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TABLE OF CONTENTS

2006–2007 Officers of ASAS and ASAS Midwestern Section	Page 1
2006–2007 Officers of ADSA and ADSA Midwest Branch	Page 2
Event Sponsorship	Page 5
Placement Center	Page 6
Schedule of Events	Page 7
Poster Schedule	Page 9
2007 Sponsors	Page 10
Oral Presentation Guidelines	Page 13
Scientific Session Program	Page 14
2006–2007 Committees	Page 50
Past Recipients of Awards for Young Animal Science Leaders	Page 54
Past Winners of Invitational Competitive Research Paper Awards	Page 56
Past Midwestern Section Presidents	Page 58
Future Meeting Dates	Page 59
Floor Plans	Page 60
Room Assignments	Page 63

NOTICE:

Registration and housing forms can be found on the Midwest Meeting Website. You can register on line at: <http://www.asas.org/midwest/2007> 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 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.

	Before March 1	After March 1
ADSA/ASAS Members	\$110	\$160
Undergraduate Students	\$10	\$10
Graduate Student Members	\$20	\$30
Post Doctoral Fellows	\$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 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.
www.asas.org/midwest/2007

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

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

Wednesday, March 21, AM

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

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

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Cargill Animal Health

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Abstract Book

Danisco Animal Nutrition

Fort Dodge Animal Health

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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
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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
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Hubbard Feeds/FeedRite
Intervet, Inc.
Iowa State University
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Pfizer Animal Health
Pioneer, The DuPont Company
Prince Agri Products, Inc.
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The Kent Group
USDA, ARS
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Agri-Nutrition Services, Inc.
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GeneSeek Inc.
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ILC Resources
International Ingredient Corporation
Lucta USA Inc.
Newsham Genetics
Pig Improvement Company, Inc.
Seaboard Foods LP
Tasco
12

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.

- 12:30 PM 81 **The Effect of Level of Starch in the Growing Phase on Performance and Carcass Traits.** P.S. Bedwell*, D.B. Faulkner, D.F. Parrett, L.L. Berger, and F.A. Ireland, *University of Illinois, Urbana, IL.*
- 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. Guenter¹, and C. M. Nyachoti¹, ¹*University of Manitoba, Winnipeg, MB Canada,* ²*Danisco 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. Drew¹, ¹*University of Saskatchewan, Saskatoon, SK, Canada,* ²*University 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*¹, T. L. Mader¹, G. E. Erickson¹, S. Colgan¹, K. K. Karges², and M. L. Gibson², ¹*University of Nebraska, Lincoln,* ²*Dakota Gold Marketing, Sioux Falls, SD.*
- 2:45 PM 89 **Dietary phosphorus and genetic background interact to affect growth performance and bone integrity in pigs.** LS Alexander*, SA Cutler, MF Rothschild, and CH Stahl, *Iowa State University, Ames, IA, USA.*
- 3:00 PM **Break.**

- 3:15 PM 90 **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. See, *North Carolina State University, Raleigh, NC USA.*
- 3:30 PM 91 **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.*
- 3:45 PM 92 **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.*
- 4:00 PM 93 **Prediction of in vivo amino acid digestibility in dried distillers grains with solubles (DDGS) from crude protein, optical density and fluorescence.** P. E. Urriola*¹, D. Hoehler², C. Pedersen³, H. H. Stein⁴, L. J. Johnston¹, and G. C. Shurson¹, ¹*University of Minnesota, St. Paul, MN, USA,* ²*Degussa Corporation, Kennesaw, GA, USA,* ³*Danisco Animal Nutrition, Marlborough, UK,* ⁴*University of Illinois, Urbana, IL, USA.*

Graduate Student Competitive Research Papers
Ph.D. Oral Division
Chair: Andrea Cupp, University of Nebraska, Lincoln
204AB
Sponsored by: Akey

- 12:30 PM 94 **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.*
- 12:45 PM 95 **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.*
- 1:00 PM 96 **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. Soddoris*, J. C. Fleet, and J. S. Radcliffe, *Purdue University, West Lafayette, IN, USA.*
- 1:15 PM 97 **Factors affecting feed efficiency in feedlot steers.** J.W. Homm*¹, L.L. Berger¹, S.L. Rodriguez-Zas¹, L. Forster², and T.G. Nash¹, ¹*University of Illinois, Urbana, IL,* ²*Archer Daniels Midland Company, Decatur, IL.*
- 1:30 PM 98 **Effects of reduced dietary crude protein and P on DM, N, and P excretion of finisher pigs.** M. Lachmann*, S. Carter, S. Jenkins, J. Bundy, Z. Marable, and T. Buhay, *Oklahoma State University, Stillwater, OK.*
- 1:45 PM **Break.**
- 2:00 PM 99 **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.*
- 2:15 PM 100 **Tolerance of excess dietary cyst(e)ine 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*¹, Lacey Luense¹, Steve Hopkins², and Carolyn Komar¹, ¹*Department of Animal Science, Iowa State University, Ames, IA, USA*, ²*Department 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, ¹*University of Minnesota*, ²*Hormel 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, ¹*University of Manitoba, Winnipeg, MB, Canada*, ²*Degussa 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*¹, G. E. Erickson¹, J. R. Benton¹, C. D. Buckner¹, T. J. Klopfenstein¹, K. Karges², and M. Gibson², ¹*University of Nebraska, Lincoln*, ²*Dakota Gold Marketing, Sioux Falls, SD*.
- 1:00 PM 332 **Hypergravity exposure affects lipid synthesis in rat mammary gland during pregnancy and lactation.** M. VanKlombenberg*, O.V. Patel, and K. Plaut, *Michigan State University, East Lansing, Michigan, United States*.
- 1:15 PM 333 **Solid-liquid separation of swine slurry is effective and affordable.** D.S. Stoner*, P.M. Walker, A.L. Shreck, and K.P. Rhykerd, *Illinois State University, Normal, IL, US*.

- 1:30 PM 334 **Effects of field pea inclusion in high grain diets for beef steers on beef tenderness, postmortem proteolysis and calpastatin activity.** E.L. Slinden*¹, G.P. Lardy¹, M.L. Bauer¹, V.L. Anderson², R.J. Maddock¹, and K.R. Maddock Carlin¹, ¹North Dakota State University, Fargo, ND, ²NDSU Carrington Research Extension Center, Carrington, ND.
- 1:45 PM **Break.**
- 2:00 PM 335 **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.*
- 2:15 PM 336 **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*¹, P.M. Walker¹, and R.E. Hall², ¹Illinois State University, Normal, IL, USA, ²Cooperative Research Farms, Richmond, VA, USA.
- 2:30 PM 337 **Evaluation of lean growth and daily gain in two terminal lines of pigs.** J.K. Johnson*¹ and T.A. Rathje², ¹Kansas State University, Manhattan, Kansas, USA, ²Danbred North America, Columbus, Nebraska, USA.
- 2:45 PM 338 **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.*
- 3:00 PM 339 **Capillary growth and angiogenesis in uterine tissues during early pregnancy in sheep.** M.A. Minten*¹, L.P. Reynolds¹, P.P. Borowicz¹, G. Ptak², P. Loi², D.A. Redmer¹, and A.T. Grazul-Bilska¹, ¹Center for Nutrition and Pregnancy, and Dept. of Anim. and Range Sci., North Dakota State Univ., Fargo, ND, USA, ²Dept. of Comparative Biomed. Sci., Univ. of Teramo, Teramo, Italy.
- 3:15 PM **Break.**
- 3:30 PM 340 **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.*
- 3:45 PM 341 **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.*
- 4:00 PM 342 **Do Ergot Alkaloids Alter Ruminal *E. coli* concentrations in an In Vitro System? A Proposed Study.** R. O. McKeith*, D. L. Hastings, and K. L. Jones, *Southern Illinois University Carbondale, Carbondale IL USA.*
- 4:15 PM 343 **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*¹, J.C Souza^{2,3}, L.T. Campos², R.L. Weaber¹, and W.R. Lamberson¹, ¹*University of Missouri-Columbia, Columbia, Mo USA*, ²*Parana Federal University, Brazil*, ³*Scholarship 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*.
- 308 **Altering milk production and composition of early lactation dairy cows fed flax seed.** P. L. Nester*, J. W. Schroeder, K. A. Vonnahme, M.L. Bauer, W. L. Keller, and D. E Schimek, *North Dakota State University, Fargo, North Dakota, 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

- 57 **Association between corticotropin-releasing hormone receptor 2 genotypes and meat quality traits in pigs.** I.S. Choi*, R.O. Bates, V.D. Rilmington, D.B. Edwards, N.E. Raney, M.E. Doumit, and C.W. Ernst, *Michigan State University, East Lansing, MI, USA*.
- 218 **A spreadsheet method for experimental animal allotment.** B. G. Kim* and M. D. Lindemann, *University of Kentucky, Lexington*.

- 196 **Effect of low protein amino acid-supplemented diets on growth performance, plasma urea N, and diarrhea incidence in weaned pigs.** F Opapeju*¹, C Nyachoti¹, and M Rademacher², ¹*University of Manitoba, Winnipeg, MB, Canada*, ²*Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany*.
- 317 **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*.
- 313 **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*.
- 304 **Effects of feeding a polyclonal antibody preparation against selected rumen bacteria on rumen pH of lactating dairy cows.** N DiLorenzo*, C. R. Dahlen, J. E. Larson, R. K. Gill, and A. DiCostanzo, *University of Minnesota, St Paul, MN, 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 Introduction. Michael S. Edmonds.
- 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, ¹*Michigan State University, East Lansing*, ²*University 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, ¹*University of Manitoba, Winnipeg, MB, Canada*, ²*Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany*.
- 3:15 PM 79 **(Invited) Peptide absorption — the physiological process and nutritional relevance.** K. E. Webb, Jr.*, *Virginia Tech, Blacksburg*.
- 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, ¹*University of Saskatchewan, Saskatoon, SK, Canada*, ²*University of Alberta, Edmonton, AB, Canada*.
- 4:10 PM Discussion.

