MO, USA.

Differential activity of the GnRH receptor gene promoter in lines of swine with divergent ovulation rates. J Smith*, E McDonald, R Cederberg, and B White, University of Nebraska, Lincoln, NE USA.


Ph.D. Oral Division

Dietary supplementation of Colicin E1 prevents Escherichia coli F18 caused post-weaning diarrhea in pigs. SA Cutler*, NA Cornick, SM Lonergan, and CH Stahl, Iowa State University, Ames, IA USA.

Caspase-3 is not activated in postmortem beef and lamb muscle. K. R. Underwood*, W. J. Means, and M. Du, University of Wyoming, Laramie, WY, USA.

Active phosphate uptake through the NaPi-IIb cotransporter is post-transcriptionally regulated in the jejunum of weanling piglets fed a low-P diet. K.L. Saddoris*, J. C. Fleet, and J. S. Radcliffe, Purdue University, West Lafayette, IN, USA.


Break.

Effects of aging on tenderness and moisture loss of enhanced muscles from fed cull cows of known age. S. Hutchison*, J. A. Unruh, T. T. Marston, M. C. Hunt, and J. J. Higgins, Kansas State University, Manhattan, KS, USA.

Tolerance of excess dietary cysteine in pigs and rats. R. N. Dilger* and D. H. Baker, University of Illinois, Urbana, IL, USA.
2:30 PM 101 Effect of genistein on in vitro estradiol production by ovarian follicles from cows. Nicole Tinfo*, Lacey Luense¹, Steve Hopkins², and Carolyn Komar¹, ¹Department of Animal Science, Iowa State University, Ames, IA, USA, ²Department of Veterinary Diagnostic and Production Animal Medicine, Iowa State University, Ames, IA, USA.

2:45 PM 102 Effect of ractopamine and lysine:net energy ratio on growth performance and plasma urea nitrogen concentration of late-finishing barrows fed low-protein amino acid-supplemented diets. R. Moreno* and P. S. Miller, University of Nebraska, Lincoln, Lincoln, Nebraska, United States.

3:00 PM Break.

3:15 PM 103 Use of digital images to compare color in beef. R Larrain*, D Schaefer, and J Reed, University of Wisconsin, Madison, WI.

3:30 PM 104 Effects of adding increasing levels of corn dried distillers grains with solubles (DDGS) to corn-soybean meal diets on growth performance and pork quality of growing-finishing pigs. G. Xu*¹, S.K. Baidoo¹, L.J. Johnston¹, J.E. Cannon², and G.C. Shurson¹, ¹University of Minnesota, ²Hormel Foods.

3:45 PM 105 Effects of roughage source and level in finishing diets containing wet distillers grains on feedlot performance. J.R. Benton*, G.E. Erickson, T.J. Klopfenstein, K.J. VanderPol, and M.A. Greenquist, University of Nebraska, Lincoln.

4:00 PM 106 Dietary protein level alters small intestine morphology and cecum microbial metabolites in weaned pigs. F Opapeju*¹, C Nyachoti¹, M Rademacher², and G Blank¹, ¹University of Manitoba, Winnipeg, MB, Canada, ²Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany.

Undergraduate Student Competitive Research Papers
Chair: Steven Loerch, The Ohio State University, Wooster
204C
Sponsored by: Murphy-Brown LLC, Western Operations
NOTE: Program order could change depending on AQ participation.

12:30 PM 330 Growth and carcass parameters of hogs finished in a deep-bedded hoop structure vs. a confinement structure. J. Magolski* and G. Onan, University of Wisconsin-River Falls, River Falls, WI.

12:45 PM 331 Dry Matter Determination of Different Ethanol Byproducts. M. F. Wilken*, G. E. Erickson¹, J. R. Benton¹, C. D. Buckner¹, T. J. Klopfenstein¹, K. Karges², and M. Gibson², ¹University of Nebraska, Lincoln, ²Dakota Gold Marketing, Sioux Falls, SD.

1:00 PM 332 Hypergravity exposure affects lipid synthesis in rat mammary gland during pregnancy and lactation. M. VanKloppenberg*, O.V. Patel, and K. Plaut, Michigan State University, East Lansing, Michigan, United States.

Effects of field pea inclusion in high grain diets for beef steers on beef tenderness, postmortem proteolysis and calpastatin activity. E.L. Slinden, G.P. Lardy, M.L. Bauer, V.L. Anderson, R.J. Maddock, and K.R. Maddock Carlin, 1 North Dakota State University, Fargo, ND, 2 NDSU Carrington Research Extension Center, Carrington, ND.

Validation of a ruminant hepatocyte culture for assaying the activity of enzymes responsible for progesterone catabolism, cytochrome P450 (CYP) 2C and 3A. T.A. Wilmoth, C. O. Lemley, J. M. Koch, K. P. Blemings, and M. E. Wilson, West Virginia University, Morgantown, WV, United States.

Comparison of a complete pelleted diet and a shelled corn-protein supplement diet on the performance and health of dairy-beef steers. A.L. Shreck, P.M. Walker, and R.E. Hall, Illinois State University, Normal, IL, USA, 2 Cooperative Research Farms, Richmond, VA, USA.

Evaluation of lean growth and daily gain in two terminal lines of pigs. J.K. Johnson and T.A. Rathje, Kansas State University, Manhattan, Kansas, USA, 2 Danbred North America, Columbus, Nebraska, USA.

Hamburger from Fescue Fed Cattle Fed to Humans Reduces Blood Pressure. R. O. McKeith and K. L. Jones, Southern Illinois University Carbondale, Carbondale IL USA.


Pre-exposure to Bacillus licheniformis reduces interleukin 8 response of swine intestinal epithelial cells to Salmonella enterica serovar Typhimurium. B.H. Godsey, K.A. Skjolaas, and J.E. Minton, Kansas State University, Manhattan, KS, USA.

Effect of sodium chloride concentration on sensory attributes, shear-force and retail color of moisture enhanced fresh beef steaks. C. K. Weber, P. S. Kuber, H. N. Zerby, and C. L. Knipe, The Ohio State University, Columbus, Ohio, USA.


Effect of pre and peri-pubertal feeding of melengesterol acetate (MGA) on testis characteristics in bulls. S. G. Kruse, M. M. Baltes-Breitwisch, J. L. Martin, D. M. Larson, D. T. Clopton, and A. S. Cupp, University of Nebraska-Lincoln, Lincoln, NE, USA.
The following posters have been entered in the M.S. and Ph.D. divisions of the Graduate Student Research Paper Competition. Competition posters have been incorporated into their appropriate disciplinary sections and may be viewed in the poster display area in the Exhibit Hall (Room 206). Judging 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: Leo Timms, Iowa State University, Ames**  
**Exhibit Hall**  
**Sponsored by: ADSA ASAS MW Board**

54 Genotype by environment interaction measured by reaction norms for Angus bulls in Brazil. E.A. Maricle*, J.C Souza2,3, L.T. Campos2, R.L. Weaber1, and W.R. Lamberson1, 1University of Missouri-Columbia, Columbia, Mo USA, 2Parana Federal University, Brazil, 3Scholarship of CNPq, Brazil.

248 Determination of insulin concentrations in sheep isocalorically supplemented with two different volatile fatty acids. C. O. Lemley*, J. M. Koch, and M. E. Wilson, West Virginia University, Morgantown, West Virginia.

251 Effects of swathed forage type; big bluestem, crested wheatgrass, or foxtail millet on intake and total tract digestion. B. W. Neville*, G. P. Lardy, T. C. Gilbery, M. L. Bauer, K. K. Sedivec, and J. S. Caton, North Dakota State University, Fargo, ND, USA.


300 In situ ruminal phosphorus availability from corn and soybean feedstuffs. K. MJOUN*, K.F. KALSCHEUR, D. J. SCHINGOETHE, and A.R. HIPPEN, SDSU, Brookings, SD, USA.

**Graduate Student Competitive Research Papers**  
**Ph.D. Poster Division**  
**Chair: Samuel Baidoo, University of Minnesota, St. Paul**  
**Exhibit Hall**  
**Sponsored by: Cargill Animal Nutrition**


218 A spreadsheet method for experimental animal allotment. B. G. Kim* and M. D. Lindemann, University of Kentucky, Lexington.
Effect of low protein amino acid-supplemented diets on growth performance, plasma urea N, and diarrhea incidence in weaned pigs. F Opapeju*, C Nyachoti¹, and M Rademacher², ¹University of Manitoba, Winnipeg, MB, Canada, ²Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany.

Effects of growth hormone at breeding on the offspring’s insulin-like growth factor-I (IGF-I) response to growth hormone releasing hormone challenge. J. M. Koch*, C. O. Lemley, and M. E. Wilson, West Virginia University, Morgantown, WV, United States.

Production responses of dairy cows fed wet distillers grains during the transition period and early lactation. G. S. Mpapho*, A. R. Hippen, K. F. Kalscheur, and D. J. Schingoethe, South Dakota State University, Brookings, SD, USA.


David H. Baker Amino Acid Symposium
Chair: Michael S. Edmonds, Kent Feeds, Inc., Muscatine, Iowa

204FG
Sponsored by: David H. Baker Appreciation Club

1:00 PM

1:05 PM 75
(Invited) Role of amino acids in regulating muscle protein synthesis. R. R. Wolfe*, University of Arkansas for Medical Sciences, Little Rock.

