Sunday, July 16, 2023

ASAS-NANP Symposium
Chair: Luis Tedeschi, Texas A&M University
8:00 AM - 5:00 PM
EAST MAIN: 115 Brazos

8:00 a.m. ASAS-NANP Symposium Introduction

8:10 a.m. 1 Creating sensor systems for real time animal management
Tami M. Brown-Brandl ¹
¹University of Nebraska-Lincoln

8:50 a.m. 2 Satellite-based decision support tools to assist grazing cattle production
Marcia H M R Fernandes ¹, Luis O. Tedeschi ²
¹Sao Paulo State University, UNESP, ²Texas A&M University

9:30 a.m. ASAS-NANP Symposium Break I

9:50 a.m. 3 Overview of poultry modeling evolution
Edgar O. Oviedo-Rondón ¹
¹North Carolina State University

10:30 a.m. 4 Hands-on I: Building an Agent-Based Model in AnyLogic
Wade McDonald ¹
¹University of Saskatchewan

12:00 p.m. Roundtable Discussions/Updates I
Aline Remus ¹
¹AAFC

12:20 p.m. ASAS-NANP Symposium Lunch Break

1:20 p.m. 5 Hands-on II: The role of system dynamics modeling for sustainable livestock production
Alberto S. Atzori ¹
¹Dipartimento di Agraria, Università di Sassari, Sassari 07100, Italy

2:50 p.m. ASAS-NANP Symposium Break II
3:10 p.m. 6  Hands-on III: Building digital twins for precision livestock farming: Data analytics and big data challenges
Jian Tao 1, Egleu D. M Mendes 2, Yalong Pi 1, Alyssa Cassity 1, Revanth Reddy Male 1, Karun Kaniyamattam 1, Nick Duffield 1, Luis O. Tedeschi 1
1Texas A&M University, 2Texas A&M University / Department of Animal Science

4:40 p.m. Roundtable Discussions/Updates II
Hector M. Menendez 1, Luis O. Tedeschi 2
1South Dakota State University, 2Texas A&M University

WSASAS Beef Symposium
Chair: Andrés Cibils, Southern Plains Climate Hub, USDA ARS OCPARC; Glenn Duff, New Mexico State University
12:45 PM - 5:15 PM
EAST UPPER: 235 Mesilla

12:45 p.m. WSASAS Beef Symposium Introduction

12:50 p.m. 7 Contribution of the beef industry to the economy of the Great Plains and Western U.S.: Past, present, and future
Jaime R. Luke 1, Glynn T. Tonsor 1
1Kansas State University

1:20 p.m. 8 Impacts of future climate scenarios on the beef industry of the Great Plains and Western US
Sara E. Place 1
1AgNext, Colorado State University

1:50 p.m. 9 Practical considerations for adaptive strategies by United States grazing land managers with a changing climate
Justin D. Derner 1, Hailey Wilmer 2, Kim R. Stackhouse-Lawson 3, Sara E. Place 3, Mark V. Boggess 2
1USDA-Agricultural Research Service, 2USDA Agricultural Research Service, 3AgNext, Colorado State University

2:20 p.m. 10 What role could old/heritage genetics play in climate adaptation?
Eileen Armstrong 1
1Facultad de Veterinaria, Universidad de la Republica, Uruguay

2:50 p.m. 11 Precision Livestock Farming tools for climate-smart ranching
Santiago Utsumi 1
1Department of Animal and Range Science, New Mexico State University

3:20 p.m. WSASAS Beef Symposium Break - Sponsored by the SW Beef CAP

3:30 p.m. 12 Tools for climate-smart decision making for the stocker/feedlot sector
Glenn C. Duff 1, Bianca Birkenstock 1, Mackenzie M. Smithyman 1
1New Mexico State University
4:00 p.m. 13 **Precision livestock farming tools for climate-smart feedyard operations**
Luis O. Tedeschi ¹, Egleu D. M Mendes ²
¹Texas A&M University, ²Texas A&M University / Department of Animal Science

4:30 p.m. 14 **Regional beef supply chain vulnerabilities to climate change**
David Anderson ¹
¹Texas A&M AgriLife Extension

5:00 p.m. **WSASAS Beef Symposium Discussion**

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**Monday, July 17, 2023**

**Public Policy Symposium**

Chair:
8:15 AM - 9:30 AM
EAST UPPER: 215 San Miguel

8:15 a.m. 416 **Urgency to address infrastructure in animal sciences–A preliminary report**
Don R. Mulvaney ¹, Katie Corbitt ¹, Lowell Randel ², Kristi M. Cammack ³, Russell Cross ⁴, Ellen Davis ⁵, Teresa A. Davis ⁶, Chris Gambino ⁷, Robert Godfrey ⁸, Gordon K. Murdoch ⁹, Larry P. Reynolds ¹⁰, Penny K. Riggs ¹¹, Doug R. Tolleson ¹², Janice Swanson ¹², Meghan Wulster-Radcliffe ¹³, Shawn L. Archibeque ¹⁴
¹Auburn University, ²RandellGroup, ³South Dakota State University, ⁴Texas A&M University, ⁵ChurchDwight, ⁶USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, ⁷The Breakthrough Institute, ⁸USDA NIFA, ⁹Washington State University, ¹⁰North Dakota State University, ¹¹Department of Animal Science, Texas A&M University, and Texas A&M AgriLife Research, ¹²Michigan State University, ¹³ASAS, ¹⁴Colorado State University

8:30 a.m. **Discussion with Public Policy Committee**

8:45 a.m. **DC Snack and Fact talk to Congressional staffers: Cows, carbon and climate**
Doug R. Tolleson ¹, Chris Gambino ²
¹Texas A&M University, ²The Breakthrough Institute

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**CSAS Graduate Student Oral Competition: MS**

Chair: Lee-Anne Huber, University of Guelph
8:15 AM - 12:00 PM
WEST LOWER: 18 Cochiti, Taos

8:15 a.m. 204 **Evaluation of the chemical composition and animal performance of intermediate wheatgrass (Thinopyrum intermedium) regrowth for potential fall grazing of beef cattle**
Ekoria Chan ¹, Kim H. Ominski ¹, Douglas J. Cattani ¹, Gary Crow ¹, Emma J. J. McGeough ¹
¹University of Manitoba
8:30 a.m. 205  Level of supplemental fat in the diet of gestating beef cows: Effects on cow and calf performance.
Erika E. Cornand 1, Kathy A. Larson 2, Carolyn J. Fitzsimmons 3, John J. McKinnon 4, Herbert A. Lardner 4
1Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada, S7N 5A8, 2Department of Agricultural and Resource Economics, University of Saskatchewan, 3Agriculture and Agri-Food Canada, Edmonton, AB Canada; Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 4Department of Animal and Poultry Science, University of Saskatchewan

8:45 a.m. 206  Effect of dietary supplementation of peanut skins with and without polyphenols on rumen fermentation and bacterial community of finishing meat lambs
Tharun Tej Erukulla 1, Modoluwanmu Idowu 2, Andres A. Pech-Cervantes 1, Godstime A. Taiwo 2, Ibukun M. Ogunade 2, Thomas H. Terrill 1, Zaira M. Estrada-Reyes 3
1Fort Valley State University, 2West Virginia University, 3North Carolina A & T University

9:00 a.m. 207  Effect of sodium sulfate in water and dietary bismuth subsalicylate on feed and water intake, ruminal hydrogen sulfide concentration, and trace mineral status of growing beef heifers
Mikaela G. Evans 1, John R. Campbell 2, Gabriel O. Ribeiro 3, Darren D. H. Henry 4, Cheryl Waldner 5, Greg B. Penner 3
1Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, 2Department of Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan, 3Department of Animal and Poultry Science, University of Saskatchewan, 4University of Georgia, 5Western College of Veterinary Medicine, University of Saskatchewan

9:15 a.m. 208  Impact of feeding a novel probiotic on ruminal fermentation, methane production, and nutrient utilization in beef cattle.
Ignacio Fernandez Marenchino 1, Liza Garcia 1, Araceli B. Maderal 1, Federico Tamonsky 1, Federico Podversich 1, Juan Vargas 1, Wilmer Cuervo 1, Macarena Gomez-Salmeral 1, Vanesa Ramirez-Sepulveda 1, Horacio Blanchard 1, Sabina Novo 1, Tessa M. Schulmeister 1, Nicolas DiLorenzo 2
1University of Florida, 2Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

9:30 a.m. 209  Prevalence of antimicrobial resistance genes and mobile genetic elements in the swine gut microbiome
Taylor M. McCullough 1, Vahab Farzan 2, Michael Surette 3, Nazim Cicek 1, Hooman Derakhshani 1
1University of Manitoba, 2University of Guelph, 3McMaster University

9:45 a.m. 210  Effects of dietary supplementation of peanut skins (Arachis hypogaea) on performance, digestibility, and rumen fermentation of cattle: A meta-analysis
Oluwatoyin Rukayat Osuolale 1, Modoluwanmu Idowu 2, Andres A. Pech-Cervantes 1, Godstime A. Taiwo 2, Francisca Eichie 2, Ibukun M. Ogunade 2, Thomas H. Terrill 1
1Fort Valley State University, 2West Virginia University

10:00 a.m.  CSAS Graduate Student Oral Competition: MS Break
10:15 a.m.  211  Evaluation of beef heifer variability in the ability to eat and digest a high forage diet
Nikita A. Payne 1, Greg B. Penner 1, Herbert A. Lardner 1, Wade Abbott 2, Robert J. Gruninger 2, Gabriel O. Ribeiro 1
1Department of Animal and Poultry Science, University of Saskatchewan, 2Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

10:30 a.m.  212  Genome-wide association study investigating the genomic components of efficiency in beef cows
Laine T. Radwell 1, Justin J. Delver 1, Herbert A. Lardner 1, Greg B. Penner 1, Mika Asai-Coakwell 1
1Department of Animal and Poultry Science, University of Saskatchewan

10:45 a.m.  213  Effect of continuous or intermittent feeding of ergot contaminated grain in a mash or pelleted form on the performance and health parameters of finishing beef steers
Matthew R. Reynolds 1, Kim Stanford 2, Daniela M. Meléndez 3, Karen S. Schwartzkopf-Genswein 3, Tim A. McAllister 3, Barry R. Blakley 4, John J. McKinnon 1, Gabriel O. Ribeiro 1
1Department of Animal and Poultry Science, University of Saskatchewan, 2Biological Sciences Department, University of Lethbridge, 3Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, 4Department of Veterinary Biomedical Sciences, University of Saskatchewan

11:00 a.m.  214  Effects of fiber concentration and fermentation rate on reproductive performance, nutrient digestibility, and immune response of lactating sows
Tao Wang 1, Pieter Langendijk 2, Lluís Fabà Camats 2, Leslie L. Mcknight 3, Arantxa Asun Pinar 1, Zhen Cai 1, chengbo Yang 4
1University of Manitoba, 2Trouw Nutrition Innovation, 3Trouw Nutrition Canada Inc., 4Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

11:15 a.m.  215  Optimizing the standardized ileal digestible Lys-to-net energy ratio for nitrogen utilization of sows throughout a 24-day lactation period.
Maddy Watzeck 1, Lee-Anne Huber 1
1University of Guelph

11:30 a.m.  217  Effect of growth stage/cutting time and intercropping of whole plant oat with whole plant Faba bean forage silage on protein rumen degradation kinetics and intestinal digestion in cattle
Carlene Nagy 1, David Christensen 2, Herbert A. Lardner 2, Victor H. Guevara-Oquendo 1, Peiqiang Yu 2
1University of Saskatchewan, 2Department of Animal and Poultry Science, University of Saskatchewan

11:45 a.m.  216  Alternative trace mineral supplementation strategies for beef cattle
Corissa Wilcox 1, Kathy A. Larson 2, David Christensen 1, Nathan Erickson 3, Cheryl Waldner 3, Herbert A. Lardner 1
1Department of Animal and Poultry Science, University of Saskatchewan, 2Department of Agricultural and Resource Economics, University of Saskatchewan, 3Western College of Veterinary Medicine, University of Saskatchewan
Comparative Gut Physiology Symposium
Chair: James Klotz, USDA-ARS Forage-Animal Production Research Unit
8:30 AM - 11:45 AM
WEST UPPER: Ballroom B

8:30 a.m.  Comparative Gut Physiology Symposium Introduction

8:35 a.m.  15 Effects of the maternal gut and reproductive microbiome on postnatal development in ruminants
Samat Amat ¹, Sarah M. Luecke ², Kendall C. Swanson ², Carl R. Dahlen ²
¹North Dakota State University, Department of Microbiological Sciences, ²North Dakota State University

9:10 a.m.  16 Evolutionary-based neurochemical intersections of microbiology and neurobiology in the gut matter to infection, behavior and nutrition
Mark Lyte ¹
¹Iowa State University

9:45 a.m.  17 The Rumen Microbiome: Realizing the potential for mediating host performance
Hannah C. Cunningham-Hollinger ¹
¹University of Wyoming

10:20 a.m.  Comparative Gut Physiology Symposium Break

10:35 a.m.  18 Role of the Rumen Microbiome in Beef Cattle Gut Physiology and Performance
Phillip R. Myer ¹
¹University of Tennessee

11:10 a.m.  19 The swine gut microbiome and animal production
Jiangchao Zhao ¹
¹University of Arkansas

Nonruminant Nutrition Symposium
Chair: Marko Rudar, Auburn University
8:30 AM - 12:00 PM
EAST UPPER: 240 La Cienega

8:30 a.m.  Nonruminant Nutrition Symposium Introduction

8:35 a.m.  31 Importance of good sow development - focusing on nutrition and feeding from gilt development to subsequent parities
Uislei A. Orlando ¹, Ning Lu ², Carine M. Vier ¹, Wayne R. Cast ¹, Ron Navales ³, Jordi Camp Montoro ⁴, Sergio Canavate ¹, Jose Henrique Piva ¹, Juan Carlos Pinilla ¹, Steve Dritz ¹
¹PIC North America, ²PIC China, ³Kansas State University, ⁴PIC Europe

9:20 a.m.  32 Feeding gilts and sows to maximize their mammary development
Chantal Farmer ¹
¹Agriculture and Agri-Food Canada
10:05 a.m.  Nonruminant Nutrition Symposium Break

10:20 a.m.  33 Identification of how future climates may impact the reproductive herd and what this may mean for nutrition.
Jeremy J. Cottrell 1, Mark P. Green 1, Frank R. Dunshea 1, Fan Liu 2, Kate J. Plush 3, Weicheng Zhao 1
1The University of Melbourne, 2Rivalea Australia Pty Ltd, 3Sunpork Group

11:05 a.m.  34 Precision feeding in modern sow farms: Where are we headed?
Hyatt Frobose 1
1JYGA Technologies, Inc.