Ruminant Nutrition I

Feedlot Nutrition

Chair: Erik Loe, South Dakota State University, Brookings

136-138

- 1:00 PM 252 **Prediction of optimal RDP levels in no-roughage feedlot diets.** J. A. Pugh* and M. S. Kerley, *University of Missouri, Columbia.*
- 1:15 PM 253 **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.*
- 1:30 PM 254 **Digestibility of fiber sources in high concentrate diets.** J. W. Golden* and M. S. Kerley, *University of Missouri, Columbia.*
- 1:45 PM 255 **Response to dosing patterns of estradiol 17-beta and trenbolone acetate in finishing steers.** S. L. Parr*, R. H. Prichard, and K. W. Bruns, *South Dakota State University, Brookings.*
- 2:00 PM 256 **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.*
- 2:15 PM 257 **Performance changes through the finishing period.** J. C. MacDonald*, T. J. Klopfenstein, G. E. Erickson, and K. J. Vander Pol, *University of Nebraska, Lincoln.*
- 2:30 PM **Break.**
- 2:45 PM 97 **Factors affecting feed efficiency in feedlot steers.** J. W. Homm*¹, L. L. Berger¹, S. L. Rodriguez-Zas¹, L. Forster², and T. G. Nash¹, ¹*University of Illinois, Urbana,* ²*Archer Daniels Midland Company, Decatur, IL.*
- 3:00 PM 259 **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.*
- 3:15 PM 260 **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, ¹*Department of Animal Sciences, Fayetteville, AR,* ²*Animal and Food Sciences, Lubbock, TX.*
- 3:30 PM 261 **Effect of corn hybrid and processing method on finishing cattle performance and carcass characteristics.** F. W. Harrelson*¹, M. K. Luebke¹, G. E. Erickson¹, T. J. Klopfenstein¹, and W. A. Fithian², ¹*University of Nebraska, Lincoln,* ²*Golden Harvest Seeds Inc., Waterloo, NE.*
- 3:45 PM 262 **Growth and carcass quality of steers finished with corn or high-tannin sorghum.** R. Larrain*, D. Schaefer, and J. Reed, *University of Wisconsin, Madison.*
- 4:00 PM 263 **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, ¹*University of Nebraska, Lincoln,* ²*Golden Harvest Seeds, Inc., Waterloo, NE.*
- 4:15 PM 264 **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.*

POSTER PRESENTATIONS

Sponsored by: Zinpro

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

- 8 **A real-time PCR assay for quantitative detection of *Babesia bigemina* in blood samples.** S. M. Salto*² and G. J. J. Mosqueda¹, ¹*Centro Nacional de Investigación Disciplinaria en Parasitología Veterinaria, INIFAP, Jiutepec, Morelos. México,* ²*Universidad Veracruzana. Facultad de Medicina Veterinaria y Zootecnia, Veracruz, Veracruz. México.*
- 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.*
- 10 **Impact of pig removal strategies at market on growth performance and production efficiency.** J. M. DeDecker*¹, M. Ellis¹, B. P. Corrigan⁵, S. E. Curtis¹, B. A. Peterson¹, M. J. Ritter¹, J. L. Usry², D. M. Webel³, and B. F. Wolter⁴, ¹*University of Illinois, Urbana,* ²*Ajinomoto Heartland, Inc., Chicago, IL,* ³*JBS United, Inc., Sheridan, IN,* ⁴*The Maschhoff's, Inc., Carlyle, IL,* ⁵*Vita Plus Corporation, Madison, WI.*
- 11 **The effects of group size and floor space on pig growth performance and carcass characteristics in a commercial wean-to-finish facility.** B. A. Peterson*¹, M. Ellis¹, R. Bowman², J. M. DeDecker¹, O. Mendoza¹, M. J. Ritter¹, A. Rojo¹, N. Williams³, and B. F. Wolter², ¹*University of Illinois, Urbana,* ²*The Maschhoff's, Inc., Carlyle, IL,* ³*PIC USA, Franklin, KY.*
- 12 **Effect of removing pigs from a pen at different frequencies and times on growth performance and carcass characteristics of the remaining pigs.** J. M. DeDecker*¹, M. Ellis¹, J. L. Usry², D. M. Webel³, and B. F. Wolter⁴, ¹*University of Illinois, Urbana,* ²*Ajinomoto Heartland, Inc., Chicago, IL,* ³*JBS United, Inc., Sheridan, IN,* ⁴*The Maschhoff's, Inc., Carlyle, IL.*
- 13 **Performance comparisons between pigs raised in hoops and confinement in Southern Illinois.** S. K. Zeilstra*, G. A. Apgar, D. R. Sanders, and A. AbuGhazaleh, *Southern Illinois University, Carbondale.*
- 14 **Physiological comparison of pigs fed ractopamine and transported with different handling intensities.** M. H. Gillis, D. J. Ivers, K. D. Miller, D. H. Mowrey, S. N. Carr*, and T. A. Armstrong, *Elanco Animal Health, Eli Lilly and Company, Greenfield, IN.*
- 15 **Effect of pen location within a tunnel ventilated wean-to-finish building on pig growth performance.** J. M. DeDecker*¹, M. Ellis¹, C. M. Murphy¹, B. A. Peterson¹, and B. F. Wolter², ¹*University of Illinois, Urbana,* ²*The Maschhoff's, Inc., Carlyle, IL.*

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**

- 116 Effect of oral electrolyte supplementation on blood acid-base status, carcass yield, and fresh pork quality traits. B. Yu*, M. Ellis, B. A. Fisher, B. A. Peterson, and M. J. Ritter, *University of Illinois, Urbana.*
- 117 Empirical modeling for predicting objective tenderness of muscles from the beef round. J. T. Sawyer*, J. K. Apple, J.-F. Meullenet, B. Cheatman, W. K. Chung, and R. Xiong, *University of Arkansas, Fayetteville.*
- 118 Proteolysis, calpastatin activity, and μ -calpain autolysis in specific muscles from the beef round. M. J. Anderson*, K. Mou, C. Gregorich, E. Steadham, S. M. Lonergan, and E. Huff-Lonergan, *Iowa State University, Ames.*
- 119 Interactions of mammalian synemin isoforms 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*¹, L. Jouault¹, B. C. Bowker², A. L. Grant¹, and D. E. Gerrard¹, ¹*Purdue University, West Lafayette, IN,* ²*USDA-ARS Food Technology and Safety Laboratory, Beltsville, MD.*

Nonruminant Nutrition - Posters

Breeding Herd Nutrition

Exhibit Hall

- 184 Effects of dietary dried distillers grains with solubles on energy and nitrogen balance, and milk composition of lactating sows. M. Song*, S. K. Baidoo, M. H. Whitney, G. C. Shurson, and L. J. Johnston, *University of Minnesota, St. Paul.*
- 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, ¹*University of Illinois, Urbana,* ²*USDA/ARS/SARU, Fairbanks, AK.*

- 186 **Predicting growth rates of adult working boars in a commercial A. I. boar stud.** R. C. Sulabo*¹, J. Quackenbush², R. D. Goodband¹, M. D. Tokach¹, S. S. Dritz¹, J. M. DeRouche¹, and J. L. Nelssen¹, ¹*Kansas State University, Manhattan*, ²*Zoltenko Farms, Inc., Hardy, NE*.

Nonruminant Nutrition - Posters

Nursery Pig Nutrition

Exhibit Hall

- 187 **Effect of yeast culture on performance, gut integrity and immune function in nursery pigs.** C. M. C. van der Peet-Schwering¹, A. J. M. Jansman¹, and I. Yoon*², ¹*Animal Sciences Group, Wageningen University and Research Centre, Lelystad, The Netherlands*, ²*Diamond V Mills Inc., Cedar Rapids, IA*.
- 188 **Development of a *Bacillus subtilis* product for a large commercial swine farm to reduce *Clostridium perfringens* and *Clostridium difficile* in neonatal pigs.** A. Baker*¹, E. Davis¹, D. Rosener¹, K. Novak¹, R. White², A. Veldkamp¹, and T. Rehberger¹, ¹*Agtech Products, Inc., Waukesha, WI*, ²*Iowa Select Farms, Iowa Falls, IA*.
- 189 **Effects of water-soluble and in-feed organic acids on the growth performance of weaning pigs.** R. O. Gottlob, J. M. Benz*, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. M. DeRouche, and J. L. Nelssen, *Kansas State University, Manhattan*.
- 190 **Effect of probiotics supplementation on growth performance and immune response in weaning pigs.** Y. D. Jang*, H. K. Oh, H. B. Choi, and Y. Y. Kim, *Seoul National University, Seoul, Korea*.
- 191 **Effect of EU authorized feed additives as antibiotic alternatives on growth performance, diarrhea occurrence, nutrient digestibility and immune response in weaning pigs.** H. B. Lee*, Y. D. Jang, H. F. Long, and Y. Y. Kim, *Seoul National University, Seoul, Korea*.
- 192 **Effects of single or complex antibiotics on growth performance, nutrient digestibility, morphological changes of the small intestine, and antibiotic resistance in weaning pigs.** J. H. Yun*, W. G. Park, H. B. Lee, L. G. Piao, and Y. Y. Kim, *Seoul National University, Seoul, Korea*.
- 193 **Evaluating the inclusion of an egg antibody powder to swine nursery diets on pig performance.** B. Corrigan*¹, G. Grinstead¹, D. Koehler¹, B. Renk², and M. Yank², ¹*Vita Plus Corporation, Madison, WI*, ²*OvaTechnologies, Inc., Madison, WI*.
- 194 **Effects of electron beam and gamma ray irradiation levels in spray-dried animal plasma on nursery pig growth performance.** C. N. Groesbeck*¹, J. M. DeRouche¹, M. D. Tokach¹, R. D. Goodband¹, S. S. Dritz¹, J. L. Nelssen¹, and H. E. Clemmons², ¹*Kansas State University, Manhattan*, ²*Sadex, Sioux City, IA*.
- 195 **Effect of irradiated protein source fed in meal or pelleted diets on nursery pig performance.** C. N. Groesbeck*, M. D. Tokach, J. M. DeRouche, R. D. Goodband, S. S. Dritz, and J. L. Nelssen, *Kansas State University, Manhattan*.
- 196 **Effect of low protein amino acid-supplemented diets on growth performance, plasma urea N, and diarrhea incidence in weaned pigs.** F. Opapeju*¹, C. Nyachoti¹, and M. Rademacher², ¹*University of Manitoba, Winnipeg, MB, Canada*, ²*Degussa AG, Rodenbacher Chaussee 4, 63457 Hanau-Wolfgang, Germany*.