1:45 PM 76
Effect of moderate reduction in dietary crude protein concentration with crystalline amino acid supplementation on intestinal protein synthesis in young growing pigs. R. Tabet¹, B. J. Bequette², J. Moore¹, J. Liesman¹, and N.L. Trottier*¹, ¹Michigan State University, East Lansing, ²University of Maryland, College Park.

2:00 PM 77
(Invited) New concepts in amino acid nutrition of gestating and lactating sows. G. L. Allee* and P. Srichana, University of Missouri, Columbia.

2:40 PM
Break.

3:00 PM 106
Dietary protein level alters small intestine morphology and cecum microbial metabolites in weaned pigs. F. Opapeju*¹, C. Nyachoti¹, M. Rademacher², and G. Blank¹, ¹University of Manitoba, Winnipeg, MB, Canada, ²Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany.

3:15 PM 79

3:55 PM 85
Starch and protein digestion rates affect nitrogen retention in growing pigs. T. C. Schafer*¹, R. T. Zijlstra², and M. D. Drew¹, ¹University of Saskatchewan, Saskatoon, SK, Canada, ²University of Alberta, Edmonton, AB, Canada.

4:10 PM
Discussion.
Prediction of optimal RDP levels in no-roughage feedlot diets. J. A. Pugh* and M. S. Kerley, University of Missouri, Columbia.

Adaptation of feedlot cattle by limit-feeding a high-concentrate diet may alter nutrient absorption. J. O. Wallace*, W. F. Miller, C. D. Reinhardt, and B. J. Johnson, Kansas State University, Manhattan.

Digestibility of fiber sources in high concentrate diets. J. W. Golden* and M. S. Kerley, University of Missouri, Columbia.


Effects of are not confined to muscle tissue: Evidence for direct effects of ractopamine-HCl supplementation on fermentation by ruminal microorganisms. C. E. Walker*, M. J. Quinn, T. G. Nagaraja, and J. S. Drouillard, Kansas State University, Manhattan.

Performance changes through the finishing period. J. C. MacDonald*, T. J. Klopfenstein, G. E. Erickson, and K. J. Vander Pol, University of Nebraska, Lincoln.

Factors affecting feed efficiency in feedlot steers. J. W. Homm*1, L. L. Berger1, S. L. Rodriguez-Zas1, L. Forster2, and T. G. Nash1, 1University of Illinois, Urbana, 2Archer Daniels Midland Company, Decatur, IL.

Relationship between metabolizable protein balance and feed efficiency in individually-fed steers and heifers. G. I. Crawford*, S. A. Quinn, T. J. Klopfenstein, and G. E. Erickson, University of Nebraska, Lincoln.

Influence of sanitizing feedlot pens on microbial populations and cattle performance. M. S. Lee*1, J. K. Apple1, J. W. S. Yancey1, J. T. Sawyer1, M. M. Brashears2, and T. P. Stephens2, 1Department of Animal Sciences, Fayetteville, AR, 2Animal and Food Sciences, Lubbock, TX.

Effect of corn hybrid and processing method on finishing cattle performance and carcass characteristics. F. W. Harrelson*1, M. K. Luebbe1, G. E. Erickson1, T. J. Klopfenstein1, and W. A. Fithian2, 1University of Nebraska, Lincoln, 2Golden Harvest Seeds Inc., Waterloo, NE.

Growth and carcass quality of steers finished with corn or high-tannin sorghum. R. Larrain*, D. Schaefer, and J. Reed, University of Wisconsin, Madison.

Effect of corn hybrids and kernel traits on digestibility. F. W. Harrelson*1, G. E. Erickson1, T. J. Klopfenstein1, D. S. Jackson1, and W. A. Fithian2, 1University of Nebraska, Lincoln, 2Golden Harvest Seeds Inc., Waterloo, NE.

Liver abscess score and carcass characteristics of feedlot cattle. M.S. Davis*, W.C. Koers, K.J. Vander Pol, and O.A. Turgeon, Jr., Koers-Turgeon Consulting Services, Inc., Salina, KS.
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 days from 4:30 PM to 6:00 PM.

**Animal Behavior, Housing, Well Being - Posters**

**Exhibit Hall**


9 Effects of familiarity and weight variation on aggression among grow-finish pigs following regrouping. Y. Z. Li and L. J. Johnston, University of Minnesota, Morris.


Beef Extension - Posters
Chair: Jeff Pastoor, Land O'Lakes Purina Feed LLC, Sully, IA
Exhibit Hall

25 The effect of breed type and year on real-time ultrasound carcass traits, performance and pelvic measurement of heifers enrolled in the Eastern Kentucky Heifer Development Program. B. E. Galbreath*, T. J. Wistuba, P. E. Prater, K. E. Peterson, and J. G. Willard, Morehead State University, Morehead, KY.

26 Cattle corral design-learning by doing. S. L. Boyles*, The Ohio State University, Columbus.

27 Feedlot performance, management factors, and carcass traits by Certified Angus Beef® acceptance rate classes. G. Fike* and M. King, Certified Angus Beef LLC, Manhattan, KS.

Growth and Development, Muscle Biology and Meat Science - Posters
Chair: Bradley J. Johnson, Kansas State University, Manhattan
Exhibit Hall


119 Interactions of mammalian synemin isforms with focal adhesion proteins vinculin and talin. N. Sun* and R. M. Robson, Iowa State University, Ames.

120 Sarcomeric thick and thin filament overlap influences postmortem proteolysis. A. D. Weaver*, L. Jouault1, B. C. Bowker2, A. L. Grant1, and D. E. Gerrard1, 1Purdue University, West Lafayette, IN, 2USDA-ARS Food Technology and Safety Laboratory, Beltsville, MD.

Nonruminant Nutrition - Posters
Breeding Herd Nutrition
Exhibit Hall


185 Effect of dietary fish oil supplementation on the reproductive performance of gilts and sows. C. M. Murphy*1, M. Ellis1, P. J. Bechtel2, R. Knox1, and A. Rojo1, 1University of Illinois, Urbana, 2USDA-ARS/SARU, Fairbanks, AK.
Predicting growth rates of adult working boars in a commercial A. I. boar stud. R. C. Sulabo*, J. Quackenbush, R. D. Goodband, M. D. Tokach, S. S. Dritz, J. M. DeRouche, and J. L. Nelssen, 1Kansas State University, Manhattan, 2Zoltenko Farms, Inc., Hardy, NE.

Nonruminant Nutrition - Posters
Nursery Pig Nutrition
Exhibit Hall

Effect of yeast culture on performance, gut integrity and immune function in nursery pigs. C. M. C. van der Peet-Schwering, A. J. M. Jansman, and I. Yoon, 1Animal Sciences Group, Wageningen University and Research Centre, Lelystad, The Netherlands, 2Diamond V Mills Inc., Cedar Rapids, IA.

Development of a Bacillus subtilis product for a large commercial swine farm to reduce Clostridium perfringens and Clostridium difficile in neonatal pigs. A. Baker, E. Davis, D. Rosener, K. Novak, R. White, A. Veldkamp, and T. Rehberger, 1Agtech Products, Inc., Waukee, WI, 2Iowa Select Farms, Iowa Falls, IA.


Evaluating the inclusion of an egg antibody powder to swine nursery diets on pig performance. B. Corrigan, G. Grinstead, D. Koehler, B. Renk, and M. Yank, 1Vita Plus Corporation, Madison, WI, 2aOva Technologies, Inc., Madison, WI.

Effects of electron beam and gamma ray irradiation levels in spray-dried animal plasma on nursery pig growth performance. C. N. Groesbeck, J. M. DeRouche, M. D. Tokach, R. D. Goodband, S. S. Dritz, and J. L. Nelssen, 1Kansas State University, Manhattan, 2Sadex, Sioux City, IA.


Effect of low protein amino acid-supplemented diets on growth performance, plasma urea N, and diarrhea incidence in weaned pigs. F Opaceju, C Nyachoti, and M Rademacher, 1University of Manitoba, Winnipeg, MB, Canada, 2Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany.

Nutritional value of processed fish byproducts for young pigs. A. Rojo*, M. Ellis, P. J. Bechtle, Y. Bin, and E. Castaneda, 1University of Illinois, Urbana, 2USDA/ARS/SARU, Fairbanks, AK.


An evaluation of liquid feeding immediately post-weaning to improve performance of the lightest pigs within a nursery group. J. R. Bergstrom* and D. McKilligan, 1Kerber Milling Company, Emmetsburg, IA, 2TechMix Inc., Stewart, MN.


Production responses of weanling pigs fed diets containing REAP® Starter enzymes or added fat. H. H. Stein*, D. Y. Kil, D. N. Peters, D. Spangler, P. Brown, D. P. Casper, and K. Haydon, 1University of Illinois, Urbana, 2South Dakota State University, Brookings, 3Agri-King Inc., Fulton, IL, 4Prince Agri-Products, Quincy, IL.

Responses to increasing doses of saccharin in piglet feeds on preference values and performance. E. Roura*, C. Risley, D. Solà-Oriol, and D. Torrallardona, 1Lucta S.S., Barcelona, Spain, 2Lucta USA Inc., Northbrook, IL, 3IRTA, Centre Mas de Biver, Reus, Spain.

Physiology - Posters
Exhibit Hall

Determination of insulin concentrations in sheep isocalorically supplemented with two different volatile fatty acids. C. O. Lemley*, J. M. Koch, and M. E. Wilson, West Virginia University, Morgantown, West Virginia.