Swine Species
Chair: Amy Petry, Division of Animal Sciences, University of Missouri
8:30 AM - 12:00 PM
EAST MAIN: 120 Dona Ana Ana

8:30 a.m.  380 The sow milk microbiome and resistome
Devin B. Holman 1, Katherine E. Gzyl 1, Arun Kommadath 1
1Agriculture and Agri-food Canada

8:45 a.m.  381 Evaluating indirect measures of milk production in heat-stressed lactating sows genomically selected for improved thermotolerance
MaryKate Byrd 1, Luiz F. Brito 1, Hui Wen 2, Pedro H. F Freitas 1, Sharlene Hartman 1, Jacob M. Maskal 2, Yijian Huang 3, Francesco Tiezzi 4, Christian Maltecca 5, Allan P. Schinckel 1, Jay S. Johnson 6
1Purdue University, 2Department of Animal Sciences, Purdue University, 3Smithfield Premium Genetics, 4North Carolina State University, 5Department of Animal Science, North Carolina State University, Raleigh, USA, 6USDA-ARS Livestock Behavior Research Unit

9:00 a.m.  382 The effect of natural products on the metabolism of boar taint compounds in porcine hepatocytes
Christine Bone 1, E. James Squires 1
1University of Guelph

9:15 a.m.  383 Effect of feeding ractopamine to finisher lard-type Mangalica pigs on longissimus muscle fiber myosin-heavy chain isoform expression and cross-sectional area
Said J. Herrera 1, Allan J. Calderon 1, Megan Reeves Pitts 1, Hunter R. Smith 1, Ellie Amerson 1, Brian L. Anderson 1, Jason T. Sawyer 1, Terry D. Brandebourg 1, Charles Starkey 2, Jessica D. Starkey 3
1Auburn University, 2North American Renderers Association, 3Department of Poultry Science, Auburn University
9:30 a.m. 386 Effects of different soy protein sources on gut microbiome composition and relationship with performance in pigs in regular nursery and F4 enterotoxigenic Escherichia coli (ETEC) challenged conditions
Qiong Hu 1, Maria I. Sardi 2, S. Ali Naqvi 3, Leandro Hackenhaar 1, Patricia Pluk 1, John de Laat 1, Mark D. Newcomb 1, Ehsan Khatipour 1
1Cargill Animal Nutrition, 2Cargill Biotechnology Research and Development Center-Biology, 3Cargill Engineering & Data Sciences

9:45 a.m. Swine Species Break

10:15 a.m. 384 Fecal microbiota transplantation: Lactobacillus potentially is a key genus for treating ulcerative colitis
Chengzeng Luo 1, Ying Chen 1, Zhaohan Zhan 1, Ruqing Zhong 1, Zirong Wang 2, Liang Chen 1, Hongfu Zhang 1
1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, 2College of Animal Science, Xinjiang Agricultural University

10:30 a.m. 387 Niacin Improves Intestinal Health through Up-Regulation of ZO-1 and AQP5 Expression Induced by GPR109A
Xuefen Yang 1, Shilong Liu 1, Yueqin Qiu 1, Li Wang 1, Zongyong Jiang 1
1Institute of Animal Science, Guangdong Academy of Agricultural Sciences

10:45 a.m. 388 Niacin-butyrate dynamically regulates intestinal antimicrobial peptide expression in piglet
Hongbo Yi 1
1Ministry of Agriculture Key Laboratory of Animal Nutrition and Feed Science in South China

11:00 a.m. 389 Effect of bile acid supplementation on hepatic lipid metabolism and the gut microbiota in weaned piglets
Xuefen Yang 1, Yueqin Qiu 1, Li Wang 1, Zongyong Jiang 1
1Institute of Animal Science, Guangdong Academy of Agricultural Sciences

Physiology and Endocrinology Symposium
Chair: Alan Ealy, Virginia Polytechnic Institute and State University; Allison Renwick, The University of Tennessee College of Veterinary Medicine
8:30 AM - 12:15 PM
EAST UPPER: 230 Pecos

8:30 a.m. Physiology and Endocrinology Symposium Introduction

8:35 a.m. 24 Effects of gestational and postweaning nutrition on brain development and puberty in beef heifers
Rodolfo C. Cardoso 1, Sarah West 1, Viviana Garza 1, Gary L. Williams 2
1Texas A&M University, 2Texas A&M AgriLife Research

9:05 a.m. 25 Role of KNDy and Arcuate Kiss1r-containing Neurons in the Preovulatory Luteinizing Hormone Surge and Puberty Onset of Female Sheep
Max J. Griesgraber 1, Kayla M. Onslow 2, Sydney Shuping 3, Elizabeth Bowdridge 1, Steven Hardy 1, Eliana Aerts 1, Lique Coolen 2, Casey Nestor 3, Stanley Hileman 1, Michael Lehman 2, Robert Goodman 1
1West Virginia University, 2Kent State University, 3North Carolina State University
9:20 a.m.  26  **The kisspeptin knockout pig: A new model for dissecting mechanisms controlling reproduction.**
Clay A. Lents 1, Julio M. Florez 2, Kyra Martins 2, Jonathan R. Bostrom 2, Paula Rodriguez-Villamil 2, Felipe Ongaratto 2, Abe Huisman 3, Sabreena A. Larson 2, Daniel F. Ahern 4, Caitlin E. Ross 4, Dorothy H. Elsken 4, Robert A. Cushman 1, Brett R. White 5, Tad S. Sonstegard 2
1USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit, 2Acceligen Inc., 3Hendrix Genetics (Hypor), 4Department of Animal Science, University of Nebraska, 5University of Nebraska-Lincoln

9:50 a.m.  27  **Neurokinin B, kisspeptin, and GnRH hormone analogs fail to stimulate secretion of luteinizing hormone (LH) in KISS1 knockout boars.**
Daniel F. Ahern 1, Caitlin E. Ross 1, Ginger A. Mills 1, Dorothy H. Elsken 1, Hunter L. McConnell 2, Julio M. Florez 3, Kyra Martins 3, Massimiliano Beltramo 4, Tad S. Sonstegard 3, Brett R. White 5, Clay A. Lents 6
1Department of Animal Science, University of Nebraska, 2Department of Food and Animal Sciences, Oklahoma State University, 3Acceligen Inc., 4UMR Physiologie de la Reproduction et des Comportements, 5University of Nebraska-Lincoln, 6USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit

10:05 a.m.  **Physiology and Endocrinology Symposium Break**

10:20 a.m.  28  **Melanocortin 3 receptor in neural circuits linking metabolic state with reproduction and growth**
Michelle N. Bedenbaugh 1, Serena Sweet 1, Haley Mendoza-Romero 1, Samantha Brener 1, Sydney Hawkins 1, Gina Yu 1, Jessie Zimmermann 1, Patrick Sweeney 2, Roger Cone 2, Richard Simerly 1
1Vanderbilt University, 2University of Michigan

10:50 a.m.  405  **The effects of disease-induced inflammation on reproductive neuroendocrinology: Evidence from sheep**
Allison Renwick 1
1The University of Tennessee College of Veterinary Medicine

11:05 a.m.  29  **The role of leptin and its regulation in the hypothalamus of neonatal calves**
Nathan Long 1, Keelee J. McCarty 1, Nathan Clemson University Long 1
1Clemson University

11:35 a.m.  30  **Central regulation of KNDy neurons during undernutrition in sheep**
Casey Nestor 1
1North Carolina State University

**Beef Species Symposium I**
Chair: Raluca Mateescu, University of Florida
9:00 AM - 11:15 AM
EAST UPPER: 235 Mesilla

9:00 a.m.  **Beef Species Symposium I Introduction**
9:05 a.m. 20 Methane accounting and its importance to the beef industry’s implied contribution to climate warming.
Matthew R. Beck ¹, Logan Thompson ²
¹USDA-ARS, ²Kansas State University

9:40 a.m. 21 Beef Cattle and Global Warming
Alan Rotz ¹
¹USDA Agricultural Research Service

10:15 a.m. Beef Species Symposium I Break

10:30 a.m. 22 Greenhouse gas emission measurement and modeling in complex beef production systems
Terra N. Campbell ¹
¹USDA-ARS

Animal Behavior and Well-Being Symposium
Chair: Brenda Alexander, University of Wyoming
1:00 PM - 5:15 PM
EAST UPPER: 230 Pecos

1:00 p.m. Animal Behavior and Well-Being Symposium Introduction

1:05 p.m. 43 Induced pluripotent/totipotent stem cells: inexhaustible genetic stocks for regeneration and development of regionally adapted climate-resilient livestock
Vimal Selvaraj ¹, Viju V. Pillai ², Prasanthi P. Koganti ¹
¹Cornell University, ²South Dakota State University

1:50 p.m. 45 Genome editing of livestock for production agriculture and biomedical applications
Charles R. Long ¹
¹School of Veterinary Medicine and Biomedical Sciences, Texas A&M University

2:35 p.m. 46 Next generation breeding technologies using genome editors to address animal welfare and one-health challenges
Bhanu Telugu ¹
¹University of Missouri

3:20 p.m. Animal Behavior and Well-Being Symposium Break

3:35 p.m. 44 Developing new traits using precision breeding tools
Tad S. Sonstegard ¹
¹Acceligen Inc.

4:20 p.m. 47 Navigating the biotechnology landscape in animal agriculture: Consumer and producer acceptance of gene editing to improve farm animal welfare
David L. Ortega ¹
¹Michigan State University
1:30 p.m.  253  Understanding the health benefits of feeding treated wheat straw for weanling pigs
Veronica I. Polniak 1, Jaron Lewton 2, Medhat A. Michael 3, Kyan M. Thelen 4, Adam J. Moeser 4, Dale W. Rozeboom 1
1Department of Animal Science, Michigan State University, 2Vita Plus, 3Ministry of Agriculture, Egypt, 4Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University

1:45 p.m.  254  Intestinal oxidative damages by F18+ Escherichia coli and its amelioration with an antibacterial bacitracin fed to nursery pigs
Marcos Elias Elias Duarte 1, Chad Stahl 2, Sung Woo Kim 3
1North Carolina State University, 2Faculty, 3NC State University

2:00 p.m.  255  Effects of dietary valerate glycerides on serum inflammatory markers, serum metabolomic profile, and intestinal mucosa gene expression in weanling pigs infected with a pathogenic Escherichia coli
Lauren L. Kovanda 1, Sofia Rengman 2, Snehal Tawde 2, Jeroen Pos 2, Kwangwook Kim 3, Yanhong Liu 1
1University of California, Davis, 2Perstorp, 3Michigan State University

2:15 p.m.  256  Effects of Lactobacillus fermentate replacing bacitracin on biomarkers associated with bacterial cell wall recognition and intestinal integrity in pigs
Marcos Elias Elias Duarte 1, Zixiao Deng 2, Erik Eckhardt 3, Sung Woo Kim 4
1North Carolina State University, 2PhD Student, 3Adare Biome, 4NC State University

2:30 p.m.  Nonruminant Nutrition I: Dietary Interventions for Intestinal Health Break

2:45 p.m.  257  Effects of prebiotic galactooligosaccharide (GOS) on hindgut microbial composition of pigs during the peri-weaning period
Timothy E. Boston 1, Feng Wang 2, Lin Xi 1, Sung Woo Kim 3, Vivek Fellner 1, Mark F. Scott 4, Amanda L. Ziegler 5, Laurianne Van Landeghem 5, Anthony T. Blikslager 5, Jack Odle 1
1North Carolina State University, 2Department of Animal Science, North Carolina State University, 3NC State University, 4Milk Specialties Global, 5North Carolina State University College of Veterinary Medicine

3:00 p.m.  258  Effects of dietary supplementation of myristic acid on intestinal health and growth performance of nursery pigs
Hyunjun Choi 1, Gabriel Rocha 2, Sung Woo Kim 2
1North Carolina State University, 2NC State University

3:15 p.m.  259  Genome-wide insights into whole gut microbiota of rainbow trout, Oncorhynchus mykiss associated with changes in dietary composition and temperature regimens
John N. Idenyi 1, Jonathan Eya 1, Abdallah Hadimundeen 1, Abigeal Adeyemi 1
1West Virginia State University
3:30 p.m. 260 Identification of candidate gut bacterial species from Atlantic Salmon (Salmo salar) that can metabolize ingredients derived from bioprocessed soybean meal.
Emily Fowler ¹, Benoit St-Pierre ¹, William Gibbons ¹, Phil Kerr ², Michael Brown ¹
¹South Dakota State University, ²Houdek / Prairie AquaTech

Physiology and Endocrinology I
Chair: Nicholas Wege Dias, Kansas State University
1:30 PM - 5:45 PM
EAST UPPER: 220 Ruidoso

1:30 p.m. 283 ASAS Young Scholar Awardee Talk: Effects of late gestational maternal nutrient balance on nutrient partitioning to the gravid uterus in beef cattle
Colby A. Redifer ¹, Allison M. Meyer ¹
¹University of Missouri

2:00 p.m. 284 Supranutritional mineral supplementation during pregnancy alters placental blood flow and calf mineral concentrations
Makayla A. Ogg ¹, Rodrigo S. Marques ¹, Sidney Stratton ¹, Julia Dafoe ², Darrin L. Boss ², Carla Sanford ¹, Sarah McCoski ¹
¹Montana State University, ²Northern Agriculture Research Center, Montana State University

2:15 p.m. 285 Duration of ergovaline exposure influences serotonin-mediated vasoconstriction and vasorelaxation of bovine vasculature
Ronald J. Trotta ¹, David L. Harmon ², James L. Klotz ³
¹University of Kentucky, ²University of Kentucky Department of Animal & Food Sciences, ³USDA-ARS Forage-Animal Production Research Unit

2:30 p.m. 286 Evaluation of serotonin as a vasorelaxant in ovine saphenous artery and vein
James L. Klotz ¹, Susan K. Duckett ², Maslyn A. Greene ², Celina M. Checura ²
¹USDA-ARS Forage-Animal Production Research Unit, ²Clemson University

2:45 p.m. 287 Effect of diet supplementation with omega-3 fatty acids on reproduction and milk production in cattle
Santiago A. Paez ¹, Andreia Ferreira ¹, Galo Vera ¹, Leticia Sanglard ², James Drouillard ¹, Victor Gomez-Leon ¹
¹Kansas State University, ²University of Nebraska-Lincoln

3:00 p.m. 288 Awardee Talk: Vaginal microbiomes of lactating dairy cattle bred utilizing timed artificial insemination or estrus expression
Dallas R. Soffa ¹, Brooke E. McAnally ¹, Kyle J. Hickman-Brown ¹, Molly S. Smith ¹, Jennifer A. Spencer ², Rebecca K. Poole ¹
¹Texas A&M University, ²Texas A&M AgriLife Research and Extension Center

3:30 p.m. Physiology and Endocrinology I Break

3:45 p.m. 404 Awardee Talk: Investigating maternal-placental-fetal interactions
Russell V. Anthony ¹, Amelia R. Tanner ¹, Victoria C. Kennedy ¹, Cameron S. Lynch ¹, Taylor K. Hord ¹, Quinton A. Winger ¹, Paul J. Rozance ²
¹Colorado State University, ²University of Colorado School of Medicine
4:15 p.m.  289  Postnatal obesity amplifies the effect of prenatal testosterone excess in reducing the progesterone negative feedback sensitivity in first-generation ewes
Sara C. Gurule 1, Jessica F. Sustaita-Monroe 1, Leslie King 1, Viviana Garza 1, Sarah West 1, Morgan Weynand 1, Emily Ecord 1, Vasantha Padmanabhan 2, Rodolfo C. Cardoso 1
1Texas A&M University, 2University of Michigan

4:30 p.m.  290  Ewe undernutrition alters cotyledon development and function
Francesca Welter 1, Rodrigo S. Marques 1, Amanda N. Bradbery 1, Christian Posbergh 1, Sarah McCoski 1
1Montana State University

4:45 p.m.  291  Impact of early resynchronization in combination with color Doppler ultrasonography on cumulative pregnancy rates in postpartum beef cows
Samir Burato 1, Nicholas Wege Dias 2, Stefania Pancini 3, Lucas Melo Goncalves 1, Madison B. B. Walker 1, Darren D. H. Henry 1, Francine M. Messias Ciriaco 1, Vitor R G Mercadante 4, Kelsey M. M. Harvey 5, Pedro L.P Fontes 1
1University of Georgia, 2Kansas State University, 3Virginia Tech, 4Virginia Tech - Animal and Poultry Sciences, 5Mississippi State University

5:00 p.m.  292  Tandem administration of prostaglandin F2α and gonadotropin-releasing hormone in beef heifers and cows as a convergent presynchronization method in the 7 & 7 Synch protocol
Lucas J. Palcheff 1, Genevieve M. VanWye 1, Kimberly R. Ricardo 1, Christine M. Spinka 1, Scott E. Poock 1, Jordan M. Thomas 1
1University of Missouri