- 197 **Amino acid digestibility of protein sources fed to weanling pigs.** S. C. Pahlm* and H. H. Stein, *University of Illinois, Urbana.*
- 198 **Nutritional value of processed fish byproducts for young pigs.** A. Rojo*¹, M. Ellis¹, P. J. Bechtel², Y. Bin¹, and E. Castaneda¹, ¹*University of Illinois, Urbana*, ²*USDA/ARS/SARU, Fairbanks, AK.*
- 199 **The effect of isoleucine in segregated early weaning and transition diets.** S. K. Linneen*, S. S. Dritz, M. D. Tokach, J. M. DeRouchey, R. D. Goodband, and J. L. Nelssen, *Kansas State University, Manhattan.*
- 200 **An evaluation of liquid feeding immediately post-weaning to improve performance of the lightest pigs within a nursery group.** J. R. Bergstrom*¹ and D. McKilligan², ¹*Kerber Milling Company, Emmetsburg, IA*, ²*TechMix Inc., Stewart, MN.*
- 201 **Effects of zinc, manganese and copper amino acid chelates (AAC) on feeding performance and meat quality of growing-finishing pigs.** R. A. Samford*, H. D. Ashmead, A. Bourdonnais, and S. D. Ashmead, *Albion Advanced Nutrition, Clearfield, UT.*
- 202 **Effects of thermal stress and dietary chromium tripicolinate on growth performance and plasma cortisol in weanling pigs.** B. G. Kim*, M. D. Lindemann, and G. L. Cromwell, *University of Kentucky, Lexington.*
- 203 **Effects of meal transition diets on growth performance of nursery pigs reared in a commercial environment.** C. N. Groesbeck*, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. M. DeRouchey, and J. L. Nelssen, *Kansas State University, Manhattan.*
- 204 **Production responses of weanling pigs fed diets containing REAP® Starter enzymes or added fat.** H. H. Stein*¹, D. Y. Kil¹, D. N. Peters², D Spangler³, P. Brown³, D. P. Casper³, and K. Haydon⁴, ¹*University of Illinois, Urbana*, ²*South Dakota State University, Brookings*, ³*Agri-King Inc., Fulton, IL*, ⁴*Prince Agri-Products, Quincy, IL.*
- 205 **Responses to increasing doses of saccharin in piglet feeds on preference values and performance.** E. Roura*¹, C. Risle², D. Solà-Oriol³, and D. Torrallardona³, ¹*Lucta S.S., Barcelona, Spain*, ²*Lucta USA Inc., Northbrook, IL*, ³*IRTA, Centre Mas de Biver, Reus, Spain.*

Physiology - Posters Exhibit Hall

- 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.*
- 249 **Use of indigenous South African plants to alleviate heat stress-induced subfertility in male mice.** M. S. Santiago¹, K. Cammack², E. Maricle¹, D. Fisher³, and W. Lamberson*¹, ¹*University of Missouri, Columbia*, ²*University of Wyoming, Laramie*, ³*University of the Western Cape, Cape Town, South Africa.*
- 250 **Hepatic gene expression in Holstein cows treated with bovine somatotropin (bST) and fed omega-3 fatty acids in early lactation.** M. Carriquiry*, W. J. Weber, S. C. Fahrenkrug, and B. A. Crooker, *University of Minnesota, St. Paul.*

- 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.*

**Swine Extension - Posters
Exhibit Hall**

- 324 **The frequency of the HAL-1843 mutation of the RYR gene in dead and non-ambulatory/non-injured pigs on arrival at the packing plant.** M. Ellis*, M. J. Ritter, G. R. Hollis, and J. M. Schlipf, *University of Illinois, Urbana.*
- 325 **Modeling the impact of birth and twenty-day body weight on the postweaning growth of pigs.** A. P. Schinckel*¹, R. Cabrera^{2,3}, R. D. Boyd^{2,4}, S. Jungst², C. Booher², M. Johnston^{2,4}, P. V. Preckel¹, and M. E. Einstein¹, ¹*Purdue University, West Lafayette, IN*, ²*Pig Improvement Company, Franklin, KY*, ³*Ralco Nutrition, Marshall, MN*, ⁴*Hanor Company, Inc, Franklin, KY.*
- 326 **Modeling the impact of sorting pigs based on weaning or nursery weight on the mean and variation in postweaning growth of pigs.** A. Schinckel*¹, R. Cabrera^{2,3}, R. Boyd^{2,4}, S. Jungst², C. Booher², M. Johnston^{2,4}, P. Preckel¹, and M. Einstein¹, ¹*Purdue University, West Lafayette, IN*, ²*Pig Improvement Company, Franklin, KY*, ³*Ralco Nutrition, Marshall, MN*, ⁴*Hanor Company, Inc., Franklin, KY.*
- 327 **Impact of birth and twenty-day weight on the postweaning growth of pigs with different weaning management.** A. Schinckel*¹, R. Cabrera^{2,3}, R. Boyd^{2,4}, S. Jungst², C. Booher², M. Johnston^{2,4}, and M. Einstein¹, ¹*Purdue University, West Lafayette, IN*, ²*Pig Improvement Company, Franklin, KY*, ³*Ralco Nutrition, Marshall, MN*, ⁴*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. Loe, *South Dakota State University, Brookings.*
- 9:05 AM 18 **(Invited) Designing a hoop building for feeding beef cattle.** W. D. Busby*, S. C. Shouse, and D. L. Maxwell, *Iowa State University, Ames.*

- 9:35 AM Break.
- 9:45 AM 19 (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.*
- 10:15 AM 20 (Invited) CAFO manure management with alternative technologies. J. Lorimor*, *Curry-Wille & Associates, Ames, IA.*
- 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 28 (Invited) Fallacies in research on pig reproduction. P. Dziuk*, *University of Illinois, Urbana.*
- 8:45 AM 29 (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 30 (Invited) Current technology for estrous synchronization and timed insemination of gilts. R. Knox*, *University of Illinois, Urbana.*
- 9:15 AM 31 (Invited) Influence of age and weight at breeding on gilt productivity and sow longevity. R. Kummer*, *Pig Improvement Company, Brazil.*
- 9:30 AM 32 (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.
- 10:15 AM 33 (Invited) Industry targets and benchmarks for the introduction of gilts into breeding herds. B. F. Wolter*, *The Maschhoffs, Inc., Carlyle, IL.*
- 11:00 AM 34 (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 121 Total track digestibility of colostral proteins and amino acids by neonatal pig. C. Lin*¹, D. C. Mahan², G. Wu^{3,1}, C. Vasquez¹, and S. W. Kim^{1,3}, ¹*Texas Tech University, Lubbock*, ²*The Ohio State University, Columbus*, ³*Texas A&M University, College Station.*

- 8:15 AM 122 **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*¹, ¹*University of Saskatchewan, Saskatoon, SK, Canada*, ²*Degussa Corporation, Kennesaw GA*.
- 8:30 AM 123 **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. Sauer^{1,3}, M. Rademacher², Y. Zhang¹, B. Araiza³, M. Cervantes³, and R. Zijlstra¹, ¹*University of Alberta, Edmonton, AB, Canada*, ²*Degussa AG, Hanau, Germany*, ³*Universidad Autónoma de Baja California, Mexicali, México*.
- 8:45 AM 96 **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*.
- 9:00 AM 340 **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*.
- 9:15 AM 94 **Dietary supplementation of Colicin E1 prevents *Escherichia coli* F18 caused post-weaning diarrhea in pigs.** S. A. Cutler*, N. A. Cornick, S. M. Lonergan, and C. H. Stahl, *Iowa State University, Ames*.
- 9:30 AM 127 **Effects of egg antibody products on performance of weanling pigs.** F. Ji*¹, V. G. Perez¹, M. Steidinger², and J. E. Pettigrew¹, ¹*University of Illinois, Urbana*, ²*Swine Nutrition Services, Inc., Forrest, IL*.
- 9:45 AM 128 **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

- 8:00 AM 129 **Growth performance of nursery and growing pigs fed graded levels of red blood cells.** A. Waguespack*, D. Dean, T. Bidner, and L. Southern, *LSU Agricultural Center, Baton Rouge, LA*.
- 8:15 AM 130 **Zero-tannin fababeans, field pea and soybean meal as dietary protein sources for growing- finishing pigs.** C. Gunawardena*¹, W. Robertson², M. Young³, R.T. Zijlstra¹, and E. Beltranena^{1,4}, ¹*University of Alberta, Edmonton, AB*, ²*Agriculture and Agri-Food Canada, Lacombe, AB*, ³*Gowans Feed Consulting, Wainwright, AB*, ⁴*Alberta Agriculture, Food and Rural Development, Edmonton, Alberta, Canada*.
- 8:30 AM 131 **Ileal amino acid digestibility of a new high protein variety of soybeans fed to growing pigs.** S. C. Pahlm* and H. H. Stein, *University of Illinois, Urbana*.

- 8:45 AM 132 **In vitro analysis to predict energy digestibility of cereals for grower pigs.** R. T. Zijlstra*¹, M. N. Casano¹, J. H. Helm², L. Oatway², and E. Beltranena³, ¹*University of Alberta, Edmonton, AB*, ²*Field Crop Development Centre, Lacombe, AB*, ³*Alberta 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.*
- 9:15 AM 134 **Influence of Nutridense® low phytate corn and added fat on grow-finish pig growth performance.** S. K. Linneen*¹, R. O. Gottlob¹, S. S. Dritzi¹, M. D. Tokach¹, J. M. DeRouche¹, R. D. Goodband¹, J. L. Nelsens¹, and J. L. Snow², ¹*Kansas State University, Manhattan, NC*, ²*BASF Plant Science, Research Triangle Park, NC.*
- 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*¹, W. Sauer^{1,2}, M. Cervantes², Y. Zhang¹, J. Helm³, and R. Zijlstra¹, ¹*University of Alberta, Edmonton, AB, Canada*, ²*Universidad Autónoma de Baja California, Mexicali, México*, ³*Field 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*¹, J. S. Sands², W. Guenter¹, and C. M. Nyachoti¹, ¹*University of Manitoba, Winnipeg, MB Canada*, ²*Danisco 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*^{1,2}, J. Sands³, and R. Zijlstra⁴, ¹*Prairie Swine Centre, Saskatoon, Saskatchewan, Canada*, ²*University of Saskatchewan, Saskatoon, Saskatchewan, Canada*, ³*Danisco Animal Nutrition, Marlborough, UK*, ⁴*University 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*¹, D. Casper², P. Brown², D. Spangler², K. D. Haydon³, and J. E. Pettigrew¹, ¹*University of Illinois, Urbana*, ²*Agri-King, Inc., Fulton, IL*, ³*Prince 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. Omogbenigun¹, R. Zijlstra², D. Salmon³, and E. Beltranena*¹, ¹*Alberta Agriculture, Food and Rural Development (AAFRD), Edmonton, AB, Canada*, ²*University of Alberta, Edmonton, AB, Canada*, ³*AAFRD, 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*^{1,2}, J. D. Hancock², M. Sørensen^{3,4}, K. C. Behnke², E. Prestløkken¹, and L. J. McKinney², ¹*Felleskjøpet Føretvikling, Trondheim, Norway*, ²*Kansas State University, Manhattan*, ³*University of Life Sciences, Aas, Norway*, ⁴*AKVAFORSK, Aas, Norway.*
- 11:15 AM 141 **Effect of adding water into the mixer on pellet quality of corn-soy-based diets for finishing pigs.** K. K. Lundblad*^{1,2}, J. D. Hancock², M. Sørensen^{3,4}, K. C. Behnke², E. Prestløkken¹, and L. J. McKinney², ¹*Felleskjøpet*

Fórutvikling, Trondheim, Norway, ²Kansas State University, Manhattan, ³University of Life Sciences, Aas, Norway, ⁴AKVAFORSK, Aas, Norway.