Use of indigenous South African plants to alleviate heat stress-induced subfertility in male mice. M. S. Santiago, K Cammack, E. Maricle, D. Fisher, and W Lamberson*, 1University of Missouri, Columbia, 2University of Wyoming, Laramie, 3University of the Western Cape, Cape Town, South Africa.

Effects of swathed forage type; big bluestem, crested wheatgrass, or foxtail millet on intake and total tract digestion. B. W. Neville*, G. P. Lardy, T. C. Gilbery, M. L. Bauer, K. K. Sedivec, and J. S. Caton, North Dakota State University, Fargo, ND, USA.

Swine Extension - Posters
Exhibit Hall


Modeling the impact of sorting pigs based on weaning or nursery weight on the mean and variation in postweaning growth of pigs. A. Schinckel*, R. Cabrera, R. Boyd, S. Jungst, C. Booher, M. Johnston, P. Preckel, and M. Einstein, Purdue University, West Lafayette, IN, Pig Improvement Company, Franklin, KY, Ralco Nutrition, Marshall, MN, Hanor Company, Inc, Franklin, KY.

Impact of birth and twenty-day weight on the postweaning growth of pigs with different weaning management. A. Schinckel*, R. Cabrera, R. Boyd, S. Jungst, C. Booher, M. Johnston, and M. Einstein, Purdue University, West Lafayette, IN, Pig Improvement Company, Franklin, KY, Ralco Nutrition, Marshall, MN, Hanor Company, Inc, Franklin, KY.

Tuesday, March 20
SYMPOSIA AND ORAL SESSIONS

Beef Extension I
Animal Behavior, Housing, Well Being I
Facility Design and Management for Finishing Beef Cattle
Chair: Jeff Pastoor, Land O’Lakes Purina Feed LLC, Sully, IA
205IJ
Sponsored by: Land O’Lakes Purina Feed LLC

8:00 AM Opening Comments.
8:05 AM 16 (Invited) Climatic influences within cattle feeding facilities. T. L. Mader*, Northeast Research and Extension Center, University of Nebraska, Concord.
8:35 AM 17 (Invited) Comparing feedlot housing/pen designs. R. H. Pritchard* and E. R. Loc, South Dakota State University, Brookings.
9:35 AM Break.

9:45 AM (Invited) The performance, economic, and environmental value of bedding feedlot cattle during Northern Plains winters. V. L. Anderson* and R. J. Wiederholt, North Dakota State University, Carrington.


10:45 AM Presenter Roundtable.

Billy N. Day Symposium
Optimizing Reproduction in Gilts
Chair: Duane Davis, Kansas State University, Manhattan
204FG

Sponsored by: Billy N. Day Appreciation Club

8:00 AM Introduction. Duane Davis, Session Chair.

8:15 AM (Invited) Fallacies in research on pig reproduction. P. Dziuk*, University of Illinois, Urbana.

8:45 AM (Invited) Opportunities to use the boar effect to enhance management of replacement gilts. J. L. Patterson*, Swine Research & Technology Centre, University of Alberta, Edmonton, Alberta, Canada.

9:00 AM (Invited) Current technology for estrous synchronization and timed insemination of gilts. R. Knox*, University of Illinois, Urbana.

9:15 AM (Invited) Influence of age and weight at breeding on gilt productivity and sow longevity. R. Kummer*, Pig Improvement Company, Brazil.

9:30 AM (Invited) Opportunities to use nutrition and novel feed ingredients to impact gilt reproduction. A. M. Gaines*, JBS United, Inc., Sheridan, IN.

9:45 AM Discussion.

10:00 AM Break.


11:00 AM (Invited) The dollars and scents of effective gilt management programs. G. R. Foxcroft*, Swine Research & Technology Centre, University of Alberta, Edmonton, Alberta, Canada.

11:45 AM Discussion.

Nonruminant Nutrition I
Nursery Pig Nutrition I
Chair: Mark Bertram, M2P2, LLC, Ames, IA
136-138
Sponsored by: Hubbard Feeds/FeedRite

8:00 AM Total tract digestibility of colostral proteins and amino acids by neonatal pig. C. Lin*, D. C. Mahan², G. Wu¹,¹, C. Vasquez¹, and S. W. Kim¹,³, ¹Texas Tech University, Lubbock, ²The Ohio State University, Columbus, ³Texas A&M University, College Station.
Apparent absorption of methionine and 2-hydroxy-4-methylthiobutanoic acid in gnotobiotic pigs. G. Malik¹, M. D. Drew¹, D. Hoehler², and A. G. Van Kessel*, ¹University of Saskatchewan, Saskatoon, SK, Canada, ²Degussa Corporation, Kennesaw GA.

Effects of dietary protein level on ileal amino acid digestibility, growth performance, incidence of diarrhea, and formation of microbial metabolites in the ileum and cecum of early-weaned pigs. J. Htoo*¹, W. Sauer¹,³, M. Rademacher², Y. Zhang³, B. Araiza³, M. Cervantes³, and R. Zijlstra¹, ¹University of Alberta, Edmonton, AB, Canada, ²Degussa AG, Hanau, Germany, ³Universidad Autónoma de Baja California, Mexicali, México.

Active phosphate uptake through the NaPi-IIb cotransporter is post-transcriptionally regulated in the jejunum of weanling piglets fed a low-P diet. K. L. Saddoris*, J. C. Fleet, and J. S. Radcliffe, Purdue University, West Lafayette, IN.

Pre-exposure to Bacillus licheniformis reduces interleukin 8 response of swine intestinal epithelial cells to Salmonella enterica serovar Typhimurium. B. H. Godsey*, K. A. Skjolaas, and J. E. Minton, Kansas State University, Manhattan.


Effects of egg antibody products on performance of weanling pigs. F. Ji*, V. G. Perez¹, M. Steidinggar², and J. E. Pettigrew¹, ¹University of Illinois, Urbana, ²Swine Nutrition Services, Inc., Forrest, IL.

The effect of feeding pharmacological concentrations of zinc oxide on growth performance and fecal microflora of nursery pigs. L. M. Pulz* and M. S. Carlson, University of Missouri, Columbia.

Nonruminant Nutrition II
Swine Feedstuffs
Chair: Robert Payne, Degussa Feed Additives, Kennesaw, GA and John Patience, Prairie Swine Centre Inc., Saskatoon, Canada 142-144
8:45 AM 132 In vitro analysis to predict energy digestibility of cereals for grower pigs. R. T. Zijlstra*, M. N. Casano, J. H. Helm, L. Oatway, and E. Beltranena, 1University of Alberta, Edmonton, AB, 2Field Crop Development Centre, Lacombe, AB, 3Alberta Agriculture, Food and Rural Development, Edmonton, AB, Canada.

9:00 AM 133 Chemical characterization and digestible nutrient content of barley and oat starch ingredients derived via wet fractionation for grower pigs. I. R. Johnson, T. Vasanthan, F. Temelli, and R. T. Zijlstra*, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada.


9:30 AM 135 Effect of low-phytate barley or phytase supplementation to a barley-soybean meal diet on phosphorus excretion by grower pigs. J. Htoo*, W. Sauer, M. Cervantes, Y. Zhang, J. Helm, and R. Zijlstra, 1University of Alberta, Edmonton, AB, Canada, 2Universidad Autónoma de Baja California, Mexicali, México, 3Field Crop Development Centre, Lacombe, AB, Canada.

9:45 AM Break.

10:00 AM 82 Nutrient digestibility in growing pigs fed wheat-based diets supplemented with phytase and xylanase alone or in combination. T. A. Woyengo*, J. S. Sands, W. Guenter, and C. M. Nyachoti, 1University of Manitoba, Winnipeg, MB Canada, 2Danisco Animal Nutrition, Marlborough, UK.

10:15 AM 137 Xylanase and (or) phytase improves digestible nutrient content of reduced nutrient-specified diets containing wheat and millrun to levels similar to a positive control in grower pigs. T. Nortey*, J. Sands, and R. Zijlstra, 1Prairie Swine Centre, Saskatoon, Saskatchewan, Canada, 2University of Saskatchewan, Saskatoon, Saskatchewan, Canada, 3Danisco Animal Nutrition, Marlborough, UK, 4University of Alberta, Edmonton, Alberta, Canada.

10:30 AM 138 Effects of dietary supplementation of an enzyme blend on the fecal digestibility of nutrients for growing pigs. F. Ji*, D. Casper, P. Brown, D. Spangler, K. D. Haydon, and J. E. Pettigrew, 1University of Illinois, Urbana, 2Agri-King, Inc., Fulton, IL, 3Prince Agri Products, Quincy, IL.

10:45 AM 139 The effect of replacing dietary wheat with triticale on growth performance and nutrient digestibility of weaned pigs. F. Omogbenigun, R. Zijlstra, D. Salmon, and E. Beltranena, 1Alberta Agriculture, Food and Rural Development (AAFRD), Edmonton, AB, Canada, 2University of Alberta, Edmonton, AB, Canada, 3AAFRD, Lacombe, AB, Canada.

11:00 AM 140 Effect of adding water into the mixer on pellet quality of barley-oats-soy-based diets for finishing pigs. K. K. Lundblad*, J. D. Hancock, M. Sorensen, K. C. Behnke, E. Prestløkken, and L. J. McKinney, 1Felleskjøpet Førutvikling, Trondheim, Norway, 2Kansas State University, Manhattan, 3University of Life Sciences, Aas, Norway, 4AKVAFORSK, Aas, Norway.