5:15 p.m.  293  Impact of late embryonic and early fetal mortality on overall productivity of suckled beef cows
Lucas Melo Goncalves 1, Saulo Menegatti Zoca 2, Lucas Neira 3, Samir Burato 1, Matthew Patrick Holton 4, Madison Walker 1, Pedro L.P Fontes 1
1University of Georgia, 2the University of Tennessee, 3University of Illinois, 4The University of Georgia

5:30 p.m.  446  The effects of maternal diet during gestation on oxidative status of offspring
Amanda S. Reiter 1, Mia Y. Kawaida 1, Nicole M. Tillquist 1, Brandon Smith 1, Kristen E. Govoni 1, Steven A. Zinn 1, Sarah A. Reed 1
1University of Connecticut
1:45 p.m. 218 Methane and carbon dioxide emissions from crossbred beef cattle fall-grazed on native aspen parkland pastures
Amir Behrouzi 1, Mikayla Ewasiuk 1, Edward Bork 1, John A. Basarab 1, Carolyn J. Fitzsimmons 2
1Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 2Agriculture and Agri-Food Canada, Edmonton, AB Canada

2:00 p.m. 219 Identification of functional single nucleotide polymorphisms responsible for alternative splicing affecting gastrointestinal nematodes resistance in grazing sheep
Samla M F Cunha 1, Olivia B. Willoughby 1, Flavio S. Schenkel 1, Bonnie Mallard 2, Niel A. Karrow 1, Angela Cánovas 1
1Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada, 2Department of Pathobiology, Ontario Veterinary College, University of Guelph, 50 Stone Road, Guelph, ON, N1G 2W1, Canada

2:15 p.m. 220 Assessment of the rumen bacterial community in beef cows differing in feed efficiency across four feeding and grazing scenarios
Sang Weon Na 1, Mi Zhou 1, Yanhong Chen 1, Edward Bork 2, Carolyn J. Fitzsimmons 3, Le Luo L. Guan 1
1Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB T6G 2P5, Canada, 2Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 3Agriculture and Agri-Food Canada, Edmonton, AB Canada; Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada

2:30 p.m. 221 Increasing functional amino acid ratios does not improves growth performance in pigs raised under poor sanitary conditions when fed with individual precision feeding or conventional feeding systems
Pedro Righetti Arnaut 1, Luciano Hauschild 2, Aline Remus 3, Candido Pomar 3, Henrique G. Gastman Brand 4, John K. Khun Kyaw Htoo 4
1Agriculture and Agri-food Canada, 2Faculdade de Ciências Agrárias e Veterinárias - Câmpus de Jaboticabal - Unesp, 3AAFC, 4Evonik

2:45 p.m. 222 High throughput screening of bovine mastitis from raw milk using MALDI-TOF MS and machine learning
Sumon Sarkar 1, Jonathan Thompson 1, Savana L. Everhart Nunn 1, Beth Clayton 2
1Texas Tech University, 2Dairy Herd Improvement Association

3:00 p.m. 223 Impacts of active dry yeast (Saccharomyces cerevisiae) on gut permeability in finishing beef cattle
Melissa S. Williams 1, Ousama AlZahal 2, Michael A. Steele 3, Katharine M. Wood 1, Greg B. Penner 4
1University of Guelph, 2AlZahal Innovation & Nutrition Inc., 3Department of Animal Biosciences, University of Guelph, 4Department of Animal and Poultry Science, University of Saskatchewan
Effects of feeding hybrid rye grain as a replacement for barley grain on feed intake, ruminal fermentation, and site of nutrient digestion for finishing beef cattle

Fuquan Zhang 1, Rebecca S. Brattain 2, Rachel E. Carey 1, Herman Wehrle 3, Greg B. Penner 4

1University of Saskatchewan, 2KWS Cereals USA, LLC., 3KWS CEREALS USA, LLC., 4Department of Animal and Poultry Science, University of Saskatchewan

Ruminant Nutrition I: By Product Supplementation
Chair: Guillermo Scaglia, North Dakota State University
1:45 PM - 5:00 PM
WEST LOWER: 31 Santa Ana, Sandia, Picuris

Incorporation of Hemp Hulls and Screenings as alternative feed sources for ruminants
Stephanie A. Terry 1, Tim A. McAllister 2
1Agriculture and Agri-Food Canada, 2Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

Bioconversion treatment of corn stover can create cheap feed resource for limited resource farmers
Lydia K. Olagunju 1, Omonanghe S. Isikhuemhen 1, Peter A. Dele 1, Kelechi A. Ike 1, Yasmine Shaw 1, Rossetta M. Brice 1, Oluteru E. Orimaye 1, Michael Wuaku 1, Uchenna Y. Anele 1
1North Carolina Agricultural and Technical State University

Substitution of modified distillers grains with soybean meal with or without hulls had negligible effect on growth performance, efficiency and carcass traits in yearling steers
Cassidy Ross 1, Scott Bird 2, Zachary K. Smith 1, Warren C. Rusche 1
1South Dakota State University, 2South Dakota State University Southeast Research Farm

Effects of inoculation period on the nutritive value of Pleurotus ostreatus treated corn stover
Lydia K. Olagunju 1, Omonanghe S. Isikhuemhen 1, Peter A. Dele 1, Yasmine Shaw 1, Rosetta M. Brice 1, Oluteru E. Orimaye 1, Michael Wuaku 1, Kelechi A. Ike 1, Uchenna Y. Anele 1
1North Carolina Agricultural and Technical State University

The influence of previous nitrogen levels on nitrogen metabolism and rumen gene expression of grain or forage-fed finished steers
Aghata Silva 1, Arturo Macias Franco 2, Pedro Mazza 3, Tio Brody 4, Macy Rockwell 1, Bradley S. Ferguson 2, Mozart A. Fonseca 4
1Auburn University, 2University of Nevada Reno, 3Universidade Federal da Bahia, 4University of Nevada, Reno

Effects of adding a yeast blend to diets with high levels of dried distillers’ grains on feeding behavior, intake, and performance of beef cattle fattened in feedlot
Leandro Martins 1, Melina A. Bonato 2, William Reis 2
1Nutripura, 2ICC Animal Nutrition

Ruminant Nutrition I: By Product Supplementation Break
3:30 p.m. 350 Effects of adding yeast derivatives to high concentrate diets on performance and feeding behavior of beef cattle finished in feedlot
Rodrigo Pacheco 1, Melina A. Bonato 2, William Reis 2
1CIC, 2ICC Animal Nutrition

3:45 p.m. 351 Effects of replacing soybean hulls with molasses during the receiving period of feedlot steers
Angel A. Raudales Quijada 1, Darren D. H. Henry 1, Alejandro A. J. Pagoada Romero 1, Pedro L.P Fontes 1, Samir Burato 1, Francine M. Messias Ciriaco 1
1University of Georgia

4:00 p.m. 352 Effects of including a novel high-anthocyanin corn cob meal in a high-roughage diet on performance and gas flux of beef cattle
Nathan S. Long 1, Jarret A. Proctor 1, Wenwei W. Xu 2, Morgan K. Molsbee 2, Juan M. Piñeiro 3, Vinicius N. Gouvea 2, Douglas Duhatschek 1, Ryan C. Foster 1, Matthew R. Beck 4, MacKenzie L. Griffin 4, Jason K. Smith 3
1Texas A&M University, 2Texas A&M AgriLife Research, 3Texas A&M AgriLife Extension, 4USDA-ARS

4:15 p.m. 353 Evaluation of native and invasive seed germination ability after in situ incubation in the rumen for rangeland restoration through targeted seed supplementation
Arturo Macias Franco 1, Aghata Silva 2, William Richardson 3, Tamzen Stringham 3, Tio Brody 3, Pedro Mazza 4, Mozart A. Fonseca 3
1University of Nevada Reno, 2Auburn University, 3University of Nevada, Reno, 4Universidade Federal da Bahia

4:30 p.m. 354 Effect of finishing system on growth, efficiency, and carcass quality of dairy × beef hybrids
Ally J. Grote 1, Addie Wommack 1, Colton A. Robison 1, Garrett Farran 1, Blake K. Wilson 1, Paul A. Beck 1, Olivia N. Genther Schroeder 2, Troy Wistuba 2
1Oklahoma State University, 2Purina Animal Nutrition

4:45 p.m. 355 Effects of processing method of hybrid rye for cattle backgrounding diets
Colin T. Tobin 1, Zachary E. Carlson 1, Kendall C. Swanson 1, Karl Hoppe 1, Warren C. Rusche 2, Zachary K. Smith 2
1North Dakota State University, 2South Dakota State University

**Swine Species Symposium**
Chair: Jay Johnson, USDA-ARS Livestock Behavior Research Unit
1:45 PM - 5:15 PM
EAST UPPER: 240 La Cienega

1:45 p.m. **Swine Species Symposium Introduction**

1:50 p.m. 48 Does automated behavioral monitoring inevitably lead to improved pig welfare?
Janice M. Siegford 1
1Michigan State University
2:35 p.m. 49 Leveraging big data analytics to improve disease surveillance and welfare in pig production
Guilherme J. M. Rosa 1, Tiago L. Passafaro 2
1University of Wisconsin-Madison, 2Zoetis

3:20 p.m. Swine Species Symposium Break

3:35 p.m. 50 Swine precision nutrition: How computer vision can help
Isabella C. F. S. Condotta 1
1University of Illinois at Urbana-Champaign

4:20 p.m. 51 Current and future state-of-the-art methods for assessing boar fertility
Karl Kerns 1
1Department of Animal Science, Iowa State University, Ames, Iowa, USA

WSASAS Graduate Student Oral Competition
Chair: Juliana Ranches, Oregon State University; EOARC
2:00 PM - 3:30 PM
EAST UPPER: 215 San Miguel

2:00 p.m. 395 Maternal supplementation with different sources of trace minerals and its effects on the offspring.
Vinicius Alves Cruz 1, Rodrigo S. Marques 1, Keenan Kvamme 1, Makayla A. Ogg 1, Iorrano A. A. Cidrini 1, Keuven S. Nascimento 1, Sarah McCoski 1, Christian Posbergh 1, Amanda Bradberry 1, Vinicius N. Gouvea 2, Eduardo Colombo 3, Reinaldo F. Cooke 3
1Montana State University, 2Texas A&M AgriLife Research, 3Texas A&M University

2:15 p.m. 396 Implications of repeated subacute lipopolysaccharide exposure during synchronized estrous
Molly Austin 1, Briza Castro 1, Jeffery Dominguez-Areallnes 1, Karime Luna 1, Kenneth Duran 1, Michelle Gutierrez 1, Luis Ochoa 1, Craig A. Gifford 1, Jennifer A. Hernandez Gifford 1
1New Mexico State University

2:30 p.m. 397 Field demonstration analyzing the implementation of individual animal electronic identification and genetic testing in western range sheep flocks
Austin R. Brown 1, Julie Finzel 2, Roselle Busch 3, Morgan Doran 4, John Harper 5, Dan Macon 6, Rebecca Ozeran 7, Morgan R. stegemiller 8, Karissa Isaacs 9, Alison L. Van Eenennaam 10
1University of California, Davis, 2University of California Cooperative Extension, 3University of California, Davis Veterinary Extension, 4University of California Cooperative Extension, Solano County, University of California Agriculture and Natural Resources, 5University of California Cooperative Extension, Mendocino County, University of California Agriculture and Natural Resources, 6University of California Cooperative Extension, Placer County, University of California Agriculture and Natural Resources, 7University of California Cooperative Extension, Fresno County, University of California Agriculture and Natural Resources, 8Department of Animal, Veterinary, and Food Sciences, University of Idaho, 9Superior Farms, 10University of California, Davis Department of Animal Science
2:45 p.m.  398  **Subclinical lipopolysaccharide exposure during oocyte maturation disrupts early bovine embryonic development**  
Briza Castro 1, Juliana Candelaria 2, Molly Austin 1, Charles shuster 1, Craig A. Gifford 1, Anna C. Denicol 2, Jennifer A. Hernandez Gifford 1  
1New Mexico State University, 2University of California, Davis

3:00 p.m.  399  **Methionine and guanidinoacetic acid supplementation throughout the periconceptual period of gestation alters metabolite concentrations and fetal development**  
Kathlyn Hauxwell 1, Robert A. Cushman 2, Joel S. Caton 1, Alison Ward 3, Amanda Lindholm-Perry 4, Alexandria P. Snider 5, Harvey C. Freity 4, Carl R. Dahlen 1, Samat Amat 6, Bryan W. Neville 4, Jennifer Thorson 4, William T. Oliver 7, Jeremy R. Miles 4, Matthew S. Crouse 4  
1North Dakota State University, 2USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit, 3University of Saskatchewan, 4USDA, ARS, U.S. Meat Animal Research Center, 5USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit, 6North Dakota State University, Department of Microbiological Sciences, 7USDA-ARS

3:15 p.m.  401  **Dietary starch dilution strategies to improve feedlot cattle performance and rumen health**  
Anna M. Kobza 1, James D. Young 1, John T. Richeson 1, Ty E. Lawrence 1, Travis C. Tennant 1, Kendall L. Samuelson 1  
1West Texas A&M University

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**Production, Management and Environment I: Animal/Environment Interactions**  
Chair: Cathy Bandyk, Innovad  
2:00 PM - 4:00 PM  
EAST MAIN: 130 Cimarron

2:00 p.m.  308  **Effect of thermal variation during late-stage incubation and sex on broiler chicken body weight and carcass parts uniformity**  
Jorge E. Banegas 1, Brittany Hutson 1, Caroline R. Gregg 1, Martha Rueda 2, Jeremiah D. Davis 2, Joseph Purswell 3, Charles Starkey 4, Jessica D. Starkey 1  
1Department of Poultry Science, Auburn University, 2National Poultry Technology Center, Auburn University, 3USDA ARS Poultry Research Unit, 4North American Renderers Association

2:15 p.m.  309  **Dairy cow response to heat stress modeled with a System Dynamics approach**  
Roberta Cresci 1, Busra Atamer Balkan 1, Luis O. Tedeschi 2, Antonello Cannas 1, Alberto S. Atzori 1  
1Dipartimento di Agraria, Università di Sassari, Sassari 07100, Italy, 2Texas A&M University

2:30 p.m.  310  **Investigating the relationship between wildfire smoke and performance metrics on beef cattle through Bayesian additive regression trees**  
Arturo Macias Franco 1, Aghata Silva 2, Tio Brody 3, Mozart A. Fonseca 3  
1University of Nevada Reno, 2Auburn University, 3University of Nevada, Reno
2:45 p.m. 311 Evaluation of post-transit growth performance and carcass characteristics of feedlot heifers sourced and finished in different regions of the U.S.
Erin R. Gubbels †, Colten W. Dornbach ‡, Warren C. Rusche †, Nicole C. Burdick Sanchez §, Jeffery A. Carroll §, Kristin E. Hales ‡, Paul R. Broadway §, Zachary K. Smith †
†South Dakota State University, ‡Texas Tech University, §USDA-ARS, Livestock Issues Research Unit

3:00 p.m. 312 Emissions intensity of growing cattle with contrasting residual methane production, average daily gain, feed conversion ratio, residual feed intake, and feed intake
Luciano A. Gonzalez †, Milad Bagheri Shirvan †, Juan Molfino †
†The University of Sydney

3:15 p.m. 313 Efficacy of vermifiltration to treat liquid cattle manure to mitigate carbon and nitrogen emissions.
JERA L. Monaghan †, Jennifer Michal †, B. Thomas Jobson †, Patrick O’Keeffe †, Cris de castro-Nunes ‡, Mackenzie Austin †, Kristen A. Johnson †
†Washington State University, ‡Universidad Federal de Vicosa