- 11:30 AM 142 **Apparent digestible energy value of crude glycerol fed to pigs.** P. J. Lammers*¹, B. J. Kerr², T. E. Weber², W. A. Dozier III³, M. T. Kidd⁴, K. Bregendahl¹, and M. S. Honeyman¹, ¹*Iowa State University, Ames, ²USDA-ARS, Swine Odor and Manure Management Research Unit, Ames, IA, ³USDA-ARS, Poultry Research Unit, Starkville, MS, ⁴Mississippi 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*¹, M. R. Widmer¹, C. L. Wright¹, T. M. Parr², and H. H. Stein³, ¹*South Dakota State University, Brookings, ²Syngenta Animal Nutrition, Research Triangle Park, NC, ³University of Illinois, Urbana.*

Odor and Nutrient Management I

Chair: Gretchen M. Hill, Michigan State University, East Lansing

140

- 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. Bindelle¹, P. Leterme*², J. P. Destain³, R. Agneessens⁴, and A. Buldgen¹, ¹*Faculté Universitaire des Sciences agronomiques, Gembloux, Belgium, ²Prairie Swine Centre Inc., Saskatoon, SK, Canada, ³Centre Wallon de Recherches Agronomiques, Gembloux, Belgium, ⁴Centre 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.** D. R. Stender*, W. Powers, C. Johnson, J. Harmon, and K. Kohl, *Iowa State University, Ames.*
- 8:45 AM 98 **Effects of reduced dietary crude protein and P on DM, N, and P excretion of finisher pigs.** M. Lachmann*, S. Carter, S. Jenkins, J. Bundy, Z. Marable, and T. Buhay, *Oklahoma State University, Stillwater.*

Ruminant Nutrition II

Lipid Metabolism & Supplementation

Chair: Jeff Lehmkuhler, University of Wisconsin-Madison

204AB

Sponsored by: Cargill Animal Nutrition

- 8:00 AM 265 **(Invited) An overview of fatty acid biotransformations in the rumen.** T. C. Jenkins* and Y.-J. Lee, *Clemson University, Clemson, SC.*
- 8:40 AM 266 **(Invited) Feeding fats for regulation of milk fat and fatty acid profiles.** A. R. Hippen*, K. F. Kalscheur, and D. J. Schingoethe, *South Dakota State University, Brookings.*

- 9:20 AM 267 (Invited) **Modification of insulin resistance in dairy cattle by manipulation of plasma nonesterified fatty acids.** J. A. Pires and R. R. Grummer*, *University of Wisconsin, Madison.*
- 10:00 AM 268 (Invited) **Reproductive responses by beef cows fed lipid supplements.** B. W. Hess*, *University of Wyoming, Laramie, WY.*
- 10:40 AM 269 (Invited Young Scholar) **Dietary fat and bovine somatotropin (bST) for Holstein cows: Responses in early lactation.** M. Carriquiry*, W.J. Weber, and B.A. Crooker, *University of Minnesota, St. Paul.*
- 11:20 AM 270 (Invited Young Scholar) **Fat from corn coproducts and dairy cow performance.** M. Abdelqader*, *South Dakota State University, Brookings.*

Breeding and Genetics I Quantitative Genetics

Chair: Joe Cassady, North Carolina State University, Raleigh

148

Sponsored by: Newsham Genetics

- 8:30 AM 35 **Heritability estimates for fatty acid quantity in Angus beef.** R. Tait, Jr.*¹, S. Zhang¹, T. Knight¹, J. Minick Bormann², D. Beitz¹, and J. Reecy¹, ¹*Iowa State University, Ames*, ²*Kansas State University, Manhattan.*
- 8:45 AM 36 **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. Freitas¹, C. Malhado⁴, P. Filho⁵, J. Sereno⁶, R. L. Weaver⁷, and W. R. Lamberson⁷, ¹*Parana Federal Univ, Palotina, Brazil*, ²*CNPq, Brazil*, ³*CNPq, Brazil*, ⁴*Bahia State University, Brazil*, ⁵*Mato Grosso do Sul Federal Brazil, Brazil*, ⁶*CPAC, Brazil*, ⁷*University of Missouri, Columbia.*
- 9:00 AM 37 **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, ¹*Parana Federal University, Palotina, Brazil*, ²*IAPAR/Polo de Curitiba, Brazil*, ³*IAPAR/Est. Exp. Paranavaí, Brazil*, ⁴*University of Missouri, Columbia.*
- 9:15 AM 38 **Evaluation of carcass EPD using single- vs. multi-trait analyses.** J. M. Rumph*¹, W. R. Shafer², and R. J. Lipsey², ¹*Montana State University, Bozeman*, ²*American Simmental Association, Bozeman, MT.*
- 9:30 AM 39 **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.*
- 9:45 AM 40 (National Pork Board Research Award) **Genetic analysis of incidence of porcine circovirus associated disease (PCVAD) in a composite swine population.** J. S. Bates*, A. R. Doster, and R. K. Johnson, *University of Nebraska, Lincoln.*
- 10:00 AM **Break.**
- 10:15 AM 41 **Relationship of juvenile IGF-I with performance traits in lines selected for residual feed intake.** K. L. Bunter¹, W. Cai*², and J. C. M. Dekkers², ¹*University of New England, Armidale, NSW, Australia*, ²*Iowa State University, Ames.*

- 10:30 AM 42 **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 Vleck^{1,2}, ¹*University of Nebraska, Lincoln*, ²*ARS, USDA, U.S. Meat Animal Research Center, Clay Center, NE.*
- 10:45 AM 43 **Correlated response in litter traits to selection for intramuscular fat in Duroc swine.** A. L. Bushman*, T. J. Baas, C. R. Schwab, and K. J. Stalder, *Iowa State University, Ames.*
- 11:00 AM 44 **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.*
- 11:15 AM 45 **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.*
- 11:30 AM 46 **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 Vleck^{1,2}, ¹*University of Nebraska, Lincoln*, ²*U.S. Meat Animal Research Center, Clay Center, NE.*
- 11:45 AM 47 **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. DeRouche¹, and J. L. Nelsens¹, ¹*Kansas State University, Manhattan*, ²*Zoltenko Farms, Inc., Hardy, NE.*

Teaching and Career Development Undergraduate Teaching

**Chair: Dan Moser, Kansas State University, Manhattan
146**

- 9:00 AM 328 **Experiential learning model for value-added agricultural marketing.** G. Onan* and B. Boetel, *University of Wisconsin, River Falls.*
- 9:15 AM 329 **Pork Industry Fellows program at Iowa State University.** T. J. Baas*, M. G. Hogberg, and A. E. Christian, *Iowa State University, Ames.*
- 9:30 AM **Roundtable Discussion: Assessment of Student Learning.**

Breeding and Genetics II Molecular and Quantitative Genetics

**Chair: Eric Antoniou, University of Missouri, Columbia
140**

Sponsored by: GeneSeek, Inc.

- 1:00 PM 48 **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.*
- 1:15 PM 49 **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

J. C. M. Dekkers¹, ¹*Iowa State University, Ames*, ²*University of Edinburgh, Edinburgh, Scotland, UK*, ³*Aviagen Ltd., Edinburgh, Scotland, UK*.

- 1:30 PM 50 **Associations of candidate SNP on age, leptin concentration, backfat, and body weight at puberty in gilts.** L. A. Kuehn^{*1}, D. J. Nonneman¹, Z. Jiang², K. A. Leymaster¹, and T. H. Wise¹, ¹*USDA-ARS U.S. Meat Animal Research Center, Clay Center, NE*, ²*Washington State University, Pullman*.
- 1:45 PM 51 **Evaluation of molecular marker information to improve efficacy of selection for intramuscular fat via ultrasound in Duroc swine.** C. R. Schwab^{*}, B. E. Mote, M. F. Rothschild, and T. J. Baas, *Iowa State University, Ames*.
- 2:00 PM 52 **An A-optimal statistical design for post-hybridization washing procedures in Affymetrix micorarray experiments.** L. Qu^{*}, D. Nettleton, and J. C. M. Dekkers, *Iowa State University, Ames*.
- 2:15 PM 53 **Correspondence of relationships between breeding lines based on marker allele frequencies and marker-marker linkage disequilibrium.** C. Andreescu^{*1}, J. H. Ralph², A. Hassen¹, S. J. Lamont¹, and J. C. M. Dekkers¹, ¹*Iowa State University, Ames*, ²*Aviagen Ltd., Newbridge, Edinburgh, UK*.

Dairy Extension I

Dairy Extension Symposium

**Chair: Spence Driver, Vita Plus Corp, Iola, WI
204AB**

Sponsored by: Pioneer, The DuPont Company

- 1:00 PM 61 **(Invited) Research in applied dairy cattle nutrition.** M. L. Eastridge^{*}, *The Ohio State University, Columbus*.
- 1:30 PM 62 **(Invited) Challenges for feeding dairy cows in the next decade.** M. Hutjens^{*}, *University of Illinois, Urbana*.
- 2:00 PM 63 **(Invited Young Scholar) (Dairy Innovation Award) Evaluation of carnitine for fatty liver prevention in dairy cows.** D. B. Carlson^{*} and J. K. Drackley, *University of Illinois, Urbana*.
- 2:30 PM 64 **(Invited Young Scholar) Utilization of amino acids for milk protein synthesis by lactating dairy cows fed distillers grains plus solubles (DDGS).** D. H. Kleinschmit^{*1} and D. J. Schingoethe², ¹*Agri-King, Inc., Fulton, IL*, ²*South Dakota State University, Brookings*.
- 3:00 PM **Break.**
- 3:15 PM **(Invited) How do Universities Generate Good Data in the Future?** J.G. Linn, *University of Minnesota, St. Paul*.
- 3:45 PM 65 **(Invited) Conducting on-farm research to generate good data.** M. T. Socha^{*}, D. J. Tomlinson, J. M. DeFrain, and T. L. Ward, *Zinpro Corporation, Eden Prairie, MN*.
- 4:15 PM 66 **(Invited) Statistical issues pertaining to on-farm and experiment station research.** R. J. Tempelman^{*}, *Michigan State University, East Lansing*.