**Odor and Nutrient Management I**  
Chair: Gretchen M. Hill, Michigan State University, East Lansing

### 11:30 AM 142
**Apparent digestible energy value of crude glycerol fed to pigs.**  
P. J. Lammers*, B. J. Kerr, T. E. Weber, W. A. Dozier III, M. T. Kidd, K. Bregendahl, and M. S. Honeyman, 1 Iowa State University, Ames, 2 USDA-ARS, Swine Odor and Manure Management Research Unit, Ames, IA, 3 USDA-ARS, Poultry Research Unit, Starkville, MS, 4 Mississippi State University, Starkville.

### 11:45 AM 215
**Site of activity within the digestive tract of growing pigs of an evolved E. coli-derived and a fungal-derived commercial phytase.**  
L. M. McGinnis*, M. R. Widmer, C. L. Wright, T. M. Parr, and H. H. Stein, 1 South Dakota State University, Brookings, 2 Syngenta Animal Nutrition, Research Triangle Park, NC, 3 University of Illinois, Urbana.

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### 8:00 AM 223
**Influence of dietary manipulation on DM, N, and P excretion of lactating sows.**  
J. Bundy*, S. Carter, M. Lachmann, S. Jenkins, and Z. Marable, Oklahoma State University, Stillwater.

### 8:15 AM 224
**Bacterial protein synthesis in the pig’s large intestine varies according to the fermented non-starch polysaccharides.**  
J. Bindelle, P. Leterme, J. P. Destain, R. Agneesens, and A. Buldgen, 1 Faculté Universitaire des Sciences agronomiques, Gembloux, Belgium, 2 Prairie Swine Centre Inc., Saskatoon, SK, Canada, 3 Centre Wallon de Recherches Agronomiques, Gembloux, Belgium, 4 Centre Wallon de Recherches agronomiques, Libramont, Belgium.

### 8:30 AM 225
**Soybean meal inclusion rate effects on odor, hydrogen sulfide and ammonia in commercial swine production units.**  

### 8:45 AM 98
**Effects of reduced dietary crude protein and P on DM, N, and P excretion of finisher pigs.**  

Reproductive responses by beef cows fed lipid supplements. B. W. Hess*, University of Wyoming, Laramie, WY.


Fat from corn coproducts and dairy cow performance. M. Abdelqader*, South Dakota State University, Brookings.

Heritability estimates for fatty acid quantity in Angus beef. R. Tait, Jr.*, S. Zhang1, T. Knight1, J. Minick Bormann2, D. Beitz1, and J. Reecy1, 1Iowa State University, Ames, 2Kansas State University, Manhattan.

Estimates of genetic parameters and genetic trends of Nellore cattle in Sao Paulo State, Brazil. J. C. Souza*1,2, L. Silva3, A. Gondo3, J. A. Freitas3, C. Malhado4, P. Filho5, J. Sereno6, R. L. Weaber7, and W. R. Lamberson7, 1Parana Federal Univ, Palotina, Brazil, 2CNPq, Brazil, 3CNPGC, Brazil, 4Bahia State University, Brazil, 5Mato Grosso do Sul Federal Brazil, Brazil, 6CPAC, Brazil, 7University of Missouri, Columbia.

Genetic parameter estimates of weights of crossbred beef cattle (European x Zebu) raised in Southern Brazil. J. C. Souza*1,4, D. Perotto2, J. J. Abrahao3, R. L. Weaver4, and W. R. Lamberson4, 1Parana Federal University, Palotina, Brazil, 2IAPAR/Polo de Curitiba, Brazil, 3IAPAR/Est. Exp. Paranavai, Brazil, 4University of Missouri, Columbia.

Evaluation of carcass EPD using single- vs. multi-trait analyses. J. M. Rumph*, W. R. Shafer2, and R. J. Lipsey2, 1Montana State University, Bozeman, 2American Simmental Association, Bozeman, MT.

Estimation of the effects of bovine respiratory disease treatments through the feedlot phase and the differences among sires of Angus cattle. M. Schneider*, R. Tait, and J. Reecy, Iowa State University, Ames.


Break.

Relationship of juvenile IGF-I with performance traits in lines selected for residual feed intake. K. L. Bunter1, W. Cai2, and J. C. M. Dekkers2, 1University of New England, Armidale, NSW, Australia, 2Iowa State University, Ames.
Estimation of genetic parameters in selected lines of swine using models with competition effects. C. Y. Chen*1, S. D. Kachman1, R. K. Johnson1, and L. D. Van Vleck1,2, 1University of Nebraska, Lincoln, 2ARS, USDA, U.S. Meat Animal Research Center, Clay Center, NE.


Carcass traits of 1980 vs. 2005 pigs when fed 1980 or 2005 feeding programs. J. S. Fix*, D. J. Hanson, E. van heugten, J. P. Cassady, and M. T. See, North Carolina State University, Raleigh.

Eating quality of pork loin chops from 1980 vs. 2005 pigs when fed 1980 or 2005 feeding programs. J. S. Fix*, D. J. Hanson, E. van heugten, J. P. Cassady, and M. T. See, North Carolina State University, Raleigh.

Logistic regression analysis to predict weaning-to-estrous interval in first-litter gilts. Y. Wang*1, T. H. Wise2, G. A. Rohrer2, K. J. Hanford1, and L. D. Van Vleck1,2, 1University of Nebraska, Lincoln, 2U.S. Meat Animal Research Center, Clay Center, NE.

Validation of flank-to-flank measurements for predicting boar weight. R. C. Sulabo*1, J. Quackenbush2, R. D. Goodband1, M. D. Tokach1, S. S. Dritz1, J. M. DeRouchey1, and J. L. Nelssen1, 1Kansas State University, Manhattan, 2Zoltenko Farms, Inc., Hardy, NE.

Teaching and Career Development
Undergraduate Teaching
Chair: Dan Moser, Kansas State University, Manhattan

Experiential learning model for value-added agricultural marketing. G. Onan* and B. Boetel, University of Wisconsin, River Falls.

Pork Industry Fellows program at Iowa State University. T. J. Baas*, M. G. Hogberg, and A. E. Christian, Iowa State University, Ames.

Roundtable Discussion: Assessment of Student Learning.

Breeding and Genetics II
Molecular and Quantitative Genetics
Chair: Eric Antoniou, University of Missouri, Columbia

Sponsored by: GeneSeek, Inc.

Effects of population structure on power and precision of regression-based linkage disequilibrium mapping of QTL. H. H. Zhao*, R. L. Fernando, and J. C. M. Dekkers, Iowa State University, Ames.

The effect of heritability estimates on high-density SNP analyses with related animals. A. Hassen*1, S. Avendano3, S. J. Lamont1, W. G. Hill2, and
Associations of candidate SNP on age, leptin concentration, backfat, and body weight at puberty in gilts. L. A. Kuehn*, D. J. Nonneman¹, Z. Jiang², K. A. Leymaster¹, and T. H. Wisé¹, ¹USDA-ARS U.S. Meat Animal Research Center, Clay Center, NE, ²Washington State University, Pullman.


An A-optimal statistical design for post-hybridization washing procedures in Affymetrix microarray experiments. L. Qu*, D. Nettleton, and J. C. M. Dekkers, Iowa State University, Ames.

Correspondence of relationships between breeding lines based on marker allele frequencies and marker-marker linkage disequilibrium. C. Andreescu*, J. H. Ralph², A. Hassen¹, S. J. Lamont¹, and J. C. M. Dekkers¹, ¹Iowa State University, Ames, ²Aviagen Ltd., Newbridge, Edinburgh, UK.
Growth and Development, Muscle Biology and Meat Science I
Pork Quality: Integrating Biology to Carcass Value and Consumer Demand Symposium
Chair: Ann Waylan Brackenridge, Cargill Meat Solutions, Wichita, KS
205IJ

1:00 PM    107  (Invited) Selection for intramuscular fat in Duroc swine. T. J. Baas* and C. R. Schwab, Iowa State University, Ames.


3:00 PM  Open Discussion.

Nonruminant Nutrition III
Grow-Finish Swine Nutrition
Chair: Mike Brumm, Brumm Swine Consultancy, Inc., Mankato, MN, and Chad Hagen, Christensen Farms, Sleepy Eye, MN
136-138
Sponsored by: National Pork Board

1:00 PM    143  Ames assay, mouse lymphoma assay, and mouse micronucleus assay confirm chromium propionate to be non-genotoxic. V. J. H. Sewalt*1, M. Mecchi2, M. Cifone2, Y. Xu2, and K. Krafka1, 1Kemin Industries, Des Moines, IA, 2CoVance Laboratories, Vienna, VA.


1:30 PM    145  A surgical model for the kinetics and quantification of nutrient absorption in swine and its application in carbohydrate metabolism. S. Hooda*1, J. J. Matte1, T. Vasanthan1, and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, 2Agriculture and Agri-Food Canada, Sherbrooke (Lennoxville), QC, Canada.


2:00 PM    147  Effects of the dietary phosphorus concentration on phosphorus digestibility in monocalcium phosphate. H. H. Stein*1, C. T. Kadzere2, S. W. Kim3, P. S. Miller4, and J. T. Yen5, 1University of Illinois, Urbana, 2North Carolina A&T, Greensboro, NC, 3Texas Tech University, Lubbock, 4University of Nebraska, Lincoln, 5Meat Animal Research Center, Clay Center, NE.