3:30 p.m. 314 Dehydrated garlic powder did not influence enteric gas fluxes in feedlot steers
Oluwatobi Oyedeji †, Herbert A. Lardner ‡, Hushton Block §, Obioha N. Durunna †
†Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5, ‡Department of Animal and Poultry Science, University of Saskatchewan, §Agriculture and Agri-Food Canada, Lacombe, AB, Canada, T4L 1V7

3:45 p.m. 315 Implementation of large-scale climate-smart agriculture practices and research on beef and bison grazing lands
Kristi M. Cammack †, Amanda Blair †, Hector M. Menendez †, Jameson R. Brennan ‡, Krista Ehlert †, Chris Graham †, Rachel Short †, Jeff M. Martin †
†South Dakota State University, ‡South Dakota State University, West River Research and Extension, Department of Animal Science

Small Ruminant Symposium
Chair: Tom Murphy, USDA ARS U.S. Meat Animal Research Center
2:00 PM - 4:15 PM
WEST UPPER: Ballroom B

2:00 p.m. Small Ruminant Symposium Introduction

2:05 p.m. 38 Application of real-time location systems for automated behavioral monitoring in sheep
Sarah J.J. Adcock †, Jocelyn M. Woods †, Gretchen Peckler †
†Department of Animal and Dairy Sciences, University of Wisconsin-Madison
2:25 p.m. 39 Developing precision agriculture tools to capture behavior and performance in extensively managed sheep
Andrew Hess 1, Scott Huber 2, John H. Bergeron 2, Gary McCuin 1, Melanie Hess 3, Tracy Shane 2, Jason Karl 4, Mike Cox 5, Robert Washington-Allen 2
1University of Nevada Reno, 2University of Nevada, Reno, 3University of Nebraska-Lincoln, 4University of Idaho, 5Nevada Department of Wildlife

2:45 p.m. 37 Precision feeding of prolific sheep in highly productive management systems
Richard A. Ehrhardt 1, Makela Barbara 1
1Michigan State University

3:05 p.m. Small Ruminant Symposium Break

3:20 p.m. 35 Precision trace mineral management in extensive sheep systems
Whit C. Stewart 1
1University of Wyoming

3:40 p.m. 36 Beyond environmentally adapted, towards ecologically purposed: Sheep production in the US West
J. Bret B. Taylor 1
1USDA-ARS-RSPER

4:00 p.m. Small Ruminant Symposium Discussion

Beef Species Symposium II
Chair: Raluca Mateescu, University of Florida
2:00 PM - 4:45 PM
EAST UPPER: 235 Mesilla

2:00 p.m. Beef Species Symposium II Introduction

2:05 p.m. 40 Genetic selection for water intake in beef cattle
Megan M. Rolf 1
1Kansas State University

2:40 p.m. 41 Genetic selection for improved profit conditioned on enterprise-specific circumstances
Matthew L. Spangler 1, Bruce L. Golden 2, Scott Newman 2
1University of Nebraska-Lincoln, 2Retired

3:15 p.m. Beef Species Symposium II Break

3:30 p.m. 42 Environmental impact of improving forage use efficiency in beef cattle
Nicolas DiLorenzo 1
1Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

4:05 p.m. 40 Invited Speaker Dr. Tom McDonald
Tom McDonald 1
1
Animal Breeding and Genetics I: Advances in Animal Quantitative Genetics
Chair: Zhihua Jiang, Washington State University
2:00 PM - 5:00 PM
WEST LOWER: 32 Tesuque, Zuni, Acoma

2:00 p.m. 431 Awardee Talk: Phenomics and phenotyping in animal breeding
Juan P. Steibel 1
1Iowa State University

2:30 p.m. 116 Using theoretical and realized accuracies to estimate changes in heritabilities
Ignacy Misztal 1, Vivian Breen 2, Daniela Lourenco 1
1University of Georgia, 2Cobb-Vantress, Inc.

2:45 p.m. 117 Combining large broiler populations into a single genomic evaluation: dealing with genetic divergence
Joe Menwer Tabet 1, Fernando Bussiman 1, Vivian Breen 2, Ignacy Misztal 1, Daniela Lourenco 1
1University of Georgia, 2Cobb-Vantress, Inc.

3:00 p.m. 118 Variance components for age at first calving and yearling weight when accounting for age differences at fixed breeding dates in a contemporary group
Lane K. Giess 1, Scott E. Speidel 1, Ryan J. Boldt 2, Wade R. Shafer 3, Milton G. Thomas 1, R. Mark Enns 1
1Colorado State University, 2International Genetic Solutions, 3American Simmental Association

3:15 p.m. Animal Breeding and Genetics I: Advances in Animal Quantitative Genetics
Break

3:30 p.m. 119 Pedigree and population-based genomic inbreeding trends over time in five commercial swine breeding populations
Austin M. Putz 1, Abe Huisman 1, Juan P. Steibel 2
1Hendrix Genetics (Hypor), 2Iowa State University

3:45 p.m. 120 Using simulated data to evaluate the accuracy of selection signature detection methods in varying scenarios
Anel Retief 1, Luiz F. Brito 2, Carina Visser 1
1University of Pretoria, 2Purdue University

4:00 p.m. 121 Quantifying genetic relationships to maintain genetic diversity in the Canadian dairy population
Christiana O. Obari 1, Bayode O. Makanjuola 2, Flavio S. Schenkel 3, Filippo Miglior 4, Christian Maltecca 5, Christine F. Baes 6
1University of Guelph, 2Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada, 3Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada, 4Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Lactanet, Genetics Division, Guelph, Canada, 5Department of Animal Science, North Carolina State University, Raleigh, USA, 6Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland
4:15 p.m.  122  Comparison of algorithms for approximation of accuracies for single-step genomic best linear unbiased predictor models
Pedro Vital Brasil Ramos 1, Andre Garcia 2, Kelli J. Retallick 3, Matias Bermann 4, Ignacy Misztal 4, Daniela Lourenco 4
1University of Georgia - UGA, 2American Angus Association, 3American Angus Association, 4University of Georgia

4:30 p.m.  123  Benchmarking of artificial neural network models for genomic prediction of quantitative traits in pigs
Junjian Wang 1, Christian Maltecca 2, Francesco Tiezzi 1, Yijian Huang 3, Jicai Jiang 1
1North Carolina State University, 2Department of Animal Science, North Carolina State University, Raleigh, USA, 3Smithfield Premium Genetics

Nonruminant Nutrition II: Feed Enzymes: Functions and Nutrient Utilization
Chair: Aline Remus, AAFC
4:00 PM - 5:15 PM
EAST MAIN: 120 Dona Ana

4:00 p.m.  271  Effect of different inclusions of a multi-component enzyme on performance, nutrient digestibility, and ileal amino acid digestibility of young broiler chickens
Gerardo A. Abascal-Ponciano 1, Diego E. Ventura 1, Caroline R. Gregg 1, Brittany Hutson 1, Joshua J. Flees 1, Catarina Stefanello 1, Jessica D. Starkey 1, Charles Starkey 2
1Department of Poultry Science, Auburn University, 2North American Renderers Association

4:15 p.m.  272  Effects of increasing dose of a novel hybrid bacterial 6-phytase on apparent total tract nutrient digestibility, release of free myoinositol, and retention of calcium and phosphorus in pigs
Hyunjun Choi 1, Sung Woo Kim 2
1North Carolina State University, 2NC State University

4:30 p.m.  273  Effects of xylanase supplementation in diets with reduced metabolizable energy and supplemental fat on intestinal health, mucosa associated microbiota and growth performance of nursery pigs
Jonathan T. Baker 1, Marcos Elias Elias Duarte 1, Sung Woo Kim 2
1North Carolina State University, 2NC State University

4:45 p.m.  274  Xylanase significantly improves feed efficiency in high fiber diets
Mickie Metz 1, Dave Chamberlin 1, Janet C. Remus 2, Garrett Rozeboom 1, Jaron Lewton 1, Leah M. Kellesvig 1, Veronica I. Polniak 3, Dale W. Rozeboom 3
1Vita Plus, 2Danisco Animal Nutrition & Health - IFF, 3Department of Animal Science, Michigan State University

5:00 p.m.  275  Effects of increased NSP with or without NSPase supplementation on growth performance, intestinal health, and intestinal microbiome of nursery pigs and implications on subsequent phases of production
Jonathan T. Baker 1, Marcos Elias Elias Duarte 1, Sung Woo Kim 2, Alexa R. Gormley 1, Ki beom Jang 1
1North Carolina State University, 2NC State University
Tuesday, July 18, 2023

**Poster Session I**
7:00 AM - 8:15 AM
140 Aztec/110 Galisteo

7:00 a.m. PSI-30 A novel direct-fed microbial influences growth performance, health parameters, and carcass characteristics in feedlot finishing steers
Garrett W. Preedy\(^1\), Octavio Guimaraes\(^2\), Jennifer S. Schutz\(^3\), Trent Fox\(^4\), Miles Theurer\(^4\)
\(^1\)Chr Hansen, \(^2\)Colorado State University, \(^3\)Chr. Hansen, \(^4\)Veterinary Research and Consulting Services

7:00 a.m. PSI-1 Assessing the impact of hempseed meal supplementation on inflammatory cytokine concentrations in Boer X Spanish intact male goats
Khim B. Ale\(^1\), Frank W. Abrahamsen\(^1\), Reshma Gurung\(^2\), Santosh Chaudhary\(^1\), Nar K. Gurung\(^1\)
\(^1\)Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA, \(^2\)Integrative Biosciences Ph.D. Program, Tuskegee University, Tuskegee, AL 36088, USA

7:00 a.m. PSI-25 Associations between feeding behavior, Residual Feed Intake, and Residual Average Daily Gain in Performance Tested Yearling Angus Bulls and Heifers
Tylor J. Yost\(^1\), Nathan Blake\(^1\), Ida Holaskova\(^1\), Domingo Mata-Padrino\(^1\), John Yost\(^1\), Jerry Yates\(^1\), Kelsie Sanders\(^1\), Matthew E. Wilson\(^1\)
\(^1\)West Virginia University

7:00 a.m. PSI-12 Characterization of boar reproductive tract microbiome prior to puberty attainment
Brooke E. McAnally\(^1\), Dallas R. Soffa\(^1\), Molly S. Smith\(^1\), Kyle J. Hickman-Brown\(^1\), Erin Stockland\(^1\), Jeffrey Wiegert\(^1\), Guoyao Wu\(^1\), Rebecca K. Poole\(^1\)
\(^1\)Texas A&M University

7:00 a.m. PSI-26 Comparison of whole cottonseed to a traditional supplement (20% breeder cubes) in commercial beef cows: impacts on estimated forage intake, metabolites, and methane emissions
Avianna A. Liuzzo\(^1\), Ryan R. Reuter\(^1\), Blake K. Wilson\(^1\)
\(^1\)Oklahoma State University

7:00 a.m. PSI-22 Differential metabolizable energy consumption during late gestation affects serum mineral concentrations before and at calving in beef cattle
Koryn S. Hare\(^1\), Emily Croft\(^2\), Katharine M. Wood\(^2\), Greg B. Penner\(^3\), Michael A. Steele\(^4\)
\(^1\)Department of Animal Bioscience, University of Guelph, \(^2\)University of Guelph, \(^3\)Department of Animal and Poultry Science, University of Saskatchewan, \(^4\)Department of Animal Biosciences, University of Guelph

7:00 a.m. PSI-27 Effect of dietary unsaturated fatty acid ratio on milk performance, digestibility and serum index of dairy cows
Zhantao Yang\(^1\), Yuhui Zheng\(^2\), Shengli Li\(^2\)
\(^1\)China Agricultural University, \(^2\)China Agricultural University
7:00 a.m.  PSI-8  Effect of monensin withdrawal on the rumen prokaryote microbiome in Bos indicus and Bos taurus steers consuming bermudagrass hay
Jennifer Giesey 1, Jeff A. Brady 2, Olabiyi Obayomi 2, Tryon A. Wickersham 3, Natasha L. Mast 4
1Texas A&M University - Kingsville, 2Texas A&M AgriLife Research, 3Texas A&M University, 4Texas A&M University Kingsville

7:00 a.m.  PSI-23  Effect of supplementation with tannins and saponins on animal performance of Holstein calves.
Ignacio Urrutia 1, Sebastian Maresca 2, Sebastian O. López-Valiente 3, German Canton 2, Cristian Gomez 4, Claudio Cabral 5, Alejandro M. Rodriguez 6, Nicolas DiLorenzo 7
1UNMdP, 2INTA, 3Instituto Nacional de Tecnología Agropecuaria, Argentina, 4UNL-FAVE, 5LATAM, 6Instituto Nacional de Tecnología Agropecuaria, Argentina, 7Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

7:00 a.m.  PSI-6  Effects of a postbiotic program consisting of liquid and solid Saccharomyces cerevisiae fermentation products on digestibility, ruminal fermentation, and plasma metabolome of finishing beef steers
Anjan Dhungana 1, Oluwaseun Odunfa 1, Anthony Osterman 1, Daniel Woods 1, Kimberly Cooper 1, Changzheng Wang 1, Ilkyu Yoon 2, Yun Jiang 1
1Kentucky State University, 2Diamond V

7:00 a.m.  PSI-13  Effects of a postbiotic program consisting of liquid and solid Saccharomyces cerevisiae fermentation products on ruminal microbiome composition and microbial functions of finishing beef steers
Oluwaseun Odunfa 1, Anjan Dhungana 1, Alex Golinski 2, Maria I. Sardi 2, S. Ali Naqvi 3, Ilkyu Yoon 4, Fredrick Bebe 1, Ehsan Khafipour 5, Yun Jiang 1
1Kentucky State University, 2Cargill Biotechnology Research and Development Center-Biology, 3Cargill Engineering & Data Sciences, 4Diamond V, 5Cargill Animal Nutrition

7:00 a.m.  PSI-29  Effects of dietary intake on amino acid composition of histotroph (uterine luminal fluid) in nonpregnant cows: Implications for pregnancy
Tammi Neville 1, Layla King 1, Pawel P. Borowicz 1, Larry P. Reynolds 1, Joel S. Caton 1
1North Dakota State University

7:00 a.m.  PSI-3  Effects of strategic blending of food industry by-products with canola meal on in vitro and in situ fermentation and nutrient degradation
Richard A. Bien 1, Daisy Kaplan 1, Mohammed Embaby 1, Prasanth S. Pillai 2, Manoj Kumar 2, Amer AbuGhazaleh 1, Karen Jones 1, Amir Sadeghpour 1, Jayakrishnan Nair 1
1Southern Illinois University, Carbondale, 2Louis Dreyfus Company Plant Proteins LLC, Livermore, CA

7:00 a.m.  PSI-28  Efficacy of a Binder on Aflatoxin B1 and Per- and Poly-fluoroalkyl Substances (PFAS) Levels under In Vitro Ruminal Conditions
Joe B. Poblete 1, Diego Zamudio Ayala 1, Marcus Cardoso 1, Ana Paula Jimenez 1, Glenda Pereira 2, Yun Jiang 3, Juan Jose J. Romero 1
1University of Maine, 2University of Maine Cooperative Extension, 3Kentucky State University
7:00 a.m.  PSI-9  **Efficacy of electrolyte chews in horses**
Grace Handlos 1, Dakota Discepelo 2, Gary Apgar 2, Cierra N. Crowell 1, Erin B. Perry 3
1Southern Illinois University, 2Southern Illinois University Carbondale, 3School of Agricultural Sciences, Southern Illinois University, Carbondale, IL

7:00 a.m.  PSI-2  **Evaluation of sorghum pericarp varieties on blood parameters and antioxidant capacity in healthy adult dogs**
Katelyn Bailey 1, Isabella Corsato Alverenga 2, Charles G. G. Aldrich 1
1Kansas State University, 2Colorado State University