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.*
- 1:30 PM 108 (Invited) The influence of thiazolidinediones on marbling in pigs: in vitro studies of muscle stromal-vascular (S-V) cells from fetal and young pigs and in vivo studies of growing pigs. G. J. Hausman*¹, S. P. Poulos², T. D. Pringle³, and M. J. Azain³, ¹USDA ARS, Athens,GA, ²Coca Cola, Atlanta,GA, ³University of Georgia, Athens.
- 2:00 PM 109 (Invited) Industry perspective on marbling:packer/processor. C. M. Schultz Kaster*, *Premium Standard Farms, Milan, MO.*
- 2:30 PM 110 (Invited) Why does a chef look for marbling in pork? P. Geoghegan* and A. T. Waylan, *Cargill, Inc., Wichita, KS.*
- 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.
- 1:15 PM 144 Effects of dietary chromium tripicolinate on growth performance, body temperature, respiratory rate, and plasma cortisol of pigs during immune stress. B. G. Kim*, M. D. Lindemann, and G. L. Cromwell, *University of Kentucky, Lexington.*
- 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. Matte², T. Vasanthan¹, and R. T. Zijlstra¹, ¹University of Alberta, Edmonton, AB, ²Agriculture and Agri-Food Canada, Sherbrooke (Lennoxville), QC, Canada.
- 1:45 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.*
- 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.

- 2:15 PM 148 **Impact of growth-promoting antibiotics on growth performance in nursery and finishing pigs.** J. Holt*, E. van Heugten, M.T. Sec, M. Morrow, A. Graves, and K. Zering, *North Carolina State University, Raleigh.*
- 2:30 PM **Break.**
- 2:45 PM 149 **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, ¹*Hanor Company of Wisconsin, LLC, Franklin, KY*, ²*Swine Tek Research and Consulting, Van Wert, OH.*
- 3:00 PM 150 **Response to feeding 5 ppm ractopamine to finisher swine: Weekly and overall performance and carcass quality.** J. Patience*¹, A. Beaulieu¹, P. Leterme¹, Z. Pietrasik², P. Shand², and J. Merrill³, ¹*Prairie Swine Centre Inc., Saskatoon, SK Canada*, ²*University of Saskatchewan, Saskatoon, SK Canada*, ³*Elanco Animal Health, Guelph, ON Canada.*
- 3:15 PM 151 **Response to feeding 5 ppm ractopamine to finisher swine: Pork quality.** Z. Pietrasik¹, P. Shand¹, D. Beaulieu*², P. Leterme², J. Merrill³, and J. Patience², ¹*University of Saskatchewan, Saskatoon, SK Canada*, ²*Prairie Swine Centre Inc., Saskatoon, SK Canada*, ³*Elanco Animal Health, Guelph, ON Canada.*
- 3:30 PM 152 **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.*
- 3:45 PM 153 **Effects of choice white grease or soybean oil on growth performance and fat quality characteristics in finishing pigs.** J. M. Benz*, M. D. Tokach, S. S. Dritz, J. L. Nelszen, J. M. DeRouchey, and R. D. Goodband, *Kansas State University, Manhattan.*
- 4:00 PM 154 **Supplemental effect of dried extracted brown seaweed (*Ascophyllum nodosum*) on growth and immunity of finishing pigs.** D. A. Monson*, J. R. Blanton Jr, M. J. Anderson, S. O. Rao, and S. W. Kim, *Texas Tech University, Lubbock.*
- 4:15 PM 155 **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, ¹*ADM Animal Nutrition, Quincy, IL*, ²*Diamond V Mills, Cedar Rapids, IA*, ³*Swine Graphics Enterprises, Webster City, IA*, ⁴*The 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

- 1:00 PM 230 **(Invited) Effects of nutrition on oocyte quality and early embryonic development in sheep.** A. T. Grazul-Bilska*, J. S. Caton, E. Borowczyk, D. A. Redmer, and L. P. Reynolds, *Center for Nutrition and Pregnancy, Cell Biology Center, and Department of Animal and Range Sciences, North Dakota State University, Fargo, ND.*

- 1:40 PM 231 **(Invited) Elucidating the mechanisms involved in oocyte quality by examining gene expression.** R. L. Krisher*, *Purdue University, West Lafayette, IN.*
- 2:20 PM 232 **(Invited) Effect of embryo biotechnologies on genetic imprinting.** X. C. Tian*, *University of Connecticut, Storrs.*

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.*
- 1:15 PM 278 **Effect of increasing pea level on feedlot performance and carcass characteristics in finishing beef steers.** D. M. Larson*, G. P. Lardy, M. L. Bauer, and K. Maddock-Carlin, *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, ¹*University of Nebraska, Lincoln*, ²*Dakota 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. Klopfenstein, K. Vander Pol, M. Greenquist, and M. Luebbe, *University of Nebraska, Lincoln.*
- 2:15 PM 282 **Effect of wet distillers grains level on feedlot cattle performance and nitrogen mass balance.** M. K. Luebbe*, G. E. Erickson, T. J. Klopfenstein, and M. A. Greenquist, *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, ¹*North Dakota State University, Fargo*, ²*Carrington 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, ¹*University of Nebraska, Lincoln*, ²*Dakota 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, ¹*Kansas State University, Manhattan*, ²*University of Minnesota, St. Paul.*
- 3:30 PM 286 **Evaluation of degermed corn distiller's grains fed to finishing heifers.** B. E. Depenbusch*, E. R. Loe, M. J. Quinn, M. E. Corrigan, and J. S. Drouillard, *Kansas State University, Manhattan.*

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

- 1:30 PM 1 **Relationship of measures of disposition and feed intake and growth performance of steers.** F. E. Creason*, W. H. Kolath, M. S. Kerley, and R. L. Weaber, *University of Missouri, Columbia.*
- 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, ¹*Universidad Catolica de Temuco, Temuco, Chile*, ²*University of Nebraska, Lincoln.*
- 2:15 PM 4 **The impact of crating gilts on bone metabolism.** M. W. Orth*, G. M. Hill, D. S. Rosenstein, J. E. Link, and C. I. O'Connor, *Michigan State University, East Lansing.*
- 2:30 PM 5 **Characterization of sow longevity and the developmental factors that influence it.** M. Hoge*¹ and R. Bates², ¹*Western Illinois University, Macomb*, ²*Michigan 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, ¹*TS Corporation, Incheon, Korea*, ²*Seoul National University, Seoul, Korea.*

- 1:45 PM 157 **Effects of weaning weight on growth performance, nutrient digestibility and integrity of small intestine in pigs weaned at 21 days of age.** K. H. Cho*¹, H. K. Oh², W. S. Ju², J. H. Yun², Y. D. Jang², and Y. Y. Kim², ¹*TS Corporation, Incheon, Korea*, ²*Seoul National University, Seoul, Korea*.
- 2:00 PM 158 **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. Benz¹, R. D. Goodband¹, M. D. Tokach¹, S. S. Dritz¹, J. M. DeRouchey¹, J. L. Nelssen¹, and D. McKilligan², ¹*Kansas State University, Manhattan*, ²*TechMix Inc., Stewart, MN*.
- 2:15 PM 159 **The effects of supplementing litters with a 2-phase milk replacer strategy during lactation on piglet growth performance.** J. R. Bergstrom*¹, J. K. Aldous¹, and R. Cabrera², ¹*Kerber Milling Company, Emmetsburg, IA*, ²*Ralco Nutrition, Inc., Marshall, MN*.
- 2:30 PM 160 **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, ¹*University of Missouri, Columbia*, ²*APC Inc., Ankeny, IA*.
- 2:45 PM 161 **Effects of humidity on flow ability of specialty protein ingredients used in weanling pig diets.** E. E. Carney, C. N. Groesbeck*, R. D. Goodband, M. D. Tokach, S. S. Dritz, J. L. Nelssen, and J. M. DeRouchey, *Kansas State University, Manhattan*.
- 3:00 PM 162 **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. McCann^{1,2}, and V. Beattie³, ¹*Queens University Belfast, Belfast, Down, Northern Ireland*, ²*Agri-Food and Biosciences Institute, Belfast, Down, Northern Ireland*, ³*Devenish Nutrition Limited, Belfast, Down, Northern Ireland*.
- 3:15 PM 163 **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. McCann^{1,2}, and V. Beattie³, ¹*Queens University Belfast, Belfast, Down, Northern Ireland*, ²*Agri-Food and Bioscience Institute, Belfast, Down, Northern Ireland*, ³*Devenish Nutrition Limited, Belfast, Down, Northern Ireland*.
- 3:30 PM 164 **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, ¹*The Ohio State University, Columbus*, ²*ADM Alliance Nutrition, Quincy, IL*.

Ruminant Nutrition IV
Fat and Fatty Acid Supplementation
Chair: Alvaro Garcia, South Dakota State University, Brookings
148

- 1:30 PM 271 **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*.
- 1:45 PM 272 **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,

and P. H. Walz³, ¹South Dakota State University, Brookings, ²Kansas State University, Manhattan, ³Auburn University, Auburn, AL.

- 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*¹, G. E. Erickson¹, T. J. Klopfenstein¹, P. Williams², and R. Losa³, ¹University of Nebraska, Lincoln, ²DSM Nutritional Products, Inc., Parsippany, NJ, ³CRINA 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.*
- 2:45 PM 276 **Effect of cane molasses on ruminal absorptive capacity of dairy cows during the periparturient period.** W. F. Miller*, B. J. Johnson, E. C. Titgemeyer, J. F. Smith, J. E. Shirley, and T. G. Nagaraja, *Kansas State University, Manhattan.*

Swine Extension

Chair: Marcia Shannon, University of Missouri, Columbia

140

Sponsored by: Pig Improvement Company

- 3:00 PM 318 **Pork Information Gateway attracts new users looking for swine and pork information.** D. J. Meisinger*¹ and M. T. See², ¹US Pork Center of Excellence, Ames, IA, ²North Carolina State University, Raleigh.
- 3:15 PM 319 **(National Pork Board Education Award) Characteristics of U.S. boar studs.** T. Safranski*, *University of Missouri, Columbia.*
- 3:30 PM 320 **The economic analysis of feeding cull sows to heavier weights.** R. F. Fitzgerald*, K. J. Stalder, L. Karriker, C. J. Johnson, L. Layman, T. J. Baas, and J. W. Mabry, *Iowa State University, Ames.*
- 3:45 PM 321 **Determination of diurnal feed intake pattern of multiparous lactating sows when fed ad libitum.** R. E. Howdyshe*¹, D. C. Mahan¹, and D. G. Levis², ¹The Ohio State University, Columbus, ²Southeast Research and Extension Center, University of Nebraska, Ithaca, NE.
- 4:00 PM 322 **Effect of “Skip-a-Heat” breeding on reproductive performance of weaned first parity sows.** A. Wellen*, J. Patterson, P. Zimmerman, M. Dyck, and G. Foxcroft, *Swine Research & Technology Centre, University of Alberta., Edmonton, Alberta, Canada.*
- 4:15 PM 323 **Responses to delayed estrus after weaning in sows using oral progestagen treatment.** J. Patterson*¹, A. Wellen¹, M. Hahn¹, M. Smit¹, A. Pasternak¹, J. Lowe², S. DeHaas², D. Kraus², N. Williams³, and G. Foxcroft¹, ¹Swine Research & Technology Centre, University of Alberta, Edmonton, Alberta, Canada, ²The Maschboffs, Inc, Carlyle, IL, ³PIC, Inc., Franklin, KY.