Effects of withdrawing ractopamine HCl 10 days prior to slaughter on growth and carcass performance of pigs. M. E. Johnston*1, R. D. Boyd1, and C. E. Fralick2, 1Hanor Company of Wisconsin, LLC, Franklin, KY, 2Swine Tek Research and Consulting, Van Wert, OH.

Response to feeding 5 ppm ractopamine to finisher swine: Weekly and overall performance and carcass quality. J. Patience*1, A. Beaulieu1, P. Letterme1, Z. Pietrasik2, P. Shand2, and J. Merrill3, 1Prairie Swine Centre Inc., Saskatoon, SK Canada, 2University of Saskatchewan, Saskatoon, SK Canada, 3Elanco Animal Health, Guelph, ON Canada.

Response to feeding 5 ppm ractopamine to finisher swine: Pork quality. Z. Pietrasik1, P. Shand1, D. Beaulieu*2, P. Letterme2, J. Merrill3, and J. Patience2, 1University of Saskatchewan, Saskatoon, SK Canada, 2Prairie Swine Centre Inc., Saskatoon, SK Canada, 3Elanco Animal Health, Guelph, ON Canada.

Growth and carcass response to dietary fat for modern lean pigs. M. E. Johnston, R. D. Boyd*, and M. McGrath, Hanor Company of Wisconsin LLC, Franklin, KY.


Effect of water suspendible natural vitamin E and SelenoSourceAF™ on finishing swine. T. E. Shipp1, J. C. Sparks*1, D. A. Hill1, H. Yang1, M. A. Engstrom2, K. Larson2, G. Gourley3, and D. C. Mahan4, 1ADM Animal Nutrition, Quincy, IL, 2Diamond V Mills, Cedar Rapids, IA, 3Swine Graphics Enterprises, Webster City, IA, 4The Ohio State University, Columbus.

Physiology I
Recent Advances in Our Understanding of Oocyte Quality
Chair: Robert Cushman, USDA-ARS U.S. Meat Animal Research Center, Clay Center, NE
204FG
Sponsored by: USDA, ARS

1:40 PM 231 (Invited) Elucidating the mechanisms involved in oocyte quality by examining gene expression. R. L. Krisher*, Purdue University, West Lafayette, IN.


Ruminant Nutrition III
Feedlot Co-product Utilization
Chair: Scott Lake, Purdue University, West Lafayette, IN
146

1:00 PM 277 Effects of increasing level of distiller’s dried grains plus solubles for steers fed moderate-quality forage. J. L. Leupp*, G. P. Lardy, and J. S. Caton, North Dakota State University, Fargo.


1:30 PM 279 Effects of distillers grains composition and level on performance of steers consuming high quality forage. M. Corrigan*1, T. Klopfenstein1, G. Erickson1, K. Vander Pol1, M. Greenquist1, M. Luebbe1, K. Karges2, and M. Gibson2, 1University of Nebraska, Lincoln, 2Dakota Gold Research, Sioux Falls, SD.

1:45 PM 280 Ruminal methane production is differentially affected following replacement of dietary forage or concentrate with dried distillers grains plus solubles. E. J. Behlke*, T. G. Sanderson, T. J. Klopfenstein, and J. L. Miner, University of Nebraska, Lincoln.

2:00 PM 281 Effects of corn processing method and wet distillers grains with solubles inclusion level in finishing steer diets. M. Corrigan*, G. Erickson, T. J. Klopfenstein, K. Vander Pol, M. Greenquist, and M. Luebbe, University of Nebraska, Lincoln.


2:30 PM Break.

2:45 PM 283 The effect of field pea inclusion in high concentrate diets for steers on intake and digestibility. B. A. Stoltenow*1, G. P. Lardy1, T. C. Gilbery1, V. L. Anderson2, and M. L. Bauer1, 1North Dakota State University, Fargo, 2Carrington Research Extension Center, NDSU, Carrington, ND.

3:00 PM 284 Characterization of a modified dry distillers byproduct and dry distillers grains for use in growing beef cattle. C. D. Buckner*1, T. J. Klopfenstein1, G. E. Erickson1, K. J. Vander Pol1, K. K. Karges2, and M. L. Gibson2, 1University of Nebraska, Lincoln, 2Dakota Gold Marketing, Sioux Falls, SD.

3:15 PM 285 Distillers byproducts alters carcass fat distribution of feedlot cattle. C. D. Reinhardt*1, A. DiCostanzo2, and G. Milliken1, 1Kansas State University, Manhattan, 2University of Minnesota, St. Paul.

3:45 PM 88  Optimum levels of dry distillers grains with solubles for finishing steers. C. D. Buckner*, T. L. Mader¹, G. E. Erickson¹, S. Colgan¹, K. K. Karges², and M. L. Gibson², ¹University of Nebraska, Lincoln, ²Dakota Gold Marketing, Sioux Falls, SD.

4:00 PM 105  Effects of roughage source and level in finishing diets containing wet distillers grains on feedlot performance. J. R. Benton*, G. E. Erickson, T. J. Klopfenstein, K. J. VanderPol, and M. A. Greenquist, University of Nebraska, Lincoln.

4:15 PM 289  Efficacy of feed additives in flaked corn finishing diets with and without corn wet distiller’s grains with solubles. B. E. Depenbusch*, E. R. Loe, M. E. Corrigan, M. J. Quinn, and J. S. Drouillard, Kansas State University, Manhattan, KS.

Animal Behavior, Housing, Well Being II  
Chair: Anna Johnson, Iowa State University, Ames  
204C


1:45 PM 86  Correlation of measures of disposition with gain performance of steers. F. E. Creason* and R. L. Weaber, University of Missouri, Columbia.

2:00 PM 3  Environmental factors affecting water intake in steers finished in feedlots. R. A. Arias*¹ and T. L. Mader², ¹Universidad Catolica de Temuco, Temuco, Chile, ²University of Nebraska, Lincoln.


2:30 PM 5  Characterization of sow longevity and the developmental factors that influence it. M. Hoge*¹ and R. Batcs², ¹Western Illinois University, Macomb, ²Michigan State University, East Lansing.

2:45 PM 6  Association of lactation feed intake with sow longevity. L. Anil, S. S. Anil*, and J. Deen, University of Minnesota, St Paul.

3:00 PM 7  Effect of parity advancement on the severity of claw lesions in breeding sows. S. S. Anil*, L. Anil, and J. Deen, University of Minnesota, St Paul.

Nonruminant Nutrition IV  
Nursery Pig Nutrition II  
Chair: Steve Dritz, Kansas State University, Manhattan  
142-144  
Sponsored by: Kent Feeds, Inc.

1:30 PM 156  Effects of weaning age on growth performance, nutrient digestibility and integrity of small intestine in pigs. K. H. Cho*¹, W. S. Ju², H. K. Oh², H. B. Choi², S. K Jang², and Y. Y. Kim², ¹TS Corporation, Incheon, Korea, ²Seoul National University, Seoul, Korea.

Effects of a liquid (Neolac) and dry feed combination fed in varying durations on weanling pig performance. R. C. Sulabo*1, C. N. Groesbeck1, J. M. Benz2, R. D. Goodband1, M. D. Tokach1, S. S. Dritz1, J. M. DeRouchey1, J. L. Nelssen1, and D. McKilligan2, 1Kansas State University, Manhattan, 2TechMix Inc., Stewart, MN.


Use of spray-dried red blood cells and isoleucine supplementation in pig starter diets. R. B. Hinson*1, G. L. Allee1, and J. D. Crenshaw2, 1University of Missouri, Columbia, 2APC Inc., Ankeny, IA.


Variation in maize particle size and pelleting in a Maillard Reaction Product containing complementary feedingstuff on the performance of post weaning piglets. M. J. Hutchinson*1,3, M. E. E. McCann1,2, and V. Beattie3, 1Queens University Belfast, Belfast, Down, Northern Ireland, 2Agri-Food and Biosciences Institute, Belfast, Down, Northern Ireland, 3Devenish Nutrition Limited, Belfast, Down, Northern Ireland.

The effect of complementary feedingstuffs formulated using Maillard reaction products (MRP) solution on the performance of post weaning piglets. M. J. Hutchinson*1,3, M. E. E. McCann1,2, and V. Beattie3, 1Queens University Belfast, Belfast, Down, Northern Ireland, 2Agri-Food and Biosciences Institute, Belfast, Down, Northern Ireland, 3Devenish Nutrition Limited, Belfast, Down, Northern Ireland.

Effects of added natural and synthetic vitamin E in the drinking water of weanling pigs. E. Wilburn*1, D. Mahan1, D. Hill2, and H. Yang2, 1The Ohio State University, Columbus, 2ADM Alliance Nutrition, Quincy, IL.

Ruminant Nutrition IV
Fat and Fatty Acid Supplementation
Chair: Alvaro Garcia, South Dakota State University, Brookings

Milk cis-9, trans-11 CLA and omega-3 fatty acids response to linseed oil and fish oil supplementation when dairy cows managed under confinement or grazing system. L. D. Holmes* and A. A. AbuGhazaleh, Southern Illinois University, Carbondale, IL.