7:00 a.m.  PSI-15  **In-situ ruminal dry matter degradability of three hydroponic fodders and corn silage in lactating Holstein cows**
Gerald K. Salas-Solis 1, Jose A. Arce-Cordero 2, Ana C. Silva-Vicente 1, James R. Vinyard 1, Martha U. Siregar 1, Mikayla L. Johnson 1, Efstatios Sarmikasoglou 1, Lana M. Katz 1, Sanjeeewa Ranathunga 3, Rob Harding 3, Brady Blackett 3, Antonio P. Faciola 1
1Department of Animal Sciences, University of Florida, Florida, 32608, United States, 2Escuela de Zootecnia, Universidad de Costa Rica, San Jose, 11501-2060, Costa Rica, 3Renaissance Ag, Vineyard, Utah, 84057, United States

7:00 a.m.  PSI-16  **Intestinal porcine enterocyte cell (IPEC-J2) as an in-vitro model for investigating the mechanisms of ferroptosis**
Ching-Hsuan Liu 1, Yuan-Yu Lin 2
1Nation Taiwan University Department of Animal Science and Technology, 2National Taiwan University Department of Animal Science and Technology

7:00 a.m.  PSI-19  **Neonatal lamb growth and thermoregulation after nutrient specific restriction in gestation**
Rachael M. Stucke 1, Alison M. Kuderka 1, Sarah L. Gabel 1, Ellen Roberts 1, Shawn L. Archibeque 1, Terry E. Engle 1, Caitlin N. Cadaret 1
1Colorado State University

7:00 a.m.  PSI-11  **Phyllanthus urinaria water extract ameliorates lipid accumulation and oxidative stress in primary chicken hepatocytes**
Hsiao-Yin Lai 1, Shih-Torng Ding 1
1Department of Animal Science and Technology, National Taiwan University, Taipei, Taiwan

7:00 a.m.  PSI-5  **Potential involvement of ferroptosis in lipopolysaccharide-induced intestinal inflammation in broilers**
Yi-Ting Chen 1, Yuan-Yu Lin 2
1National Taiwan University Department of Animal Science and Technology, 2National Taiwan University Department of Animal Science and Technology

7:00 a.m.  PSI-10  **Prioritizing fertility-related genes in cattle through systems genomics data integration**
Nicholas C. Kertz 1, Priyanka Banerjee 1, Juliana Afonso 2, Paul W W. Dyce 1, Wellison Jarles j. Da Silva Diniz 1
1Auburn University, 2Embrapa Pecuária Sudeste
Soybean-supplemented nursing ewes showed better performance and health status than corn-supplemented ewes stocked in woodlands
Santoshi Chaudhary 1, Uma Karki 1, Bhuwan Shrestha 2, Sadikshya Lamsal 1
1Tuskegee University, 2Texas A&M University

The role of n-carbamylglutamate supplementation during last third of gestation in nutrient restricted twin-bearing ewes.
Francisco A. Sales 1, Victor H. Parraguez 2, Susan A. McCoard 3, Camila Sandoval 1, Francisca Chandia 4, Paul Maclean 3
1Instituto de Investigaciones Agropecuarias, 2Faculty of Veterinary Sciences, University of Chile, 3AgResearch Limited, 4Universidad de Chile

Trace mineral source, diet type, and Rumensin influences ruminal fermentation characteristics
Jonah R. Levenson 1, Huey Yi Loh 1, Alexandra C. Miller 1, Tyler A. Thomas 1, meghan P. Thorndyke 1, John J. Wagner 1, Terry E. Engle 1, Jeff S. Heldt 2
1Colorado State University, 2Micronutrients USA LLC

Trans vaccenic acid does not improve insulin resistance in diet induced obese mice
Yanqing Xu 1, Fawaz Haj 1, Ming-Fo Hsu 1, Payam Vahmani 1
1University of California, Davis

Use of sunn hemp as forage for early-weaned beef calves
Joao Silva 1, Joao Vendramini 1, Hiran Silva 1, Hugo Oliveira 1, Jaime Garzon 2, Daniel Cook 3, Dale Gardner 3, Philipe Moriel 1
1University of Florida, 2University of Maine, 3USDA

Vaginal microbiome of Bos indicus cattle in relation to fertility
Molly S. Smith 1, Dallas R. Soffa 1, Brooke E. McAnally 1, Kyle J. Hickman-Brown 1, Erin Stockland 1, Rebecca K. Poole 1
1Texas A&M University

Vitamin A and D pre-exposure to prime reproductive success in breeding beef cows
Amanda K. Fox 1, Michael Hammerich 1, Cecily V. Bishop 1
1Department of Animal and Rangeland Sciences, College of Agricultural Sciences, Oregon State University

Weaning stress increases bile cysteine and cysteinylglycine concentrations in pigs
Alex Outlaw 1, Alexandra M. Gachman 1, Julia Bartosh 1, Marko Rudar 1
1Auburn University
8:00 a.m. 445  **WSASAS Young Scholar Awardee Talk: Generation of a BMPR2 heterozygous ovine genetic model for heritable Pulmonary Arterial Hypertension**
Austin R. Brown ¹, Devon Fitzpatrick ¹, Sanjeev Datar ², Thomas F. Bishop ¹, Alison L. Van Eenennaam ³
¹University of California, Davis, ²University of California, San Francisco, ³University of California, Davis Department of Animal Science

8:30 a.m. 124  **Disease resilience indicators based on phagocytosis assays on blood from young healthy pigs**
Vishesh Bhatia ¹, Xuechun Bai ², Frederic Fortin ³, John Harding ⁴, Michael Dyck ⁵, Catherine Field ⁶, Claire Roger-Gaillard ⁶, Fany Blanc ⁶, Graham Plastow ⁵, Jack C.M. Dekkers ¹
¹Department of Animal Science, Iowa State University, ²Hendrix Genetics, ³Centre de Développement du Porc du Québec Inc., ⁴Department of Large Animal Clinical Sciences, University of Saskatchewan, ⁵Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, ⁶Université Paris-Saclay, INRAE, AgroParisTech, GABI

8:45 a.m. 125  **Implementing a genetic evaluation program for Acute Hepatopancreatic Necrosis Disease resistance in Penaeus Vannamei (Pacific White Shrimp)**
issabelle Ampofo ¹, Hung Mai ², Arun Dhar ³, Daniel Greevers ⁴, Harris Wright ⁴, Breno O. Fragomeni ¹
¹University of Connecticut, ²The university of arizona, ³University of Arizona, ⁴shrimp improvement systems

9:00 a.m. 126  **Prevalence of right sided heart failure in angus influenced and beef on dairy fattening feedlot cattle**
Isabella Kukor ¹, R. Mark Enns ¹, Timothy N. Holt ¹, Matthew Cleveland ², Ben P. Holland ³, Alyssa B. Word ³, Guy Ellis ³, Miles Theurer ⁴, Scott E. Speidel ¹
¹Colorado State University, ²ABS Global, ³Cactus Research, ⁴Veterinary Research and Consulting Services

9:15 a.m.  **Animal Breeding and Genetics II: Advances in Animal Biomedical Model Genetics Break**

9:30 a.m. 127  **Genetic correlations between systolic and diastolic pulmonary arterial pressure in beef cattle**
Sydney K. Baty ¹, R. Mark Enns ¹, Timothy N. Holt ¹, Scott E. Speidel ¹
¹Colorado State University

9:45 a.m. 128  **Reviewing the definition of mortality in broiler chickens**
Jennifer Richter ¹, Fernando Bussiman ¹, Jorge A. Hidalgo ¹, Vivian Breen ², Ignacy Misztal ¹, Daniela Lourenco ¹
¹University of Georgia, ²Cobb-Vantress, Inc.
10:00 a.m. 129 The relationship between pulmonary arterial pressure expected progeny differences and methane emissions
Miranda L. Zuvich 1, Scott E. Speidel 1, Isaac F. Torres-Quijada 1, Edward J. Raynor 2, Pedro H. V. Carvalho 1, Sara E. Place 3, Kim R. Stackhouse-Lawson 3, R. Mark Enns 1
1Colorado State University, 2AgNext, 3AgNext, Colorado State University

10:15 a.m. 130 Genetic analysis of count-based horn fly abundance phenotypes in beef cattle
Amanda M. Warner 1, Nancy Hinkle 1, Bradley Heins 1, Dean Pringle 2, Samuel E. Aggrey 1,
Romdhane Rekaya 1
1University of Georgia, 2University of Florida

10:30 a.m. 131 How horn flies could be affecting you beef herd's reproductive success
Amanda M. Warner 1, Nancy Hinkle 1, Bradley Heins 1, Dean Pringle 2, Samuel E. Aggrey 1,
Romdhane Rekaya 1
1University of Georgia, 2University of Florida

Growth and Development
Chair: Anna Dilger, University of Illinois at Urbana-Champaign
8:00 AM - 12:30 PM
WEST LOWER: 18 Cochiti, Taos

8:00 a.m. 418 Awardee Talk: Heat stress-mediated muscle dysfunction
Joshua T. Selsby 1
1Iowa State University

8:30 a.m. 236 Assessment of early-stage thermal manipulation on broiler chicken muscle satellite cell populations at transfer and hatch
John W. Rogers 1, Brittany Hutson 1, Martha Rueda 2, Jeremiah D. Davis 2, Joseph Purswell 3,
Charles Starkey 4, Jessica D. Starkey 1
1Department of Poultry Science, Auburn University, 2National Poultry Technology Center,
Auburn University, 3USDA ARS Poultry Research Unit, 4North American Renderers Association

8:45 a.m. 237 Evaluation of thermal variation during early-stage incubation on broiler chicken Pectoralis major muscle satellite cell mitotic activity and heterogeneity at 28 days post-hatch
Orlando B. Fiallos 1, Brittany Hutson 2, Martha Rueda 3, Jeremiah D. Davis 3, Joseph Purswell 4,
Charles Starkey 5, Jessica D. Starkey 2
1Poultry Science, Auburn University, 2Department of Poultry Science, Auburn University,
3National Poultry Technology Center, Auburn University, 4USDA ARS Poultry Research Unit,
5North American Renderers Association

9:00 a.m. 238 Leucine supplementation enhances protein synthesis in lean tissue through a Sestrin2-GATOR2 and RagA-mTORC1 signaling pathway in a preterm piglet model
Erin A. Posey 1, Agus Suryawan 2, Hanh Nguyen 2, Christina Sciarrillo 3, Barbara Stoll 2, Caitlin
Vonderohe 2, Doug Burren 2, Marta Fiorotto 2, Teresa A. Davis 2
1USDA/APHIS, National Veterinary Services Laboratories, 2USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, 3NIDDK, National Institutes of Health (NIH)
9:15 a.m. 239 Impaired myoblast function and poor muscle growth in intrauterine growth-restricted fetal sheep is improved by the anti-inflammatory nutraceutical, eicosapentaenoic acid
Rachel L. Gibbs 1, Haley N. Beer 1, Taylor A. Lacey 1, Melanie R. White 1, Zena M. Hicks 1, Pablo Cesar C. Grijalva 1, Jessica L. L. Peterson 1, Ty B. B. Schmidt 1, Dustin T. Yates 1
1University of Nebraska-Lincoln

9:30 a.m. 240 Prolonged maternofetal inflammation in the pregnant ewe at midgestation increases subsequent fetal inflammatory tone and disrupts skeletal muscle growth and glucose metabolism near term
Zena M. Hicks 1, Rachel L. Gibbs 1, Haley N. Beer 1, Melanie R. White 1, Taylor A. Lacey 1, Pablo Cesar C. Grijalva 1, Micah S. Most 1, Ty B. B. Schmidt 1, Jessica L. L. Peterson 1, Dustin T. Yates 1
1University of Nebraska-Lincoln

9:45 a.m. 241 Increased inflammatory tone and impaired skeletal muscle growth in intrauterine growth-restricted neonatal lambs is improved by daily supplementation of ω-3 polyunsaturated fatty acid Ca2+ salts
Melanie R. White 1, Rachel L. Gibbs 1, Pablo Cesar C. Grijalva 1, Zena M. Hicks 1, Haley N. Beer 1, Micah S. Most 1, Ty B. B. Schmidt 1, Jessica L. L. Peterson 1, Dustin T. Yates 1
1University of Nebraska-Lincoln

10:00 a.m. Growth and Development Break

10:15 a.m. 411 ASAS Young Scholar Awardee Talk: Fetal programming and molecular characterization of the skeletal muscle development in ruminants
Thais C. Costa 1, Mateus P. Gionbelli 2
1Department of Animal Science, Universidade Federal de Viçosa, Viçosa, Brazil and Muscle Biology and Nutrigenomics Laboratory, Universidade Federal de Viçosa, Viçosa, Brazil, 2Department of Animal Science, Universidade Federal de Lavras, Lavras, MG, Brazil

10:45 a.m. 242 Methionine and guanidinoacetic acid supplementation during the periconceptual period of gestation shifts methionine metabolism of fetal bull calves at d 63 of gestation
Matthew S. Crouse 1, Kathryn Hauxwell 2, Joel S. Caton 2, Alison Ward 3, Carl R. Dahlen 2, Samat Amat 4, Harvey C. Freely 1, Amanda Lindholm-Perry 1, Bryan W. Neville 1, William T. Oliver 5, Jennifer Thorson 1, Alexandria P. Snider 6, Jeremy R. Miles 1, Robert A. Cushman 7
1USDA, ARS, U.S. Meat Animal Research Center, 2North Dakota State University, 3University of Saskatchewan, 4North Dakota State University, Department of Microbiological Sciences, 5USDA-ARS, 6USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit, 7USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit

11:00 a.m. 243 Translating maternal vitamin and mineral supplementation effect on early developing fetus through hepatic long non-coding RNAs profile in beef heifers
Muhammad Anas 1, Alison Ward 2, Kacie L. McCarthy 3, Ana Clara Baião Menezes 4, Pawel P. Borowicz 1, Larry P. Reynolds 1, Joel S. Caton 1, Carl R. Dahlen 1, Wellison Jarles j. Da Silva Diniz 5
1North Dakota State University, 2University of Saskatchewan, 3University of Nebraska, 4South Dakota State University, 5Auburn University
11:15 a.m. 244  **FGF-21 myokine expression by cultured bovine satellite cells from 3- and 11-month-old steers**
Katie A. Shira 1, Gabrielle M. Becker 1, Brenda M. Murdoch 1, Kara J. Thornton 2, Gwinyai E. Chibisa 1, Gordon K. Murdoch 3
1University of Idaho, 2Utah State University, 3Washington State University

11:30 a.m. 245  **Fish oil and dexamethasone administration each partially improve indicators of glucose metabolism and fat homeostasis by reducing systemic inflammation in heat-stressed feedlot wethers**
Pablo Cesar C. Grijalva 1, Micah S. Most 1, Haley N. Beer 1, Rachel L. Gibbs 1, Zena M. Hicks 1, Taylor A. Lacey 1, Melanie R. White 1, Ty B. B. Schmidt 1, Jessica L. L. Peterson 1, Dustin T. Yates 1
1University of Nebraska-Lincoln

11:45 a.m. 246  **Evaluation of live growth performance and carcass characteristics of late finishing phase beef cattle with varying degrees of pulmonary hypertension**
Chase D. Markel 1, Timothy N. Holt 2, Scott L. Lake 1, Kelly L. Woodruff 1, Bryson Mills 1, Clayton Bedke 1, Cody Gifford 1, Hannah C. Cunningham-Hollinger 3
1University of Wyoming, 2Colorado State University, 3University of Wyoming

12:00 p.m. 442  **WSASAS Young Scholar Awardee Talk: Adaptive programming of poor skeletal muscle growth and metabolism associated with heat stress-induced intrauterine growth restriction**
Rachel L. Gibbs 1, Rebecca Swanson 1, Joselyn K. Beard 2, Shawna M. Clement 1, Zena M. Hicks 1, Pablo Grijalva 1, Melanie R. White 1, Jessica L. L. Peterson 1, Ty B. B. Schmidt 1, Dustin T. Yates 1
1University of Nebraska-Lincoln, 2University of Arizona