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

- 3:15 PM 233 (Invited Young Scholar) Somatic cell nuclear transfer in cattle. P. J. Ross*, Z. Beyhan, and J. Cibelli, *Cellular Reprogramming Laboratory, Michigan State University, East Lansing.*
- 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.*
- 4:15 PM 236 Seasonal, litter size, and birth order effects on farrowing intervals and stillbirth rate in swine. J. L. Vallet*, J. A. Nienaber, T. M. Brown-Brandl, and J. R. Miles, *USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.*
- 4:30 PM 237 Estrus induction and maintenance of cycles in gilts with PG600 and boar exposure. K. Moore*, C. Spinka, and T. Safranski, *University of Missouri, Columbia.*
- 4:45 PM 238 Influence of standing estrus and estradiol on time of uterine pH decline during a fixed-time AI protocol. J. R. Nelson*, B. L. Perry, and G. A. Perry, *South Dakota State University, Brookings.*
- 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

- 3:30 PM 111 Effect of swine diets supplemented with magnesium sulfate and electrolytes on pork quality. J. L. Humphreys*, M. S. Carlson, C. L. Bratcher, L. M. Pulz, and C. L. Lorenzen, *University of Missouri, Columbia.*
- 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. Radcliffe, A. Schinckel, 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.*
- 4:15 PM 114 The impact of acidic marination concentration and sodium chloride on sensory and instrumental color characteristics of dark-cutting beef. J. T. Sawyer*, J. K. Apple, and Z. B. Johnson, *University of Arkansas, Fayetteville.*
- 4:30 PM 103 Use of digital images to compare color in beef. R. Larrain*, D. Schaefer, and J. Reed, *University of Wisconsin, Madison.*

POSTER PRESENTATIONS

Sponsored by: Zinpro

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 Souza^{2,3}, L.T. Campos², R.L. Weaber¹, and W.R. Lamberson¹, ¹*University of Missouri-Columbia, Columbia, Mo USA*, ²*Parana Federal University, Brazil*, ³*Scholarship 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, ¹*Univeristy of Puerto Rico at Mayagüez, Mayagüez, Puerto Rico*, ²*USDA-ARS, Roman L. Hruska Meat Animal Research Center, Clay Center, NE*.
- 56 **Genetic relationships between swine maternal traits in different seasons.** M.T. Knauer* and M.T. See, *North Carolina State University, Raleigh*.
- 57 **Association between corticotropin-releasing hormone receptor 2 genotypes and meat quality traits in pigs.** I.S. Choi*, R.O. Bates, V.D. Rilmington, D.B. Edwards, N.E. Raney, M.E. Doumit, and C.W. Ernst, *Michigan State University, East Lansing, MI, USA*.
- 58 **Principal components for indirect measures of feeding behavior in pigs.** J. Young*¹, D. Casey², T. See¹, and J. Cassady¹, ¹*North Carolina State University, Raleigh*, ²*PIC, Hendersonville, TN*.
- 59 **Heritabilities of indirect measures of behavior and their relationships with performance.** B. Velie, E. Johnson*, and J. Cassady, *North Carolina State University, Raleigh*.
- 60 **Heritability of the backtest in pigs.** K. Gray*, B. Velie, and J. Cassady, *North Carolina State University, Raleigh*.

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*.

- 74 **Managing the grazing wedge in a pasture-based dairy system.** S. Hamilton*, T. Rickard, R. Kallenbach, B. Steevens, J. Horner, and R. Milhollin, *University of Missouri, Columbia.*

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, ¹*IRTA, Mas de Bover, Constantí, Spain*, ²*Lucta SA, Barcelona, Spain.*
- 207 **The effects of frequent out-of-feed events on growth performance of nursery, grower, and finisher pigs.** S. K. Linneen*, S. S. Dritz, R. D. Goodband, M. D. Tokach, J. M. DeRouche, and J. L. Nelssen, *Kansas State University, Manhattan.*
- 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. DeRouche, *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, ¹*University of Alberta, Edmonton, AB*, ²*Alberta Agriculture, Food and Rural Development, Brooks, AB*, ³*Prairie 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, ¹*Illinois State University, Normal*, ²*JBSUnited, 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, ¹*Pig Production Development Unit, Teagasc Moorepark, Fermoy, Co. Cork, Ireland*, ²*Forum 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, ¹*Pig Production Development Unit, Teagasc Moorepark, Fermoy, Co. Cork, Ireland*, ²*Forum Products Ltd., Redhill Surrey, England.*
- 213 **Effects of increasing amounts of true ileal digestible lysine on the growth performance of growing-finishing pigs reared in a commercial facility.** R. O. Gottlob, J. M. Benz*, S. S. Dritz, M. D. Tokach, R. D. Goodband, J. M. DeRouche, and J. L. Nelssen, *Kansas State University, Manhattan.*
- 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, ¹*University of Illinois, Urbana*, ²*Agri-King, Inc., Fulton, IL*, ³*Prince Agri Products, Quincy, IL.*
- 216 **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, ¹*South Dakota State University, Brookings*, ²*Syngenta Animal Nutrition, Research Triangle Park, NC*, ³*University of Illinois, Urbana.*

- 217 **Effectiveness of ractopamine hydrochloride on growth performance, carcass composition and sensory characteristics in heavy weight finishing swine.** C. T. Herr, B. A. Autrey, S. N. Carr*, D. H. Mowrey, and K. D. Miller, *Elanco Animal Health, Eli Lilly & Co., Greenfield, IN.*
- 218 **A spreadsheet method for experimental animal allotment.** B. G. Kim* and M. D. Lindemann, *University of Kentucky, Lexington.*
- 219 **(National Pork Board Research Award) Effects 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*¹, G. C. Shurson¹, E. Hubly², B. Miller², and B. de Rodas², ¹*University of Minnesota, St. Paul,* ²*Land O'lakes/Purina Feed.*
- 220 **Determination of P bioavailability in corn and sorghum distillers dried grains with solubles for growing pigs.** S. Jenkin*¹, S. Carter¹, J. Bundy¹, M. Lachmann¹, J. Hancock², and N. Cole³, ¹*Oklahoma State University, Stillwater,* ²*Kansas State University, Manhattan,* ³*USDA/ARS.*
- 221 **Determination of amino acid digestibility of corn, sorghum, and a corn-sorghum blend of dried distillers grains with solubles in growing pigs.** P. E. Urriola*¹, D. Hoehler², C. Pedersen³, H. H. Stein⁴, L. J. Johnston¹, and G. C. Shurson¹, ¹*University of Minnesota, St. Paul,* ²*Degussa Corporation, Kennesaw, GA,* ³*Danisco Animal Nutrition, Marlborough, UK,* ⁴*University of Illinois, Urbana.*
- 222 **Prediction of in vivo amino acid digestibility of dried distillers grains with solubles (DDGS) from selected physical and chemical characteristics.** P. E. Urriola*¹, D. Hoehler², C. Pedersen³, L. J. Johnston¹, and G. C. Shurson¹, ¹*University of Minnesota, St. Paul,* ²*Degussa Corporation, Kennesaw, GA,* ³*Danisco Animal Nutrition, Marlborough, UK,* ⁴*University of Illinois, Urbana.*

Ruminant Nutrition - Posters Exhibit Hall

- 296 **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.*
- 297 **Effect of vitamin A restriction on carcass characteristics and immune status of feedlot beef steers.** M. Gorocica-Buenfil, F. Fluharty, P. Tirabasso, G. Lowe, and S. Loerch*, *The Ohio State University, Wooster.*
- 298 **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.*
- 299 **The effect of supplementing milk replacer with synthetic amino acids on calf performance and health.** B. L. Miller*, T. E. Johnson, H. B. Perry, and T. J. Earleywine, *Land O'Lakes, Inc., Webster City, IA.*
- 300 **In situ ruminal phosphorus availability from corn and soybean feedstuffs.** K. MJOUN*, K.F. KALSCHUR, D. J. SCHINGOETHE, and A.R. HIPPEN, *SDSU, Brookings, SD, USA.*
- 301 **The effect of roasting field peas on in vitro estimated rumen undegradable protein.** T. C. Gilbery*¹, G. P. Lardy¹, M. Caglar-Tulbek¹, M. L. Bauer¹, and V. L. Anderson², ¹*North Dakota State University, Fargo,* ²*North Dakota State University, Carrington.*

- 302 **In situ dry matter disappearance evaluations of Readco®/calcium oxide treated corn replacement pellets when compared to native forms.** J. R. Sewell*¹, L. L. Berger¹, M. J. Cecava², P. H. Doane², J. L. Dunn², M. K. Dyer³, A. H. Grusby³, and N. A. Pyatt², ¹University of Illinois, Urbana, ²ADM Animal Nutrition Research Center, Decatur, IN, ³ADM James R. Randall Research Center, Decatur, IL.
- 303 **In vitro examination of rumen biohydrogenation (BH) of four dietary fats.** M. Carriquiry*¹, W. J. Weber¹, L. H. Baumgard², and B. A. Crooker¹, ¹University of Minnesota, St. Paul, ²University of Arizona, Tucson.
- 304 **Effects of feeding a polyclonal antibody preparation against selected rumen bacteria on rumen pH of lactating dairy cows.** N DiLorenzo*, C. R. Dahlen, J. E. Larson, R. K. Gill, and A. DiCostanzo, University of Minnesota, St Paul, MN, USA.
- 305 **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.
- 306 **Net energy in finishing diets for steers containing corn or high tannin sorghum.** R. Larrain*, D. Schaefer, and J. Reed, University of Wisconsin, Madison.
- 307 **Evaluation of a diet containing mustard bran for lactating dairy cows.** H. A. Maiga*¹, 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.
- 308 **Altering milk production and composition of early lactation dairy cows fed flax seed.** P. L. Nester*, J. W. Schroeder, K. A. Vonnahme, M.L. Bauer, W. L. Keller, and D. E Schimek, North Dakota State University, Fargo, North Dakota, USA.
- 309 **Response of yearling Holstein steers to ractopamine hydrochloride.** J. W. Lehmkuhler* and M. Ramos, University of Wisconsin, Madison.
- 310 **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.
- 311 **The effects of natural source vitamin E supplementation on reproductive efficiency in beef cows.** M. J. Richardson*¹, S. L. Lake¹, R. P. Lemenager¹, N. Pyatt², and M. Hilton¹, ¹Purdue University, West Lafayette, IN, ²ADM Animal Nutrition Research, Decatur, IN.
- 312 **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.
- 313 **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.
- 314 **Effect of source of selenium and vitamin E supplementation on performance and immune response in young dairy calves.** M. Mahmoud*¹, L. Braun¹, A. Hippen¹, C. Chase¹, and A. Harrison², ¹South Dakota State University, Brookings, ²Alltech, Inc., USA.
- 315 **In vitro release of ammonia nitrogen from various nitrogen sources in batch culture.** N. DiLorenzo* and A. DiCostanzo, University of Minnesota, St. Paul.