Influence of linoleic and high-oleic acid sunflower oil on site and extent of organic matter and fatty acid digestion in steers fed high-grain diets. E. R. Loc*1, J. S. Drouillard2, B. E. Depenbusch2, M. J. Quinn2, A. S. Webb2,
2:00 PM  273  Effect of supplemental fat from dried distillers grains with solubles or corn oil on cow performance, IGF–1, GH, and NEFA concentrations. A. Bartosh*, C. Wright, A. Wertz-Lutz, and G. Perry, South Dakota State University, Brookings.

2:15 PM  274  Effect of CRINA RUMINANTS AF, a mixture of essential oil compounds, on ruminal fermentation and digestibility. N. F. Meyer*, G. E. Erickson, T. J. Klopfenstein, P. Williams, and R. Losa, University of Nebraska, Lincoln, DSM Nutritional Products, Inc., Parsippany, NJ, CRINA SA, Gland, Switzerland.

2:30 PM  84  Conjugated linoleic acid (CLA) in milk increases in cows fed condensed corn distillers solubles and fish oil. M. Bharathan*, D. J. Schingoethe, A. R. Hippen, and K. F. Kalscheur, South Dakota State University, Brookings.


Swine Extension
Chair: Marcia Shannon, University of Missouri, Columbia

Sponsored by: Pig Improvement Company


3:45 PM  321  Determination of diurnal feed intake pattern of multiparous lactating sows when fed ad libitum. R. E. Howdyshell*, D. C. Mahan, and D. G. Levis, The Ohio State University, Columbus, Southeast Research and Extension Center, University of Nebraska, Ithaca, NE.


Physiology II
Basic and Applied Advances in Reproductive Technologies
Chair: Carolyn Komar, Iowa State University, Ames
204FG


3:45 PM 83 In vitro maturation of porcine oocytes in two defined media with and without gonadotropins. J. L. Lowe* and R. L. Krisher, Purdue University, West Lafayette, IN.

4:00 PM 235 Characterization of mRNA expression for the endothelial differentiation G-protein-coupled (EDG) receptors in porcine endometrial tissue during the pre-implantation period of pregnancy. J. Miles* and J. Vallet, USDA, ARS, US Meat Animal Research Center, Clay Center, NE.


5:00 PM 87 Effects of immunization against two inhibin antigens on hormone concentrations and daily sperm production (DSP) in ram lambs. J. L Voge* and J. E Wheaton, University of Minnesota, St. Paul.

Growth and Development, Muscle Biology and Meat Science II
Chair: Dan Nonneman, USDA-MARC, Clay Center, NE
205IJ


3:45 PM 112 Distillers dried grains decreases bacon lean and increases fat iodine values (IV) and the ratio of N6:N3 but conjugated linoleic acids partially recovers fat quality. H. White*, B. Richert, S. Radcliffé, A. Schinkel, and M. Latour, Purdue University, West Lafayette, IN.

4:00 PM 113 Effects of aging on tenderness and moisture loss of several enhanced muscles from steers. S. Hutchison*, J. A. Unruh, T. T. Marston, M. C. Hunt, and J. J. Higgins, Kansas State University, Manhattan.


4:30 PM 103 Use of digital images to compare color in beef. R. Larraín*, D. Schaefer, and J. Reed, University of Wisconsin, Madison.
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 days from 4:30 PM to 6:00 PM.

**Breeding and Genetics - Posters**  
**Chair: Ken Stalder, Iowa State University, Ames**  
**Exhibit Hall**

54 Genotype by environment interaction measured by reaction norms for Angus bulls in Brazil. E.A. Maricle*1, J.C. Souza2,3, L.T. Campos2, R.L. Weaber1, and W.R. Lamberson1, 1University of Missouri-Columbia, Columbia, Mo USA, 2Parana Federal University, Brazil, 3Scholarship of CNPq, Brazil.

55 Segregation of a molecular marker in the TRPC1 gene and its association with growth and carcass traits in beef cattle. J. Bosques*1, M. Pagan1, E. Casas2, D. Cianzio1, and A. Casas1, 1University of Puerto Rico at Mayagüez, Mayagüez, Puerto Rico, 2USDA-ARS, Roman L. Hurska Meat Animal Research Center, Clay Center, NE.

56 Genetic relationships between swine maternal traits in different seasons. M.T. Knauer* and M.T. Sec, North Carolina State University, Raleigh.


58 Principal components for indirect measures of feeding behavior in pigs. J. Young*1, D. Casey2, T. See1, and J. Cassady1, 1North Carolina State University, Raleigh, 2PIC, Hendersonville, TN.

59 Heritabilities of indirect measures of behavior and their relationships with performance. B. Velic, E. Johnson*, and J. Cassady, North Carolina State University, Raleigh.

60 Heritability of the backtest in pigs. K. Gray*, B. Velic, and J. Cassady, North Carolina State University, Raleigh.

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**Dairy Extension - Posters**  
**Chair: Spence Driver, Vita Plus Corp, Iola, WI**  
**Exhibit Hall**

73 Direct measure of the depression between Ischial tuber (hook) and Coxae tuber (pin), as an alternative to change in body condition score in assessing body tissue mobilization. M. J. Daehnert*, N. E. Lobos, R. R. Rastani, and M. A. Wattiaux, University of Wisconsin, Madison.

Nonruminant Nutrition - Posters
Grow-Finish Swine Nutrition
Exhibit Hall

206 Interaction between the palatabilities of cereal and protein source in diets for pigs. D Solà-Oriol1, E Roura*2, and D Torrallardona1, 1IRTA, Mas de Bover, Constantí, Spain, 2Lucta SA, Barcelona, Spain.


208 The effect of two versus six meals per day on performance of developing pigs being restricted in feed intake. J. D. Schneider*, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. L. Nelssen, and J. M. DeRouchey, Kansas State University, Manhattan.

209 Energy digestibility and DE content of co-extruded flax and pea for grower pigs. J. K. Htoo*1, X. Meng2, J. F. Patience3, and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, 2Alberta Agriculture, Food and Rural Development, Brooks, AB, 3Prairie Swine Centre Inc. Saskatoon, SK, Canada.

210 Inclusion of yellow, field peas in nursery pig diets to improve growth performance. K. R. Blubaugh*1, A. L. Meteer1, B. R. Wiegand1, G. I. Peterson2, J. D. Spencer2, and J. R. Winter1, 1Illinois State University, Normal, 2JBSUnited, Inc., Sheridan, IN.

211 Response of pigs in the weight range 34 to 61 kg to Threonine:Lysine ratio in the diet. M. K. O’Connell*1, P. B. Lynch1, and M. Overend2, 1Pig Production Development Unit, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, 2Forum Products Ltd., Redhill Surrey, England.

212 Response of pigs in the weight range 80 to 100 kg to threonine:lysine ratio in the diet. M. K. O’Connell*1, P. B. Lynch1, and M. Overend2, 1Pig Production Development Unit, Teagasc Moorepark, Fermoy, Co. Cork, Ireland, 2Forum Products Ltd., Redhill Surrey, England.


214 Effects of dietary supplementation of an enzyme blend on apparent and standardized ileal digestibility of nutrients for growing pigs. F. Ji*1, D. Casper2, P. Brown2, D. Spangler2, K. D. Haydon3, and J. E. Pettigrew1, 1University of Illinois, Urbana, 2Agri-King, Inc., Fulton, IL, 3Prince Agri Products, Quincy, IL.

215 Effects of feeding an evolved E.coli-derived phytase to weanling and growing pigs. L. M. McGinnis*1, M. R. Widmer1, C. L. Wright1, T. M. Parr2, and H. H. Stein3, 1South Dakota State University, Brookings, 2Syngenta Animal Nutrition, Research Triangle Park, NC, 3University of Illinois, Urbana.

A spreadsheet method for experimental animal allotment. B. G. Kim* and M. D. Lindemann, University of Kentucky, Lexington.

Effect of feeding corn-soybean meal diets containing 10% corn dried distillers grains with solubles (DDGS) on pork fat quality of growing-finishing pigs under commercial production conditions. G. Xu*, G. C. Shurson, E. Hubly, B. Miller, and B. de Rodas, University of Minnesota, St. Paul, Land O’lakes/Purina Feed.

Determination of P bioavailability in corn and sorghum distillers dried grains with solubles for growing pigs. S. Jenkin*, S. Carter, J. Bundy, M. Lachmann, J. Hancock, and N. Cole, Oklahoma State University, Stillwater, Kansas State University, Manhattan, USDA/ARS.


Ruminant Nutrition - Posters
Exhibit Hall

Effect of low vitamin A diets with high-moisture- or dry- corn on marbling of beef steers. M. Gorocica-Buenfil, F. Fluharty, T. Bohn, P. Tirabasso, G. Lowe, and S. Loerch*, The Ohio State University, Wooster.


The effect of feeding milk replacer with psyllium or whole milk on calf growth and health. T. J. Earleywine*, T. E. Johnson, H. B. Perry, and B. L. Miller, Land O’Lakes, Inc., Webster City, IA.


In situ ruminal phosphorus availability from corn and soybean feedstuffs. K. MJOUN*, K.F. KALSCHEUR, D. J. SCHINGOETHE, and A.R. HIPPEN, SDSU, Brookings, SD, USA.


In vitro examination of rumen biohydrogenation (BH) of four dietary fats. M. Carriquiry*, W. J. Weber1, L. H. Baumgard2, and B. A. Crooker1, 1University of Minnesota, St. Paul, 2University of Arizona, Tucson.