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**Poster Session II**
8:30 AM - 9:30 AM
140 Aztec/110 Galisteo

8:30 a.m.  PSII-19  **A satellite-based decision-support tool to optimize profitability and environmental stewardship of cow-calf operations**
Jordan M. Adams 1, Jalme Fernandes Jr. 2, Marcia Fernandes 3, Ricardo Reis 3, Luis O. Tedeschi 1
1Texas A&M University, 2Sigfarm Intelligence LLC, 3Sao Paulo State University (UNESP)

8:30 a.m.  PSII-6  **Changes in Galectin gene expression and secretion in response to Gum Arabic drench in goats**
Yaser M. Ahmed 1, MD Rasel Uzzaman 1, Mulumebet Worku 1
1NC A&T State University
8:30 a.m. PSII-14 Chemical composition of tropical forage fertilized with different sources of nitrogen fertilizers
Débora Siniscalchi 1, Karine Dalla Vecchia Camargo 1, Natalia Vilas Boas Fonseca 1, Maria Luisa Curvelo Silva 1, Marcelo Augusto Oliveira Castro 1, Isadora Alves Dornellas 1, Carlos Eduardo Lima 1, Willian Aparecido De Souza 1, Luana Hybner Gomes Da Cruz 1, Lucas Dos Santos Del Vecchio 1, Carlos Eduardo Vicente Junior 1, Pedro Henrique Inácio Kikuchi 1, Abmael Da Silva Cardoso 2, Ricardo Reis 3
1Universidade Estadual Paulista - Unesp, 2University of Florida, 3Sao Paulo State University (UNESP)

8:30 a.m. PSII-9 Circulating cytokine profiles of Bos indicus cattle prior to artificial insemination in relation to pregnancy status
Molly S. Smith 1, Dallas R. Soffa 1, Brooke E. McAnally 1, Kyle J. Hickman-Brown 1, Erin Stockland 1, Rebecca K. Poole 1
1Texas A&M University

8:30 a.m. PSII-8 Comparison of different fattening stages on rumen microbiota and physiological characteristics in Japanese Black cattle
Huseong Lee 1, Minji Kim 1, Tatsunori Masaki 2, Kentaro Ikuta 2, Eiji Iwamoto 2, Koki Nishihara 3, Makoto Hirai 4, Yoshinobu Uemoto 1, Fuminori Terada 5, Sanggun Roh 1
1Graduate School of Agricultural Science, Tohoku University, 2Hyogo Prefectural Technology Center of Agriculture, Forestry and Fisheries, 3Department of Animal Biosciences, University of guelph, 4Central Research Laboratories, Nippon Zenyaku Kogyo Co., Ltd, 5National Institute of Livestock and Grassland Science, National Agriculture and Food Research Organization

8:30 a.m. PSII-16 Comparison of two methods of inoculation of continuous culture fermentors fed different diets
Danielle Andreen 1, Kelly Mercier 1, Kathy J. Soder 1, Erika Ganda 2
1USDA-ARS, 2The Pennsylvania State University

8:30 a.m. PSII-1 Determining appropriate numbers and times of daily measurements to estimate ruminal methane emission of meat goats using a greenfeed system
Dereje Tadesse Gulich 1, Ryszard Puchala 1, Hirut Y. Yirga 1, Luana Ribeiro 1, Fabiola L. Encinas 1, Terry A. Gipson 2, Arthur L. Goetsch 1
1Langston University, 2Langston

8:30 a.m. PSII-18 Effect of Alfalfa and Meadow Bromegrass Monocultures and Binary Mixtures with Sainfoin on In Vitro Ruminal Fermentation Using the Rumen Simulation Technique (RUSITEC)
Grace M. Squire 1, Greg B. Penner 1, Herbert A. Lardner 1, Bill Biligetu 2, Yuxi Wang 3, Gabriel O. Ribeiro 1
1Department of Animal and Poultry Science, University of Saskatchewan, 2Department of Plant Sciences, University of Saskatchewan, 3Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

8:30 a.m. PSII-30 Effect of dietary alpha-amylase enzyme supplementation on growth performance and carcass quality of crossbred dairy beef bulls fed pellet or mash high-concentrate diets
Maria Devant 1, Lourdes Llonch 1, Sonia Marti 1, Julie Duclos 2, Luis Tamassia 3
1IRTA, Ruminant Production, 2DSM; Nutritional Products, 3DSM Nutritional Products Switzerland
8:30 a.m.  PSII-29  Effect of dietary alpha-amylase enzyme supplementation on growth performance, eating pattern and carcass quality in crossbred dairy beef bulls fed high-concentrate diets
Maria Devant 1, Lourdes Llonch 1, Sonia Marti 1, Julie Duclos 2, Luis Tamassia 3
1IRTA, Ruminant Production, 2DSM; Nutritional Products, 3DSM Nutritional Products Switzerland

8:30 a.m.  PSII-10  Effect of equine chorionic gonadotrophin-like glycoprotein treatment on fertility in Angus cows subjected to a 7-day CO-Synch protocol
Alejandro M. Rodriguez 1, Sebastian Maresca 2, Sebastian O. López-Valiente 3, Julián A. Bartolome 4, Santiago Pérez-Wallace 5, Nathan Long 6
1Instituto Nacional de Tecnología Agropecuaria, Argentina, 2INTA, 3Instituto Nacional de Tecnología Agropecuaria, Argentina, 4Facultad de Ciencias Veterinarias Universidad Nacional de La Pampa, Argentina., 5Syntex SA, Buenos Aires, Argentina, 6Clemson University

8:30 a.m.  PSII-28  Effect of oat variety and oat type (feed-type vs milling-type) with multi-year samples on energy profiles and predicted animal production performance in western Canada
Ganqi Deng 1, David Christensen 2, Herbert A. Lardner 2, Peiqiang Yu 2
1University of Saskatchewan, 2Department of Animal and Poultry Science, University of Saskatchewan

8:30 a.m.  PSII-22  Effect of protein supplementation level and degradability on N balance by steers consuming low-quality forage: I. Bos taurus taurus
Jodi R. Cox 1, Tryon A. Wickersham 1
1Texas A&M University

8:30 a.m.  PSII-23  Effect of protein supplementation level and degradability on N balance in steers consuming low-quality forage: II. Bos taurus indicus
Jodi R. Cox 1, Tryon A. Wickersham 1
1Texas A&M University

8:30 a.m.  PSII-11  Effects of cannabidiol on viability and inflammatory response in bovine primary ruminal epithelial cells
Coral Kent-Dennis 1, James L. Klotz 2
1ORISE, ARS-USDA, 2USDA-ARS Forage-Animal Production Research Unit

8:30 a.m.  PSII-21  Effects of dietary supplementation with sucrose on in vitro ruminal fermentation and bacterial composition
siyuan liu 1, tian xie 1, Shengli Li 1
1China Agricultural University

8:30 a.m.  PSII-2  Effects of natural sources of brackish/saline water on water and feed intake, digestion, physiological conditions, and performance of yearling meat goats
Hirut Y. Yirga 1, Arthur L. Goetsch 1, Ryszard Puchala 1, Dereje Tadesse Gulich 1, Fabiola L. Encinas 1, Terry A. Gipson 2, Lionel J. Dawson 1
1Langston University, 2Langston
8:30 a.m.  PSII-15  Effects of tillage method and fertilization rate on fall performance of stocker cattle grazing wheat pasture and stand performance
Cody Gruber 1, Michelle Johnson 1, Tom Hess 2, Nate T. Moss 2, Daniel Rivera 3, Shane Gadberry 2
1University of Arkansas, 2UA Livestock and Forestry Station, 3University of Arkansas Southwest Research and Extension Center

8:30 a.m.  PSII-5  Evaluating Haemonchus contortus resistance in hair sheep lambs under divergent selection for reduced fecal egg count
Jacob W. Thorne 1, Reid Redden 2, Scott A. Bowdrige 3, Gabrielle M. Becker 1, Morgan R. stegemiller 4, Kelsey Bentley 3, Brenda M. Murdoch 1
1University of Idaho, 2Texas A&M AgriLife Extension, 3West Virginia University, 4Department of Animal, Veterinary, and Food Sciences, University of Idaho

8:30 a.m.  PSII-26  Feeding behavior and feed conversion in roughage-lacking diets containing ionized amino acids as antibiotic alternative
1Animal Science Institute from Sao Paulo Government - BRAZIL, 2MJ Nutricao Animal, 3Embrapa, 4Animal Science Institute from Sao Paulo Government

8:30 a.m.  PSII-27  Inflammation- and immunity-associated gene expression in the liver and whole blood of crossbred beef cattle with divergent residual feed intake phenotype
Godstime A. Taiwo 1, Modoluwamu Idowu 1, Taylor S. Sidney 1, Lanre Morenikeji 2, Ibukun M. Ogunade 1
1West Virginia University, 2University of Pittsburgh

8:30 a.m.  PSII-12  Influence of dietary methionine and guanidinoacetic acid on estrous cycles and early pregnancy in beef heifers
Robert Cushman 1, Kathlyn Hauxwell 2, Alexandria P. Snider 3, Harvey Freely 1, William T. Oliver 4, Samat Amat 5, Bryan W. Neville 1, Jennifer Thorson 1, Amanda Lindholm-Perry 1, Jeremy R. Miles 1, Carl R. Dahlen 2, Alison Ward 6, George A. Perry 7, Joel S. Caton 2, Matthew S. Crouse 1
1USDA, ARS, U.S. Meat Animal Research Center, 2North Dakota State University, 3USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit, 4USDA-ARS, 5North Dakota State University, Department of Microbiological Sciences, 6University of Saskatchewan, 7Texas A&M AgriLife Research, Overton, TX

8:30 a.m.  PSII-7  Is scrotal ultrasound a useful tool in ram breeding soundness examination?
Tom W. Murphy 1, Bradley A. Freking 1, Stephan Wildeus 2, Jeremy R. Miles 3, Robert Cushman 3, Alexandria P. Snider 4, Lea A. Rempel 1
1USDA ARS U.S. Meat Animal Research Center, 2Virginia State University, 3USDA, ARS, U.S. Meat Animal Research Center, 4USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit
8:30 a.m. PSII-24  Relationship among color, physicochemical traits, and ruminal in situ dry matter digestion of corn grains from Argentina, Brazil, and the United States
Lucas González 1, Guillermo F. Schroeder 2, Nicolas DiLorenzo 3, Daniel G. Méndez 4, Gustavo Jaurena 5, Juan C. Elizalde 6, Irene Ceconi 4
1Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria de General Villegas, Buenos Aires, Argentina; Consejo Nacional de Investigaciones Científicas y Técnicas, Ciudad Autónoma de Buenos Aires, Argentina; Universidad de Buenos Aires, Facultad de Agronomía, Ciudad Autónoma de Buenos Aires, Argentina, 2Cargill Animal Nutrition and Health Innovation Campus, Elk River, MN, 3Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL, 4Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria de General Villegas, Buenos Aires, Argentina, 5Universidad de Buenos Aires, Facultad de Agronomía, Ciudad Autónoma de Buenos Aires, Argentina, 6Elizalde & Riffel private consultants, Rosario, Santa Fe, Argentina

8:30 a.m. PSII-4  Response variables of Nguni goats to water stress: A prelude into their adaptive capacity in the dry ecozone of Eastern Cape, South Africa
Oluwakamisi Festus Akinmoladun 1, Olusegun O. Ikusika 1, Conference T. Mpendulo 1
1University of Fort Hare

8:30 a.m. PSII-17  Sheep foraging relative to stock density, time of day, and sheep type in a poisonous plant context
Aaron Kersh 1, John D. Scasta 1, Justin D. Derner 2, Hannah Fraley 1, Whit C. Stewart 1
1University of Wyoming, 2USDA-Agricultural Research Service

8:30 a.m. PSII-3  Sheep neutrophil activation in response to garlic in vitro
MD Rasel Uzzaman 1, Priyanka Pande 1, SreeNavya Inupala 1, Sowmya Jagana 1, Mulumebet Worku 1
1NC A&T State University

8:30 a.m. PSII-13  Size and abundance of extracellular vesicles in cattle during early to mid-gestation consuming control or restricted diets
Scott Pratt 1, Meryem Soyluoglu 2, Tanju Karanfil 3, Richard Delorme 4, Nathan Long 1
1Clemson University, 2Department of Environmental and Engineering and Earth Sciences, Clemson University, 3Department of Environmental Engineering and Earth Sciences, Clemson University, 4Department of Animal and Veterinary Sciences

8:30 a.m. PSII-25  Use of energy dispersive X-ray fluorescence for determination of indigestible markers in digesta samples
Mindy E. King 1, Andrew P. Foote 1
1Oklahoma State University

8:30 a.m. PSII-20  Virtual fencing of rangeland cows during late lactation and following weaning
Santiago Utsumi 1, Shelemia Nyamuryekung’e 1, Andres Ricardo Perea 1, Maximilian Spetter 1, Andrew Cox 1, Lara Macon 2, Rick Estell 2, Glenn C. Duff 3
1Department of Animal and Range Science, New Mexico State University, 2Jornada Experimental Range, USDA ARS, 3New Mexico State University
8:30 a.m. 412 Awardee Talk: New insights into mechanisms of serotonin receptor-mediated vasoactivity and complex interactions with ergot alkaloids in bovine vasculature
Ronald J. Trotta 1, James L. Klotz 2
1University of Kentucky, 2USDA-ARS Forage-Animal Production Research Unit

9:00 a.m. 294 KISS1 knockout boars have decreased concentrations of gonadotropins leading to smaller testes and reduced skatole in backfat
Daniel F. Ahern 1, Julio M. Florez 2, Kyra Martins 2, Abe Huisman 3, Tad S. Sonstegard 2, Brett R. White 4, Clay A. Lents 5
1Department of Animal Science, University of Nebraska, 2Acceligen Inc., 3Hendrix Genetics (Hypor), 4University of Nebraska-Lincoln, 5USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit

9:15 a.m. 295 Effects of a supraphysiological oxytocin injection after parturition on blood-milk-barrier closure and IgG transfer into milk in dairy cows
Evelyne C. Kessler 1, Rupert M. Bruckmaier 1, Josef J. Gross 1
1Veterinary Physiology, Vetsuisse Faculty, University of Bern

9:30 a.m. 296 Comparison of DNA methylation patterns in sperm collected from brahman bulls with differences in embryo development
Jaclyn N. Ketchum 1, Jessica Drum 2, Caleta Willis 3, Chloey P. Guy 4, Sofia Ortega 5, Karl Kerns 6, Charles R. Long 7, Charles Love 8, Thomas H. Welsh 9, Ronald D. Randel 4, George A. Perry 4
1Department of Animal Science, Texas A&M University, College Station, TX, 2University of Missouri, Division of Animal Sciences, Columbia, MO, 3Texas A&M University, Department of Animal Science, College Station, TX, USA; Abilene Christine University, Department of Agricultural and Environmental Sciences, Abilene, TX, USA, 4Texas A&M AgriLife Research, Overton, TX, 5University of Wisconsin Madison, Animal & Dairy Science, Madison, WI, 6Department of Animal Science, Iowa State University, Ames, Iowa, USA, 7School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, 8Department of Large Animal Clinical Sciences, Texas A&M University, College Station, TX, USA, 9Texas A&M University, Department of Animal Science, College Station, TX

9:45 a.m. 297 Evaluation of semen characteristics during pubescent maturation after prenatally induced stress of Brahman bulls
1Texas A&M University, Department of Animal Science, College Station, TX, USA; Abilene Christine University, Department of Agricultural and Environmental Sciences, Abilene, TX, USA, 2Department of Animal Science, Texas A&M University, College Station, TX, 3Texas A&M AgriLife Research, Overton, TX, 4Department of Large Animal Clinical Sciences, Texas A&M University, College Station, TX, USA, 5Department of Animal Science, Iowa State University, Ames, Iowa, USA, 6School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, 7Texas A&M University, Department of Animal Science, College Station, TX
10:00 a.m. 298 **Interleukin-6 family members improve pre-implantation bovine blastocyst composition**