- 316 Relationships among ewe body condition scores, lamb vigor, colostrum quality, milk composition and reproductive performance. K. J. Rozeboom, B. D. Neale, and C. S. Darroch*, *University of Tennessee, Martin*.
- 317 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

148

- 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*.
- 9:15 AM 68 Effect of feeding a commercial colostrum substitute on risk for transmission of mycobacterium avium subsp. paratuberculosis in newborn calves— descriptive preliminary data. P. Pithua*, S. M. Godden, and S. J. Wells, *University of Minnesota, St. Paul*.
- 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. Geha*¹, J. F. Keown¹, and L. D. Van Vleck^{1,2}, ¹*University of Nebraska, Lincoln*, ²*U.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*¹, M. W. Grott¹, D. C. Batson², and M. M. Schutz¹, ¹*Purdue University, West Lafayette, IN*, ²*MaGüX Inc., Past 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*.

Nonruminant Nutrition V
DDGS in Swine Diets
Chair: Hans Stein, University of Illinois, Urbana
136-138
Sponsored by: JBS United, Inc.

- 9:00 AM 165 **Digestible energy content of corn- vs sorghum-based distillers dried grains with solubles in finishing pigs.** C. Feoli*¹, J. D. Hancock¹, C. Monge¹, T. L. Gugle¹, S. D. Carter², and N. A. Cole³, ¹*Kansas State University, Manhattan*, ²*Oklahoma State University, Stillwater*, ³*USDA/ARS, Bushland, TX.*
- 9:15 AM 166 **Effects of corn- and sorghum-based distillers dried grains with solubles on growth performance and carcass characteristics in finishing pigs.** C. Feoli*¹, J. D. Hancock¹, C. Monge¹, T. L. Gugle¹, S. D. Carter², and N. A. Cole³, ¹*Kansas State University, Manhattan*, ²*Oklahoma State University, Stillwater*, ³*USDA/ARS, Bushland, TX.*
- 9:30 AM 167 **Effects of dried distillers grain with solubles on grow-finish pig performance.** S. K. Linneen*, M. D. Tokach, J. M. DeRouchey, S. S. Dritz, R. D. Goodband, J. L. Nelssen, R. O. Gottlob, and R. G. Main, *Kansas State University, Manhattan.*
- 9:45 AM 168 **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.*
- 10:00 AM 169 **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.*
- 10:15 AM 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, ¹*University of Minnesota, St. Paul*, ²*Hormel Foods.*
- 10:30 AM 93 **Prediction of in vivo amino acid digestibility in dried distillers grains with solubles (DDGS) from crude protein, optical density and fluorescence.** P. E. Urriola*¹, D. Hoehler², C. Pedersen³, H. H. Stein⁴, L. J. Johnston¹, and G. C. Shurson¹, ¹*University of Minnesota, St. Paul*, ²*Degussa Corporation, Kennesaw, GA*, ³*Danisco Animal Nutrition, Marlborough, UK*, ⁴*University of Illinois, Urbana.*
- 10:45 AM 172 **Use of dried distillers grains with solubles in diets for lactating sows.** M. Song*, S. K. Baidoo, G. C. Shurson, and L. J. Johnson, *University of Minnesota, St. Paul.*

Nonruminant Nutrition VI Swine Breeding Herd Nutrition

Chair: Daniel A. Nelson, Land O'Lakes Purina Feed, St. Paul, MN
142-144

- 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.*
- 9:15 AM 174 **The effects of feeding schedule on body condition, aggressiveness, and reproductive failure in group housed sows.** J. D. Schneider*, M. D. Tokach, S.S. Dritz, R. D. Goodband, J. L. Nelssen, and J. M. DeRouchey, *Kansas State University, Manhattan.*
- 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, ¹*University of Missouri, Columbia*, ²*Ajinomoto Heartland LLC, Chicago, IL*, ³*The Hanor Company, Inc., Franklin, KY.*
- 9:45 AM 176 **Effect of Progenos on placenta and fetal development in pigs.** W. Hazeleger¹, P. Ramaekers*², C. Smits², and B. Kemp¹, ¹*Department of Animal Sciences, Wageningen UR, Wageningen, The Netherlands*, ²*Nutreco Netherlands BV, Swine Research Centre, Boxmeer, The Netherlands.*
- 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, ¹*Texas Tech University, Lubbock*, ²*Dodram 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, ¹*Texas Tech University, Lubbock*, ²*USDA-ARS-LIRU, Lubbock, TX*, ³*Dodram 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, ¹*University of Missouri, Columbia*, ²*Ajinomoto Heartland LLC, Chicago, IL*, ³*Novus International, Inc., St. Charles, MO*, ⁴*Innovative 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, ¹*LSU Agricultural Center, Baton Rouge, LA*, ²*APC Inc., Ankeny, IA.*
- 11:30 AM 182 **The use of crystalline amino acids in lactating primiparous sow diets.** P. Srichana*¹, J. L. Usry², C.D. Knight³, L. Greiner⁴, and G.L. Allee¹, ¹*University of Missouri, Columbia*, ²*Ajinomoto Heartland LLC, Chicago, IL*, ³*Novus International, Inc., St. Charles, MO*, ⁴*Innovative Sow Solutions LLC, Carthage, IL.*

- 11:45 AM 183 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, ¹*APC Incorporated, Ankeny, IA*, ²*The Hanor Company Incorporated, Franklin, KY*, ³*JBS 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*.
- 9:20 AM 228 (Invited) Assessing risk of phosphorus transport to midwestern surface waters. A. P. Mallarino*, *Iowa State University, Ames, Iowa*.
- 10:00 AM (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 (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. Coblenz², T. Montgomery³, W. Whitworth³, R. McNew¹, and R. Ogden², ¹*University of Arkansas, Fayetteville*, ²*USDA-ARS, Marshfield, WI*, ³*University of Arkansas SE Research and Extension Center, Monticello*.

- 9:45 AM 343 **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.*
- 10:00 AM **Break.**
- 10:15 AM 244 **Impacts of placentome type on angiogenic factor expression and vascularity in the ewe.** W. J. Arndt*, P. P. Borowicz, M. L. Johnson, L. P. Reynolds, and K. A. Vonnahme, *North Dakota State University, Fargo.*
- 10:30 AM 245 **Effects of maternal selenium and dietary restriction on placentome development and proliferation.** L. Lekatz*, J. S. Caton, P. B. Borowicz, D. A. Redmer, L. P. Reynolds, and K. A. Vonnahme, *North Dakota State University, Fargo.*
- 10:45 AM 246 **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.*
- 11:00 AM 247 **Glucose tolerance of offspring born from ewes receiving differing nutritional levels during pregnancy.** C. M. Effertz*, J. S. Caton, C. J. Hammer, J. S. Luther, T. L. Neville, J. J. Reed, D. A. Redmer, L. P. Reynolds, and K. A. Vonnahme, *North Dakota State University, Fargo.*

Ruminant Nutrition V Pasture & Forages

**Chair: Eugene Felton, West Virginia University, Morgantown
204AB**

- 9:00 AM 290 **Summary analysis of yearling cattle response to distillers grains supplementation.** M. A. Greenquist*¹, T. J. Klopfenstein¹, L. Lomas², D. Blasi², D. C. Adams¹, W. H. Schacht¹, S. E. Morris¹, K. H. Gustad¹, R. N. Funston¹, J. C. MacDonald¹, and M. Epp², ¹*University of Nebraska, Lincoln*, ²*Kansas State University, Manhattan.*
- 9:15 AM 291 **Nutritive value of fall-grown cereal-grain forages over time.** M. S. Akins*¹, E. B. Kegley¹, J. L. Gunsaulis², W. K. Coblenz³, K. S. Lusby¹, R. K. Ogden³, J. D. Caldwell¹, R. K. Bacon¹, and K. P. Coffey¹, ¹*University of Arkansas, Fayetteville*, ²*University of Arkansas Extension - Washington County, Fayetteville, AR*, ³*USDA-ARS, Marshfield, WI.*
- 9:30 AM 292 **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*¹, W. K. Coblenz², R. K. Ogden², J. D. Caldwell¹, D. H. Hubbell, III¹, T. W. Hess¹, L. J. Martin¹, C. P. West¹, M. S. Akins¹, Z. B. Johnson¹, and C. F. Rosenkrans, Jr.¹, ¹*University of Arkansas, Fayetteville*, ²*USDA-ARS, Marshfield, WI.*
- 9:45 AM 293 **The quality of smooth brome grass 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.*
- 10:00 AM 294 **Growth performance by fall-calving cows grazing stockpiled tall fescue pastures with different proportions stockpiled until late fall.** J. D. Caldwell*¹, K. P. Coffey¹, W. K. Coblenz², R. K. Ogden², J. A. Jennings¹, T.

F. Smith¹, D. S. Hubbell, III¹, and C. F. Rosenkrans, Jr.¹, ¹*University of Arkansas, Fayetteville*, ²*USDA-ARS, Marshfield, WI*.

- 10:15 AM 91 **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*.