Plasma ghrelin and GH concentrations are elevated with long-term feed intake restriction that results in BW change. A. E. Wertz-Lutz*1, J. A. Clapper1, D. C. Beitz2, and A. Trenkle2, 1South Dakota State University, Brookings, 2Iowa State University, Ames.

Net energy in finishing diets for steers containing corn or high tannin sorghum. R. Larrain*, D. Schaefer, and J. Reed, University of Wisconsin, Madison.

Evaluation of a diet containing mustard bran for lactating dairy cows. H. A. Maiga*, C. Dahlen2, P. Nester3, M. L. Bauer3, and M. Badaruddin4, 1University of Minnesota, Crookston, 2Northwest Research and Outreach Center, Crookston, MN, 3North Dakota State University, Fargo, 4Minn-Dak Growers, Ltd., Grand Forks, ND.


Response of yearling Holstein steers to ractopamine hydrochloride. J. W. Lohmkuhler* and M. Ramos, University of Wisconsin, Madison.

Performance and carcass effects of increasing dietary fat in finishing diets containing no roughage. D. O. Alkire* and M. S. Kerley, University of Missouri, Columbia.

The effects of natural source vitamin E supplementation on reproductive efficiency in beef cows. M. J. Richardson*, S. L. Lake1, R. P. Lemenager1, N. Pyatt3, and M. Hilton1, 1Purdue University, West Lafayette, IN, 2ADM Animal Nutrition Research, Decatur, IN.

Effects of natural vs. conventional feedlot protocol on performance and carcass characteristics in beef heifers. P. J. Gunn*, S. L. Lake, K. Hendrix, and D. Lofgren, Purdue University, West Lafayette, IN.

Production responses of dairy cows fed wet distillers grains during the transition period and early lactation. G. S. Mpapho*, A. R. Hippen, K. F. Kalscheur, and D. J. Schingoethe, South Dakota State University, Brookings, SD, USA.

Effect of source of selenium and vitamin E supplementation on performance and immune response in young dairy calves. M. Mahmoud*, L. Braun1, A. Hippen1, C. Chase1, and A. Harrison2, 1South Dakota State University, Brookings, 2Alltech, Inc., USA.

In vitro release of ammonia nitrogen from various nitrogen sources in batch culture. N. DiLorenzo* and A. DiCostanzo, University of Minnesota, St. Paul.
Relationships among ewe body condition scores, lamb vigor, colostral quality, milk composition and reproductive performance. K. J. Rozeboom, B. D. Neale, and C. S. Darroch*, University of Tennessee, Martin.

Effects of growth hormone at breeding on the offspring’s insulin-like growth factor-I (IGF-I) response to growth hormone releasing hormone challenge. J. M. Koch*, C. O. Lemley, and M. E. Wilson, West Virginia University, Morgantown, WV, United States.

Wednesday, March 21
SYMPOSIA AND ORAL SESSIONS

Dairy Extension II
Dairy Session
Chair: Spence Driver, Vita Plus Corp, Iola, WI

9:00 AM 67 Best management decisions about the use of co-products from production of ethanol, bio-diesel, or human foods for managers of beef or dairy farms in Indiana. T. Johnson*, M. Schutz, K. Ileleji, K. Foster, and B. Joren, Purdue University, West Lafayette, IN.


9:30 AM 69 (Invited Young Scholar) Statistical analysis of the effect of bovine somatotropin on reproduction and calving ease in commercial Holstein herds. M. Geha1, J. F. Keown1, and L. D. Van Vleck1,2, 1University of Nebraska, Lincoln, 2U.S. Meat Animal Research Center, Clay Center, NE.

10:00 AM 70 Comparison of reticular and rectal core-body temperatures in lactating dairy cows. J. M. Bewley*, M. W. Grott1, D. C. Batson2, and M. M. Schutz1, Purdue University, West Lafayette, IN, 2MaGiX Inc., Post Falls, ID.

10:15 AM 71 (Invited Young Scholar) Animal identification on the farm: Past, present, and future. E. D. Reid*, University of Illinois, Urbana.

10:45 AM 72 (Invited Young Scholar) The fire within: Does inflammation contribute to periparturient metabolic dysfunction? N. A. Janovick-Guretzky* and J. K. Drackley, University of Illinois, Urbana.
Digestible energy content of corn- vs sorghum-based distillers dried grains with solubles in finishing pigs. C. Feoli*, J. D. Hancock¹, C. Monge¹, T. L. Gugle¹, S. D. Carter², and N. A. Cole³, ¹Kansas State University, Manhattan, ²Oklahoma State University, Stillwater, ³USDA/ARS, Bushland, TX.

Effects of corn- and sorghum-based distillers dried grains with solubles on growth performance and carcass characteristics in finishing pigs. C. Feoli¹, J. D. Hancock¹, C. Monge¹, T. L. Gugle¹, S. D. Carter², and N. A. Cole³, ¹Kansas State University, Manhattan, ²Oklahoma State University, Stillwater, ³USDA/ARS, Bushland, TX.


Use of corn distillers dried grains with solubles (DDGS) in finishing pigs. A. M. Gaines, G. I. Petersen*, J. D. Spencer, and N. R. Augspurger, JBS United, Inc., Sheridan, IN.

Evaluation of different strategies for supplementing distiller’s dried grains with solubles (DDGS) to nursery pig diets. J. D. Spencer*, G. I. Petersen, A. M. Gaines, and N. R. Augspurger, JBS United, Inc., Sheridan, IN.

Effects of adding increasing levels of corn dried distillers grains with solubles (DDGS) to corn-soybean meal diets on growth performance and pork quality of growing-finishing pigs. G. Xu¹, S. K. Baidoo¹, L. J. Johnston¹, J. E. Cannon², and G. C. Shurson¹, ¹University of Minnesota, St. Paul, ²Hormel Foods.

Prediction of in vivo amino acid digestibility in dried distillers grains with solubles (DDGS) from crude protein, optical density and fluorescence. P. E. Urriola¹, D. Hoehler², C. Pedersen³, H. H. Stein⁴, L. J. Johnston¹, and G. C. Shurson¹, ¹University of Minnesota, St. Paul, ²Degussa Corporation, Kennesaw, GA, ³Danisco Animal Nutrition, Marlborough, UK, ⁴University of Illinois, Urbana.

9:00 AM 173 Determining the accuracy of gestation feed drops. J. D. Schneider*, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. L. Nelssen, and J. M. DeRouchey, Kansas State University, Manhattan, KS.


9:30 AM 175 Evaluation of crystalline amino acid supplementation and feeding frequency in gestating sows. P. Srichana*1, A. M. Gaines1, J. L. Usry2, R. D. Boyd3, and G. L. Allee1, 1University of Missouri, Columbia, 2Ajinomoto Heartland LLC, Chicago, IL, 3The Hanor Company, Inc., Franklin, KY.


10:00 AM 177 Effect of prepartum feeding of 1,3-butanediol on subsequent pig and sow productivity. T. S. Stahly*, C. H. Stahl, and J. B. Zamzow, Iowa State University, Ames.

10:15 AM Break.

10:30 AM 178 Effect of n-3 fatty acids and high protein supplementation on gestation and lactation performance of first parity sows. R. D. Mateo*1, Y. Hyun2, and S. W. Kim1, 1Texas Tech University, Lubbock, 2Dodram B&F, Seoul, Korea.

10:45 AM 179 Effects of omega-3 fatty acid supplementation to gestation and lactation diets on the expression of immune related genes in white blood cells of lactating sows. R. D. Mateo*1, S. E. Dowd2, J. A. Carroll2, Y. Hyun3, and S. W. Kim1, 1Texas Tech University, Lubbock, 2USDA-ARS-LIRU, Lubbock, TX, 3Dodram B&F, Seoul, Korea.

11:00 AM 180 Lysine requirement of lactating primiparous sows. P. Srichana*1, J. L. Usry2, C. D. Knight3, L. Greiner4, and G. L. Allee1, 1University of Missouri, Columbia, 2Ajinomoto Heartland LLC, Chicago, IL, 3Novus International, Inc., St. Charles, MO, 4Innovative Sow Solutions LLC, Carthage, IL.

11:15 AM 181 Effects of adding spray dried plasma protein (Appetein) on sow productivity during lactation. E. D. Frugé*1, M. L. Roux1, R. D. Lirette1, T. D. Bidner1, L. L. Southern1, and J. D. Crenshaw2, 1LSU Agricultural Center, Baton Rouge, LA, 2APC Inc., Ankeny, IA.

Lactation feed intake and postweaning estrus of sows fed spray-dried plasma. J. Crenshaw*1, D. Boyd2, J. Campbell1, L. Russell1, R. Moser3, and M. Wilson3, 1APC Incorporated, Ankeny, IA, 2The Hanor Company Incorporated, Franklin, KY, 3JBS United Incorporated, Sheridan, IN.

**Odor and Nutrient Management II**

**Beef Extension II**

NCERA-087: Beef Cow-Calf Nutrition and Management Committee

Cow-Calf Management Effects on Water Quality

Chair: Cody Wright, South Dakota State University, Brookings

204FG

9:00 AM 227 (Invited) Water Quality Concerns in EPA Region 7 Streams Lakes and Streams. B. Horchem*, Region 7 Environmental Protection Agency, Kansas City, Kansas.