Mary A. Oliver 1, Savannah L. Speckhart 1, Alan Ealy 1
1Virginia Polytechnic Institute and State University

10:15 a.m. 299 **The effectiveness of subjective fetal aging as a predictor of calving date**

Katylyn J. Richardson 1, Tommy L. Perkins 1, Chelsea J. Arnold 1, Garrett A. Cowey 1, Zoë P. Walker 1
1West Texas A&M University

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**CSAS Symposium I**

Chair: Obioha Durunna, Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5
8:30 AM - 11:30 AM
EAST UPPER: 240 La Cienega

8:30 a.m. **CSAS Symposium I Introduction**

8:35 a.m. 66 **Emerging precision ranching technology is enabling the development of a “smart” biome**

John S. Church 1, Edward Bork 2
1Thompson Rivers University, 2Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada

9:10 a.m. 67 **Leveraging AI/ML to address critical challenges in livestock research**

Jennifer Clarke 1
1University of Nebraska-Lincoln

9:45 a.m. 64 **Digital technologies and Machine learning: A new way to look at novel traits at spatial and temporal dimensions**

Guilherme J. M. Rosa 1, Joao R. R. Dorea 1, Laura Hernandez 1
1University of Wisconsin-Madison

10:20 a.m. **CSAS Symposium I Break**

10:35 a.m. 65 **Machine and deep learning modelling strategies for body weight prediction of cattle and swine**

Dan Tulpan 1
1University of Guelph

11:10 a.m. **CSAS Symposium I Q&A**
8:30 a.m.  430  **Awardee Talk: Recent breakthroughs in mineral nutrition research that are influencing commercial swine diet formulation**
Jason C. Woodworth ¹, Joel M. DeRouchey ¹, Mike D. Tokach ¹, Robert Goodband ¹, Jordan T. Gebhardt ²
¹Kansas State University, ²Kansas State University

9:00 a.m.  261  **Variations in protein deposition might be associated to insulin resistance and differences in amino acids metabolism in growing gilts**
Aline Remus ¹, Candido Pomar ¹
¹AAFC

9:15 a.m.  262  **Weaning-induced changes in tissue cysteine utilization in pigs**
Alexandra M. Gachman ¹, Brooke Newell ¹, Alex Outlaw ¹, Julia Bartosh ¹, Haejin Kim ¹, Marko Rudar ¹
¹Auburn University

9:30 a.m.  263  **Dietary supplementation of tryptophan, threonine, and methionine improves the growth and immune status for lower body weight but not for heavier pigs under a sanitary challenge**
Graziela Alves da cunha valini ¹, Aline Remus ², Luciano Hauschild ³
¹Agriculture and Agri-Food Canada, ²AAFC, ³Faculdade de Ciências Agrárias e Veterinárias - Câmpus de Jaboticabal - Unesp

9:45 a.m.  264  **Effects of L-glutamate and L-aspartate supplementation on growth performance, severity of diarrhea, and systemic immunity of weaned piglets challenged with F18 ETEC**
Supatirada Wongchanla ¹, Sangwoo Park ¹, Kwangwook Kim ², Shuhan Sun ¹, Xunde Li ¹, Yanhong Liu ¹
¹University of California, Davis, ²Michigan State university

10:00 a.m.  **Nonruminant Nutrition III: Amino Acid and Chelated Minerals Break**

10:15 a.m.  265  **Interactive effects of dietary isoleucine and valine ratios to lysine in response to varying leucine to lysine ratios on Pectoralis major muscle protein expression in commercial broilers**
Cristopher I. Almendares ¹, Diego E. Ventura ¹, Ruben Kriseldi ², Alex Corzo ², Roshan Adhikari ³, Jason Lee ³, Chance Williams ⁴, Charles Starkey ⁵, Jessica D. Starkey ¹
¹Department of Poultry Science, Auburn University, ²Aviagen, ³C.J. Bio America, ⁴Wayne-Sanderson Farms, ⁵North American Renderers Association
Interactive effects of dietary isoleucine and valine ratios to lysine in response to varying leucine to lysine ratios on hepatic protein expression in commercial broilers
Diego E. Ventura 1, Cristopher I. Almendares 1, Ruben Kriseldi 2, Alex Corzo 2, Roshan Adhikari 3, Jason Lee 3, Chance Williams 4, Charles Starkey 5, Jessica D. Starkey 1
1Department of Poultry Science, Auburn University, 2Aviagen, 3C.J. Bio America, 4Wayne-Sanderson Farms, 5North American Renderers Association

Copper methionine hydroxy analogue chelate in a reduce and replace copper strategy improves nutrient availability in growing pigs
Bradley V. Lawrence 1, Chelsie K. Foran 2, Alex Hintz 3, David Torres 3, Jesus A. Acosta Camargo 2, Ashley Provin 4
1NOVUS International Inc, 2Novus International Inc., 3NOVUS Internationsl Inc, 4Novus international

Copper methionine hydroxy analogue chelate as a reduce and replace Cu strategy in growing pigs
Bradley V. Lawrence 1, Alex Hintz 2, David Torres 2, Demian M. Fernandez-Dueñas 2
1NOVUS International Inc, 2NOVUS Internationsl Inc

Zinc from methionine hydroxy analog chelate is more effective in enriching tissues than zinc from an amino acid complex in growing pigs using stable isotopes
Jesus A. Acosta Camargo 1, Ping Ren 2, Ashley Provin 3, Tracy Rode 2, Heather A. Tucker 2, Deana Hancock 2
1Novus International Inc., 2Novus International, 3Novus international

Extension Education
Chair: Kimberly Mullenix, Auburn University
8:30 AM - 11:45 AM
EAST MAIN: 130 Cimarron

Awardee Talk: Team Approach to Beef Cattle Extension Programming
Jeffrey Lehmkuhler 1
1University of Kentucky

Curricula-based trainers’ training: Integrated approach for preventing diseases and parasites in small ruminants in the Southeast
Uma Karki 1, Niki C. Whitley 2, Joan M. Burke 3, Lila B. Karki 4, Steve P. Hart 5, Susan Kerr 6, Nar K. Gurung 7
1Tuskegee University, 2Fort Valley State University, 3USDA ARS Dale Bumpers Small Farms Research Center, 4University of Maryland Eastern Shore, 5Langston University, 6Washington State University, 7Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA
9:15 a.m.  226  **Measuring agricultural means of influence on young adults via Instagram in the United States**
Madison Coursen 1, Katie Corbitt 1, Samantha Bennett 1, David Martin 1, Jason T. Sawyer 1, Donald Mulvaney 1
1Auburn University

9:30 a.m.  227  **Evaluation of beef cattle performance on nontraditional beef cattle finishing system compared to traditional beef cattle finishing system**
Lakan D. Guelker 1, Brandi B. Karisch 2, Daniel Rivera 3
1South MS Experiment Station, 2Mississippi State University, 3University of Arkansas Southwest Research and Extension Center

9:45 a.m.  228  **Food for thought: How influenceable is the next generation consumer**
Karen A. Hiltbrand 1, Katie Corbitt 1, Madison Coursen 1, David Martin 1, Kimberly Mullenix 1, Derek Ross 1, Ed Youngblood 1, Brandon B. Smith 1, Donald Mulvaney 1
1Auburn University

10:00 a.m.  **Extension Education Break**

10:15 a.m.  417  **Awardee Talk: The Generation Gap: Marketing meat to the different generations**
Gregg K. Rentfrow 1
1University of Kentucky

10:45 a.m.  229  **Measuring the effectiveness of both cognitive and emotional forms of instructional videos related to the beef industry**
Katie Corbitt 1, Savannah Locke 1, Karen A. Hiltbrand 1, David Shannon 1, Soren P. Rodning 1, Jason T. Sawyer 1, Donald Mulvaney 1, Darcey Richburg 1
1Auburn University

11:00 a.m.  230  **Opportunities for and threats against animal production in the commonwealth of Pennsylvania: The need for animal scientists to play a role in informing society**
Chris Gambino 1, Maddie Buzzeo 2
1The Breakthrough Institute, 2National Association for State Departments of Agriculture

11:15 a.m.  231  **Podcasting as an extension tool: Limitations and opportunities**
Katie Corbitt 1, Samantha Bennett 1, David Martin 1, Jason T. Sawyer 1, Soren P. Rodning 1, Donald Mulvaney 1
1Auburn University

11:30 a.m.  427  **A survey of Mississippi beef cattle producer attitudes, practices, and demographics**
Sarah M. Montgomery-Williams 1, Kaitlin Brumbelow 1, Jamie E. Larson 1, Josh Maples 1, Brandi B. Karisch 1
1Mississippi State University
Effects of ruminal LPS on primary bovine ruminal epithelial cells
Efstathios Sarmikasoglou, Leah Chu, Feng Yue, Antonio P. Faciola
Department of Animal Sciences, University of Florida, Florida, 32608, United States,
Department of Animal Sciences, University of Florida

Using specific Bacillus strains to improve digestibility and performance of growing steers
Liyi Pan, Karen Eyre, Karen Harper, Luis Prada e Silva
The University of Queensland

Use of feed additives in unweaned calves with compromised gut integrity after a transportation
Sonia Marti, Marta Blanch, Maria Devant
IRTA, Ruminant Production, Lucta S.A.

Use of feed additives added to the milk replacer and concentrate or only to the concentrate in unweaned dairy beef calves after a transportation and its effects on performance
Sonia Marti, Marta Blanch, Maria Devant
IRTA, Ruminant Production, Lucta S.A.

Evaluation of a Bacillus spp. probiotic on beef cattle performance, nutrient digestibility and enteric methane emissions
Araceli B. Maderal, Ignacio Fernandez Marenchino, Juan Vargas, Federico Tarnonsky, Federico Podversich, Wilmer Cuervo, Vanesa Ramirez-Sepulveda, Horacio Blanchard, Macarena Gomez-Salmond, Tessa M. Schulmeister, Oscar Queiroz, Bruno I. Cappellozza, Nicolas DiLorenzo
University of Florida, Chr. Hansen A/S, Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

Supplementation of a kaolin and yeast-based feed additive on performance of feedlot cattle
Wenzhu Yang, Erin F. Schwandt, Paige N. Gott, April W. Levy, Tim A. McAllister
Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, DSM Nutritional Products

A survey of mycotoxin occurrence in US corn and corn by-product feed ingredients from 2018-2022 harvest years
Erin F. Schwandt, Paige N. Gott, Lan Zheng, April W. Levy
DSM Nutritional Products
10:30 a.m. 339 An evaluation of the effects of feeding an exogenous fibrolytic enzyme product on the growth performance and apparent nutrient digestibility of growing bison calves fed in a commercial feed yard
Tommy Winders 1, Bradley Boyd 2, Terry Parrott 1, Wenting Li 1
1Danisco Animal Nutrition & Health (IFF), 2Nutrition Services Associates - XF Enterprises

10:45 a.m. 340 Ruminal protozoa viability under diverse additives using Trypan blue exclusion method as an alternative counting methodology.
Wilmer Cuervo 1, Camila Gomez Lopez 1, Ignacio Fernandez Marenchino 1, Araceli B. Maderal 1, Juan Vargas 1, Federico Tarnonsky 1, andres Fernandez-Lehman 1, Tessa M. Schulmeister 1, Federico Podversich 1, Nicolas DiLorenzo 2
1University of Florida, 2Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

11:00 a.m. 341 Effect of multispecies fungal culture extract supplementation on the growth performance and carcass characteristics of feedlot cattle
Alejandro Pittaluga 1, Alejandro E. Relling 1
1The Ohio State University

11:15 a.m. 342 Effectiveness of liver abscess-controlling antibiotic on rumen kinetics of beef steers consuming a high-grain diet
Luiz Fernando Dias Batista 1, Madeline E. Rivera 1, Egleu D. M Mendes 2, Keara O'Reilly 3, Luis O. Tedeschi 1
1Texas A&M University, 2Texas A&M University / Department of Animal Science, 3Department of Animal Science, Texas A&M University

11:30 a.m. 343 Combination of feed additives to reduce methane emissions and increase performance by feedlot cattle
Victor Valério de Carvalho 1, William L. L. Souza 2, Alexandre Perdigão 3, Maria B. Niehues 4, Isabelle Errobidarte de Matos 5, Maryana M. Ribeiro 6, Tiago S. Acedo 3, Luis Tamassia 7, Nicola Walker 7, Maik Kindermann 7, Abmael Da Silva Cardoso 6, Ricardo Reis 9
1dsm-firmenich, 2Sao Paulo State University, Jabitocabal, Brazil, 3DSM Nutritional Products Brazil, 4Sao Paulo State University, Botucatu, Brazil, 5Federal University of Mato Grosso do Sul, Campo Grande, Brazil, 6Federal University of Mato Grosso do Sul, Campo Grande, Brazil, 7DSM Nutritional Products Switzerland, 8University of Florida, 9Sao Paulo State University (UNESP)

Ruminant Nutrition Symposium
Chair: Andrew Foote, Oklahoma State University; Allison Meyer, University of Missouri
8:30 AM - 12:00 PM
EAST UPPER: 235 Mesilla

8:30 a.m. Ruminant Nutrition Symposium Introduction

8:35 a.m. 437 The Stochastic Cow: The variable coefficient for calculating maintenance energy
Harvey C. Freetly 1
1USDA, ARS, U.S. Meat Animal Research Center
9:10 a.m. 438 Confinement and drylot housing for cow-calf production: Advantages, challenges, and future research needs
Daniel W. Shike
1University of Illinois at Urbana-Champaign

9:45 a.m. Ruminant Nutrition Symposium Break

10:00 a.m. 439 Identifying forage efficient cows
David Lalman
1Oklahoma State University

10:35 a.m. 440 Management strategies for beef cows and heifers grazing arid rangelands
Eric J. Scholljegerdes
1New Mexico State University

11:10 a.m. 441 Nutrient use in the beef cow and calf: opportunities and challenges
Allison M. Meyer
1University of Missouri

11:45 a.m. Ruminant Nutrition Symposium Discussion

ASAS Diversity, Equity and Inclusion Symposium
Chair: Shawn Archibeque, Colorado State University
9:00 AM - 11:30 AM
EAST UPPER: 215 San Miguel

9:00 a.m. ASAS Diversity, Equity and Inclusion Symposium Introduction

9:05 a.m. 57 Using an EID Framework at a Land-grant, Hispanic Serving and Minority Serving Institution
Teresa Maria Linda Scholz
1New Mexico State University

9:45 a.m. 58 Inclusive Strategies for Course Development: Moving Beyond ADA Compliance
Aaron Salas
1New Mexico State University

10:25 a.m. ASAS Diversity, Equity and Inclusion Symposium Break

10:40 a.m. 59 A student perspective on the importance of inclusive pedagogy
Nicole M. Tillquist
1University of Connecticut

11:10 a.m. ASAS Diversity, Equity and Inclusion Symposium Discussion
9:00 a.m.  Animal Breeding and Genetics Symposium I Introduction

9:05 a.m.  52  The power of pangenome assemblies in ruminants
Brenda M. Murdoch 1, Benjamin D. Rosen 2, Stephanie McKay 3, Timothy Smith 2
1University of Idaho, 2USDA, 3University of Missouri-Columbia

9:35 a.m.  53  Establishing a pan-epigenome for cattle and sheep
Stephanie McKay 1, Brenda M. Murdoch 2, Darren E. Hagen 3
1University of Missouri-Columbia, 2University of Idaho, 3Oklahoma State University

10:05 a.m.  54  Large-scale CRISPR functional characterization of genomic elements in rainbow trout (Oncorhynchus mykiss).
Michael Phelps 1
1Washington State University