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*¹, 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-Lardy¹, and K. G. Odde¹, ¹*North Dakota State University, Fargo*, ²*West River Consulting, Dickinson, ND*, ³*Stark County Extension Office, Dickinson, ND*, ⁴*Logan County Extension Office, Napoleon, ND*, ⁵*Kidder 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*.
- 11:30 AM 24 **Economic model for determining byproduct returns in finishing diets.** C. D. Buckner*, T. J. Klopfenstein, G. E. Erickson, D. R. Mark, and V. R. Bremer, *University of Nebraska, Lincoln*.

**MIDWEST SECTION ADSA/ASAS
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 1984 G. C. Fahey, Jr., University of Illinois
 1985 J. J. Ford, Roman L. Hruska U.S. Meat Animal Research Center
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 1980 T. R. Carr, University of Illinois
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 1993 D. K. Combs, University of Wisconsin, Madison
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1990	J. R. Romans, South Dakota State University
1991	J. E. Pettigrew, University of Minnesota
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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
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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
2004	G. C. Shurson, University of Minnesota
2005	A. L. Grant, Purdue University
2006	D. L. Hancock, Elanco Animal Health, Greenfield, IN

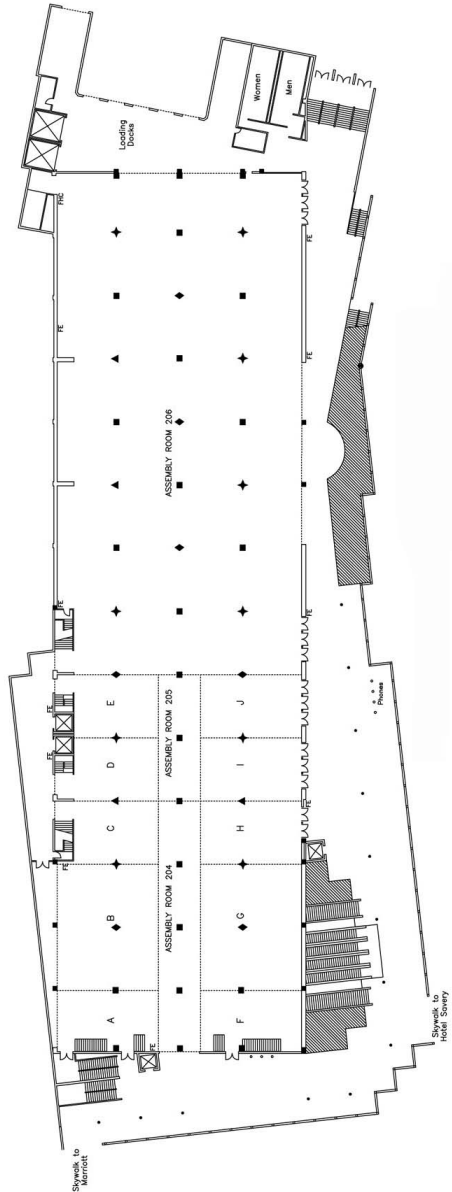
ADSA MIDWEST BRANCH PRESIDENTS

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

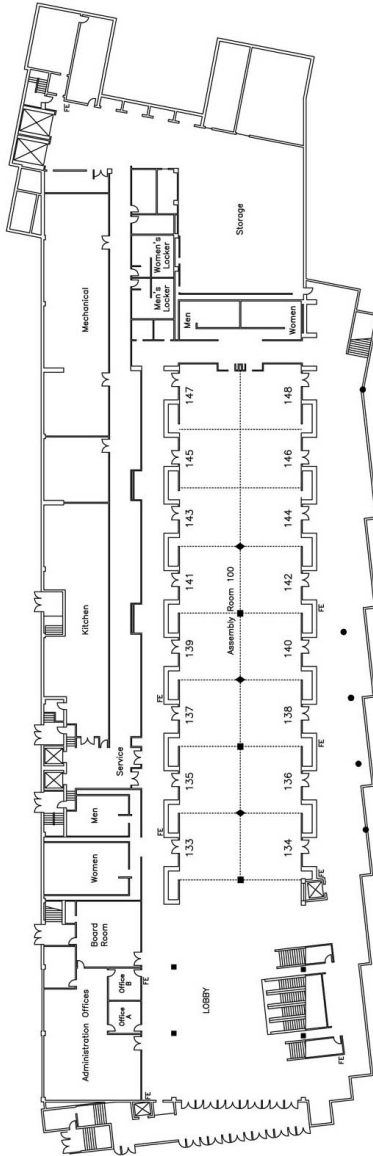
FUTURE MEETINGS

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

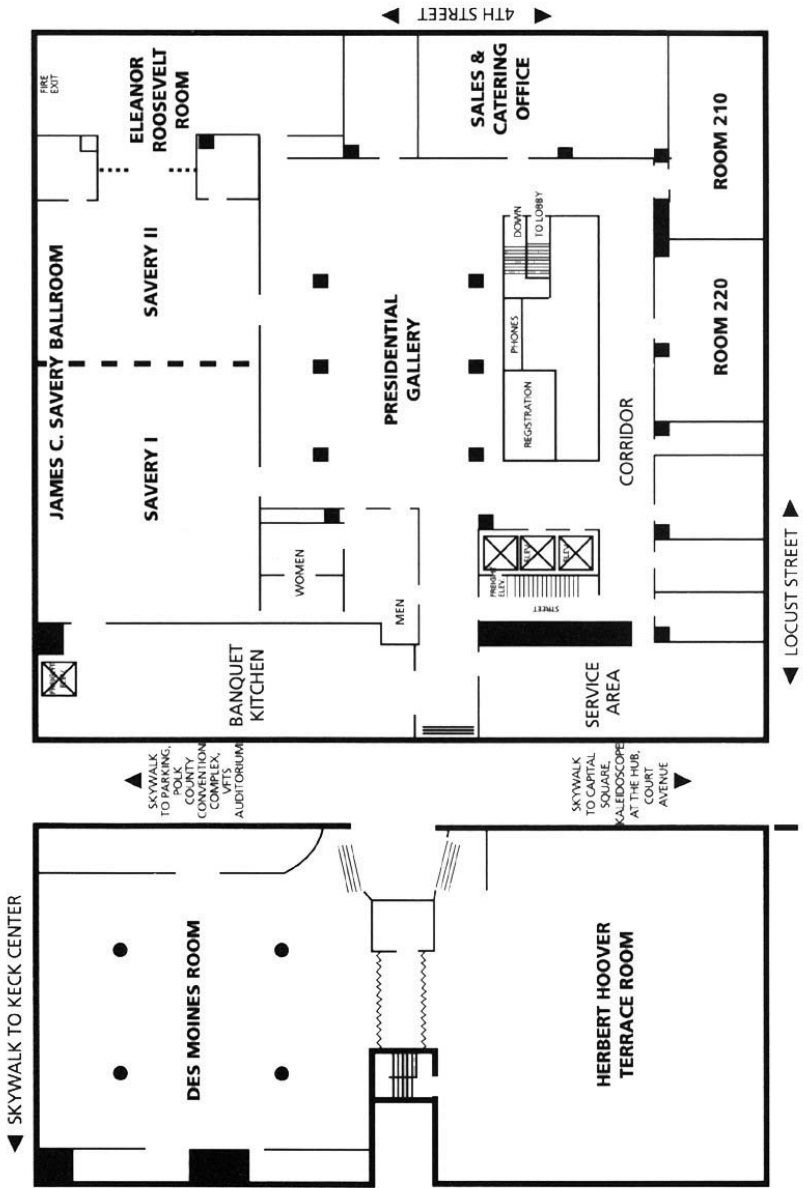
POLK COUNTY CONVENTION COMPLEX Upper Level



POLK COUNTY CONVENTION COMPLEX Lower Level



THE SAVERY HOTEL SECOND FLOOR



Room Assignments

ACTIVITY **ROOM**

Monday p.m.

Graduate Student Competitive Papers– M.S.	205IJ
Graduate Student Competitive Papers– Ph.D.	204AB
Undergraduate Student Competitive Papers	204C
David H. Baker Amino Acid Symposium	204FG
Ruminant Nutrition I, Feedlot Nutrition	136–138
AQ Quiz Bowl	204FG

Poster Presentations

Graduate Student Competitive Papers– M.S.	Exhibit Hall
Graduate Student Competitive Papers– Ph.D.	Exhibit Hall
Animal Behavior, Housing and Well-Being	Exhibit Hall
Beef Extension	Exhibit Hall
Growth and Development, Muscle Biology and Meat Science	Exhibit Hall
Nonruminant Nutrition	Exhibit Hall
Physiology	Exhibit Hall
Swine Extension	Exhibit Hall

Tuesday a.m.

Beef Extension I, Animal Behavior, Housing, Well Being I, Facility Design and Management for Finishing Beef Cattle Symposium	205IJ
Billy N. Day Symposium	204FG
Nonruminant Nutrition I, Nursery Pig Nutrition I	136–138
Nonruminant Nutrition II, Swine Feedstuffs	142–144
Odor and Nutrient Management I	140
Ruminant Nutrition II, Lipid Metabolism & Supplementation Symposium	204AB
Breeding and Genetics I, Quantitative Genetics	148
Teaching and Career Development, Undergraduate Teaching	146

Tuesday p.m.

Breeding and Genetics II, Molecular and Quantitative Genetics	140
Dairy Extension I, Dairy Extension Symposium	204AB

Growth and Development, Muscle Biology and Meat Science I, Pork Quality: Integrating Biology to Carcass Value and Consumer Demand Symposium	205IJ
Nonruminant Nutrition III, Grow-Finish Swine Nutrition	136–138
Nonruminant Nutrition IV, Nursery Pig Nutrition II	142–144
Physiology I, Recent Advances in Our Understanding of Oocyte Quality Symposium	204FG
Ruminant Nutrition III, Feedlot Co-product Utilization	146
Ruminant Nutrition IV, Fat and Fatty Acid Supplementation	148
Animal Behavior, Housing, Well Being II	204C
Swine Extension	140
Physiology II, Basic and Applied Advances in Reproductive Technologies	204FG
Growth and Development, Muscle Biology and Meat Science II	205IJ

Poster Presentations

Breeding and Genetics	Exhibit Hall
Dairy Extension	Exhibit Hall
Nonruminant Nutrition	Exhibit Hall
Ruminant Nutrition	Exhibit Hall

Wednesday a.m.

Dairy Extension II	148
Nonruminant Nutrition V, DDGS in Swine Diets	136–138
Nonruminant Nutrition VI, Swine Breeding Herd Nutrition	142–144
Odor and Nutrient Management II, Beef Extension II	204FG
Physiology III, Nutritional Influences on Reproductive Physiology	205IJ
Ruminant Nutrition V, Pasture & Forages	204AB
Beef Extension III	204AB