10:00 AM 229 (Invited) Methods to Evaluate Cow Effects on Stream Water Quality in Western Rangelands. T. DelCurto, Oregon State University, Union.

10:40 AM 229 (Invited) Grazing and nutritional management of beef cows to limit non-point source pollution of streams in Midwestern pastures. J Russell* and M Haan, Iowa State University, Ames, IA.

11:20 AM 229 (Invited) Managing Cow Feeding Sites to Maintain Surface Water Quality. J. DeRouchey, Kansas State University, Manhattan.

**Physiology III**

Nutritional Influences on Reproductive Physiology

Chair: George Perry, South Dakota State University, Brookings

205IJ

9:00 AM 240 Effects of dam winter grazing system and protein supplementation on progeny performance. J. L. Martin*, D. C. Adams, and R. N. Funston, University of Nebraska West Central Research and Extension Center, North Platte, NE.

9:15 AM 241 Effect of wintering system and level of nutrition around the time of breeding on gain and reproduction in beef heifers. D. M. Larson* and R. N. Funston, University of Nebraska, West Central Research and Extension Center, North Platte, NE.

9:30 AM 242 Reproductive performance, blood urea nitrogen, and blood glucose concentration in beef heifers grazing annual ryegrass in the spring and supplemented at different intervals prior to timed AI. D. Kreider*1, K. Coffey1, J. Caldwell1, W. Coblentz1, T. Montgomery3, W. Whitworth3, R. McNew1, and R. Ogden2, 1University of Arkansas, Fayetteville, 2USDA-ARS, Marshfield, WI, 3University of Arkansas SE Research and Extension Center, Monticello.


Effects of maternal nutrition on fetal liver glycogen content in sheep. T. Tedrow*, R. Weigl, J. S. Caton, D. A. Redmer, L. P. Reynolds, and K. A. Vonnahme, North Dakota State University, Fargo, ND.


Ruminant Nutrition V
Pasture & Forages
Chair: Eugene Felton, West Virginia University, Morgantown
204AB


Performance by spring-calving cows grazing tall fescue pastures with either the wild-type toxic endophyte or a non-toxic novel endophyte. K. P. Coffey, W. K. Coblentz, R. K. Ogden, J. D. Caldwell, D. H. Hubbell, T. W. Hess, L. J. Martin, C. P. West, M. S. Akins, Z. B. Johnson, and C. F. Rosenkrans, Jr., University of Arkansas, Fayetteville, USDA-ARS, Marshfield, WI.

The quality of smooth bromegrass in monoculture pastures before and after grazing by yearling steers. L. B. Baleseng*, M. A. Greenquist, K. J. Vander Pol, T. J. Klopfenstein, W. H. Schacht, and G. E. Erickson, University of Nebraska, Lincoln.

Growth performance by fall-calving cows grazing stockpiled tall fescue pastures with different proportions stockpiled until late fall. J. D. Caldwell, K. P. Coffey, W. K. Coblentz, R. K. Ogden, J. A. Jennings, T.

**Beef Extension III**
**Chair: Jeff Pastoor, Land O'Lakes Purina Feed LLC, Sully, IA**
**204AB**

10:45 AM 21 Factors influencing price of North Dakota feeder calves. J. L. Leupp*, G. P. Lardy¹, K. L. Haadem¹, K. R. Maddock-Carlin¹, W. W. Dvorak², K. J. Froelich³, J. R. Kramlich⁴, G. L. Payne⁵, L. K. Hansen-Lardy⁶, and K. G. Odde⁷, ¹North Dakota State University, Fargo, ²West River Consulting, Dickinson, ND, ³Stark County Extension Office, Dickinson, ND, ⁴Logan County Extension Office, Napoleon, ND, ⁵Kidder County Extension Office, Steele, ND.

11:00 AM 22 Effect of sorting feedlot cattle at re-implant using ultrasound and computer technology to predict carcass value. A. J. Garmyn* and D. W. Moser, Kansas State University, Manhattan.

11:15 AM 23 Comparison of yearling steers sorted into heavy, medium, and light weight groups at feedlot entry. W. A. Griffin*, J. D. Folmer, T. J. Klopfenstein, and G. E. Erickson, University of Nebraska, Lincoln.

PROGRAM COMMITTEES

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

Breeding and Genetics
Ken Stalder, Chair
Joseph Cassady
Eric Antoniou

Extension - Beef
Jeff Pastoor, chair
Cody Wright
Galen Erickson

Extension - Swine
Marcia Carlson Shannon, Chair
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Spence Driver, Chair
J.W. Schroeder
Dave Fischer

Growth, Development, Muscle Biology, and Meat Science
Brad Johnson, Chair
Ann Waylan Brackenridge
Dan Nonneman

Nonruminant Nutrition
Daniel Nelson, Chair
Steve Dritz
John F. Patience

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Jeff Lehmkuhler, Chair
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Dan Moser, Chair
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Career Fair
Emily Otto-Tice, Chair
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Mike Spurlock

David H. Baker Symposium
Mike Edmonds, Chair
Kevin Halpin
Gail Czarnecki-Maulden
Lee Southern

Billy Day Symposium
Duane Davis, Co-Chair
Ronald Christenson, Co-Chair
William R. Lamberson

SPECIAL COMMITTEES

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Deana L. Hancock
Alan Grant
Jerry Shurson

ADSA Nominations
Patrick Hoffman
Leo Timms
David Combs
Academic Quadrathlon
Gary Onan, Chair
John Tembei
Carolyn Komar
Tony Seykora
Kim Vonnahomie
Matt Wilson
Georgia Younglove
Paul Kuber
Aimee Wertz-Lutz
Eric Berg

COMPETITIVE RESEARCH PAPER COMMITTEES

Graduate Student
Andrea Cupp, Chair
Darrel Kesler
Matt Wilson
Don Mahan
Ellen Davis
Dari Brown

Undergraduate
Steven Loerch, Chair
Ron Bates
Gretchen Hill
Amer AbuGhazaleh
Mike Fowler

Graduate Student Poster Competition
Leo Timms, Chair
Sam Baidoo
Paul Walker

YOUNG ANIMAL / DAIRY SCIENCE LEADERS
AWARDS COMMITTEES

Extension Award
Cindie Luhman, Chair
Steve Moeller
Kenneth J. Stalder
Thomas Drendel
Ron Bates
**Research Award**
Steven Lonergan, Chair  
Catherine Ernst  
Elisabeth Huff-Lonergan  
Tom Earleywine  
Andrea Cupp  
John Killefer

**Teaching Award**
Alvaro García, Chair  
Miriam Weber-Nielsen  
Don Beitz  
Brian D. Nielsen  
Steve Jones  
Brian Reiling

**Agribusiness**
Kenneth Kalscheur, Chair  
Doug Webel  
Thomas A. Rathje  
Roger Cady  
Tom Sauber

**National Pork Board Swine Innovation**
Deana L. Hancock, Chair  
Joe Ford  
Thomas A. Rathje  
Tom Baas

**Innovation in Dairy Research**
Patrick Hoffman, Chair  
Jim Drackley  
Jeffrey M. DeFrain  
Ric Grummer
# PAST RECIPIENTS OF AWARDS FOR YOUNG ANIMAL SCIENCE LEADERS

## OUTSTANDING EXTENSION SPECIALIST AWARD

<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
<th>Institution</th>
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<td>G. E. Ricketts</td>
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<td>V. B. Mayrose</td>
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<td>L. R. Corah</td>
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<td>M. G. Hogberg</td>
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<td>C. W. Spaeth</td>
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<td>L. H. Thompson</td>
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<td>M. D. Tokach</td>
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<td>J. F. Smith</td>
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<td>W. O. Herring</td>
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<td>2002</td>
<td>M. J. Brouk</td>
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<td>W. J. Powers</td>
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<td>S. J. Moeller</td>
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<td>K. J. Stalder</td>
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<td>2006</td>
<td>P. Fricke</td>
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## OUTSTANDING RESEARCHER AWARD

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<th>Year</th>
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<tr>
<td>1971</td>
<td>D. H. Baker</td>
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<td>C. E. Allen</td>
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<td>1980</td>
<td>T. L. Veum</td>
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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. E. Smith, University of Missouri
1992  D. L. Harman, 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

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
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

AGRIBUSINESS 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

PAST WINNERS OF INVITATIONAL COMPETITIVE RESEARCH PAPER AWARDS

UNDERGRADUATE STUDENTS

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

**GRADUATE STUDENTS**

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       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**

*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. Dinussin, 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. Stahlly, 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
ADSA MIDWEST BRANCH PRESIDENTS

1992  J. F. Keown, University of Nebraska
1993  J. G. Linn, University of Minnesota
1994  D. J. Schingoethe, South Dakota State University
1995  J. L. Morrill, Kansas State University
1996  M. F. Hutjens, University of Illinois
1997  M. A. Faust, Iowa State University
1998  J. K. Drackley, University of Illinois
1999  R. D. Shaver, University of Wisconsin
2000  R. J. Grant, University of Nebraska
2001  M. L. Eastridge, The Ohio State University
2002  J. D. Quigley III, APC, Inc.
2003  S. T. Franklin, University of Kentucky
2004  D. K. Combs, University of Wisconsin
2005  L. L. Timms, Iowa State University
2006  P. Hoffman, University of Wisconsin - Madison

FUTURE MEETINGS

2008  March 17–19
2009  March 16–18
2010  March 15–17
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