10:35 a.m.  Animal Breeding and Genetics Symposium I Break

10:50 a.m.  55  Mixed-effects multilayer neural networks for genome-wide analysis including intermediate omics data in the central dogma of phenomics
Hao Cheng 1
1University of California, Davis

11:20 a.m.  56  Biomarker-based high throughput sperm phenotyping: The good, the bad and the ugly
Peter Sutovsky 1
1University of Missouri-Columbia

11:50 a.m.  Animal Breeding and Genetics Symposium I Discussion

Companion Animal Symposium I
Chair: James Templeman, Primal Pet Group
9:15 AM - 12:15 PM
EAST UPPER: 230 Pecos

9:15 a.m.  Companion Animal Symposium I Introduction
James Templeman 1
1Primal Pet Group

9:30 a.m.  60  AAFCO approval and regulatory process for novel ingredients
Liz Koutsos 1, Carson Haynes 1
1EnviroFlight

10:00 a.m.  61  Life stage feeding: Is there path forward for senior/geriatric nutrient recommendations?
Dottie Laflamme 1
1ACVIM-Nutrition
10:30 a.m.  Companion Animal Symposium I Break

10:45 a.m.  Sulphur amino acids: Assessing requirements and utilization in dogs and cats
Julia Guazzelli Pezzali  
1 Iow State University

11:15 a.m.  Implications of regulations, consumers and companies on dog and cat nutrition
J. H. Kersey  
1 Simmons Pet Food, Inc

11:45 a.m.  Companion Animal Symposium I Discussion

**Poster Session III**
9:45 AM - 11:00 AM
140 Aztec/110 Galisteo

9:45 a.m.  PSIII-29  A novel direct-fed microbial supports in vitro intestinal integrity under inflamed conditions
Erik Juncker Boll 1, Bruno I. Cappellozza 1, Giuseppe Copani 1
1 Chr. Hansen A/S

9:45 a.m.  PSIII-28  A novel direct-fed microbial supports in vitro intestinal integrity upon Clostridium perfringens challenge
Erik Juncker Boll 1, Bruno I. Cappellozza 1, Giuseppe Copani 1
1 Chr. Hansen A/S

9:45 a.m.  PSIII-16  Application and economic analysis of pooled genome-wide association studies in commercial feedlot cattle
Haleigh M. Prosser 1, Chelsea J. Arnold 1, Mahdi Saatchi 2, Matthew Scott 3, Tommy L. Perkins 1
1 West Texas A&M University, 2 Iow State University; 3 Top Genomics, LLC, 3 Veterinary Education, Research, and Outreach Center, Texas A&M University and West Texas A&M University

9:45 a.m.  PSIII-9  Bacterial community diversity in reproductive tissues and fetal fluids of pregnant gilts
Kyle J. Hickman-Brown 1, Molly S. Smith 1, Brooke E. McAnally 1, Joe Cain 1, Heewon Seo 1, Fuller W. Bazer 1, Greg Johnson 1, Vignesh Palanisamy 1, Sapna Chitlapilly Dass 1, Jeffrey Wiegert 1, Rebecca K. Poole 1
1 Texas A&M University

9:45 a.m.  PSIII-5  Confirmation of passive transfer of anti-endotoxin IgY in neonatal foals
Matthew B. Conrad 1, Alex Trauner 1, Jason Hull 2, Michelle Hawkins 2, Brian Robley 2, Amanda N. Bradbery 1
1 Montana State University, 2 Camas Inc.
9:45 a.m.  PSIII-1  Effect of cannabidiol extraction on the cell wall carbohydrate composition of hemp inflorescences
Miranda R. Agbana 1, Anna Schoch 2, Alexander Altman 1, David L. Harmon 1, Kyle R. McLeod 1, Eric Vanzant 1, Rachel Schendel 1
1University of Kentucky Department of Animal & Food Sciences, 2Karlsruhe Institute of Technology Department of Food Chemistry and Phytochemistry

9:45 a.m.  PSIII-24  Effect of curing extent on red clover hay and silage in situ degradability kinetics in dairy cattle
Diego Zamudio Ayala 1, Raphaella Alexandra De Castro 1, Ana Paula Jimenez 1, Marcus Cardoso 1, Joe B. Poblete 1, Colt W. Knight 1, Juan Jose J. Romero 1
1University of Maine

9:45 a.m.  PSIII-19  Effect of hemp (cannabis sativa) supplementation on vital and behavioral responses of weaned beef cattle
Monya D. Simpson 1, Gamal Eden AbdelRahim 1, Josh Herring 1, Martha Verghese 1, Felix U. Samuel 1, Nathaniel Ogunkunle 1, Ernst Cebert 1, Xianyan Kuan 1, Kendra Jones 2
1Alabama A&M University, 2Alabama A&M Univesity

9:45 a.m.  PSIII-18  Effect of industrial hemp supplementation on the salivary melatonin levels of angus cattle at different phase of reproductive cycle
Felix U. Samuel 1, Nathaniel Ogunkunle 1, Monya D. Simpson 1, Kendra Jones 2, Josh Hering 3, Gamal-Eden Abdelraham 1, Martha Verghese 1, Ernst Cerbet 1, Xianyan Kuang 4
1Alabama A&M University, 2Alabama A&M University, 3Alabama A&M, 4Alabama A & M University

9:45 a.m.  PSIII-4  Effect of photobiomodulation treatment on ATP concentrations in bovine oocytes during maturation
Kendall D. Richey 1, Culler Hannah 1, Matt J. Hersom 1, William C. Bridges 1, Celina M. Checura 1
1Clemson University

9:45 a.m.  PSIII-7  Effect of time of estrus on conception rate for a sexed semen artificial insemination protocol in multiparous beef cows
Emily E. Efird 1, Ty E. Lawrence 1, John T. Richeson 1, Wyatt E. Weber 2, Charles R. Looney 2, Tommy L. Perkins 1
1West Texas A&M University, 2University of Arkansas

9:45 a.m.  PSIII-30  Effects of a Bacillus-based direct-fed microbial on in vitro gas production and fiber digestibility of feedstuffs
Bruno I. Cappellozza 1, Paolo Fantinati 1, Jean-Christophe Bodin 1, Jens Joergensen 1, Diwakar Vyas 2, Samia Farooq 1, Lais Lima 2, Carlos de Guzman 2, Kathy Arriola 2, Giuseppe Copani 1
1Chr. Hansen A/S, 2University of Florida

9:45 a.m.  PSIII-26  Effects of diets applied with Bokbunja (Rubus coreanus Miquel) on methane emission and growth performances of Korean native steers (Hanwoo)
Seongshin Lee 1, Pilnam Seong 1, Yookyung Lee 1, Jisoo Wi 1, Jungeun Kim 1
1National Institute of Animal Science
Effects of inoculation of alfalfa hay with Pediococcus pentosaceus and α-amylase on hay temperature, microbial ecology, nutrient composition, and feed value
Daisy Kaplan 1, Richard A. Bien 1, Mohammed Embaby 1, Andy Skidmore 2, Wade Patterson 2, Erin B. Perry 3, Amer AbuGhazaleh 1, Kelly Bender 4, Jayakrishnan Nair 1
1Southern Illinois University, Carbondale, 2Lallemand Animal Nutrition, Milwaukee, WI, 3School of Agricultural Sciences, Southern Illinois University, Carbondale, IL, 4School of Biological Sciences, Southern Illinois University, Carbondale, IL

Effects of milk replacer composition on beef x dairy calf growth and muscle fiber cross-sectional area
Rachel Carter 1, Steven A. Zinn 1, Kristen E. Govoni 1, Joe Emenheiser 2, Tara L. Felix 3, Sarah A. Reed 1
1Dept. of Animal Science, University of Connecticut, 2Dept. of Extension, University of Connecticut, 3Dept. of Dairy and Animal Sciences, Pennsylvania State University

Effects of steam pressure toasting duration of faba bean seeds on rumen fermentation characteristics and microbial protein synthesis using the Rumen Simulation Technique (RUSITEC)
Maria Rodríguez-Espinosa 1, Gabriel O. Ribeiro 2, David Christensen 2, Yongfeng Ai 1, Rex N. Newkirk 2, Peiqiang Yu 2
1University of Saskatchewan, 2Department of Animal and Poultry Science, University of Saskatchewan

Effects of supplementing carinata meal compared with cottonseed meal on performance, intake, and digestibility in backgrounding beef heifers consuming a corn silage-based diet
Tessa M. Schulmeister 1, Federico Tarnonsky 1, Federico Podversich 1, Juan Vargas 1, Araceli B. Madera 1, Ignacio Fernandez Marenchino 1, Wilmer Cuervo 1, Camila Gomez Lopez 1, Angela M. Gonella 1, Jose C. B. Dubieux 1, Nicolas DiLorenzo 2
1University of Florida, 2Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

Effects of weather, body weight, and feed intake on total and liquid water intake in beef bulls
Madison Kovarna 1, Michael Gonda 1, Gemechis Djira 1, Zachary K. Smith 1, Cody Wright 1
1South Dakota State University

Extra-label bisphosphonate effects on intra-articular inflammation in juvenile horses challenged with intra-articular lipopolysaccharide
James M. George 1, Jessica Leatherwood 2, Carolyn Arnold 3, Kati G. Glass 1, Brittany L. Paris 1, Matthew B. Conrad 4, Rafael Martinez 5, Fernando Vergara Hernandez 6, Brian D. Nielsen 6, Aimee Colbath 7, Thomas H. Welsh 8, Amanda N. Bradbery 4
1Texas A&M University, 2Tarleton State University, 3Texas Tech University, 4Montana State University, 5Sam Houston State University, 6Michigan State University, 7Cornell University, 8Texas A&M University and AgriLife Research, Department of Animal Science
9:45 a.m.  PSIII-25  Fecal pH variables of beef steers consuming grower or finisher diets containing Saccharomyces cerevisiae
Juliana Pessoni 1, Jhones O. Sarturi 1, Kaliu G. Silva 1, Bradley J. Johnson 1, Barbara Rodrigues 1, Beatriz Dos Reis 1  
1Texas Tech University

9:45 a.m.  PSIII-10  Hepatic mRNA expression of genes related to innate and adaptive immune genes in beef steers with divergent residual body weight gain
Modoluwamu Idowu 1, Deborah Ologunaqba 1, Godstime A. Taiwo 1, Taylor S. Sidney 1, Emily Treon 1, Yara Leal 1, Francisca Echie 1, Lanre Morenikeyeji 2, Andres A. Pech-Cervantes 3, Ibukun M. Ogunade 1  
1West Virginia University, 2University of Pittsburgh, 3Fort Valley State University

9:45 a.m.  PSIII-6  Impact of aromatic palatants on equine feeding preferences
Cierra N. Crowell 1, Grace Handlos 1, Erin B. Perry 2, Dakota R. Discepolo 1  
1Southern Illinois University, 2School of Agricultural Sciences, Southern Illinois University, Carbondale, IL

9:45 a.m.  PSIII-2  Pediococcus acidilactici demonstrates probiotic properties and inhibits the growth of enterotoxigenic E. coli.
Rebecca Brown 1, Rui Zheng 1, Sheila K. Jacobi 1  
1The Ohio State University

9:45 a.m.  PSIII-22  Substituting palm oil by polyunsaturated fatty acid rich oils reduces methane emissions at a different degree depending on concentrate formula of dairy beef calves: in vitro screening
Maria Devant 1, Lourdes Llonch 1, Sonia Marti 1, Gerard Verge 2, Joan Riera 3, Carles Medinya 4, Jordi Cucurull 5, Anna Perez 2, Belen Fernandez 6  
1IRTA, Ruminant Production, 2IRTA, Animal Nutrition, 3Nanta SA, 4SINUAL, 5Grup BonArea, 6IRTA, Sustainability in biosystems program

9:45 a.m.  PSIII-23  Supplementing Bovacillus™ to newly weaned cattle during a 90-day grazing period
Shea Mackey 1, Reinaldo F. Cooke 1, Logan W. Rahmel 2, Eduardo Colombo 1, Autumn Pickett 1, Kelsey M. M. Harvey 2, Brandi B. Karisch 2, Bruno I. Cappellozza 3  
1Texas A&M University, 2Mississippi State University, 3Chr. Hansen A/S

9:45 a.m.  PSIII-14  the effects of co-twin sex on fitness traits in young meat goat does
Christian Landskroener 1, Emily G. Hayes 1, Richard Browning 1  
1Tennessee State University

9:45 a.m.  PSIII-12  The effects of PGF2 and PGF2 plus GnRH on estrous behavior and pregnancy outcomes in dairy goats
Ramya Sri Kolikapongu 1, Sharath Chandra Namani 1, Arshad Shaik 1, Ayesha Neha 1, Sai Chandan Chelkapally 1, Courtney Perry 1, Joshua Woodard 1, Miller Schauson 1, Niki C. Whitley 1, Brou Kouakou 1, Adel R. R. Moawad 1  
1Fort Valley State University
9:45 a.m.  PSIII-20  Transcriptional and functional analyses of intramuscular, subcutaneous, and visceral adipose tissue in finished beef cattle
Alexandra P. Tegeler 1, Jean Fiallo-Diez 1, Tainara Michelotti 1, Lauryn Flores 1, Dale R. Woerner 1, Oscar J. Benitez 1, Clarissa Strieder-Barboza 1
1 Texas Tech University

9:45 a.m.  PSIII-15  Use of ultrasound technology to estimate final carcass composition in harvested Beefmaster steers
Ainslea E. Price 1
1 West Texas A&M University

Horse Species
Chair: Jessica Leatherwood, Tarleton State University
11:00 AM - 12:00 PM
WEST LOWER: 32 Tesuque, Zuni, Acoma

11:00 a.m.  429  Awardee Talk: Inflammation in the performance horse: Implications and future directions
Sarah H. White-Springer 1
1 Texas A&M University

11:30 a.m.  247  In vitro characterization of equine fore- and midgut digestion
Cara L. Cargo-Froom 1, Matthew Nosworthy 2, Priska Darani 3, Scott Cieslar 3, Jen L. Ellis 1
1 University of Guelph, 2 Agriculture and Agri-Food Canada, 3 Mad Barn

11:45 a.m.  432  Fluctuations in equine cutaneous pH and trans-epidermal water loss associated with anatomical location, time, and weather
Dakota Discepolo 1, Erin B. Perry 2, Elizabeth Gaare 1
1 Southern Illinois University, 2 School of Agricultural Sciences, Southern Illinois University, Carbondale, IL

Poster Session IV
12:00 PM - 1:15 PM
140 Aztec/110 Galisteo

12:00 p.m.  PSIV-23  Activity classification of grazing cows on desert rangeland in the southwestern United States
Andres Ricardo Perea 1, Lara Macon 2, Sajidur Rahman 3, Huiying Chen 3, Andrew Cox 1, Shelemia Nyamuryekung’e 1, Sara Campa Madrid 1, Huiping Cao 4, Andrés Cibils 4, Rick Estell 2, Glenn C. Duff 3, Santiago Utsumi 1
1 Department of Animal and Range Science, New Mexico State University, 2 Jornada Experimental Range, USDA ARS, 3 New Mexico State University, 4 Southern Plains Climate Hub, USDA ARS OCPARC

12:00 p.m.  PSIV-18  Combination of 1.8 mM choline and follistatin supplementation may reduce transcript abundance of CEPT1 and CPBE4 during in-vitro bovine oocyte maturation
Alexandria P. Snider 1, Lea A. Rempel 2, Robert Cushman 3, Jeremy R. Miles 3
12:00 p.m.  PSIV-21  Comparing the nutritional value and the trade-off between sugars and starch of male-sterile with non-sterile sorghum hybrids
Douglas Duhatschek 1, Jourdan M. Bell 1, Diego Druetto 2, Luis F. Ferraretto 3, Katie Raver 4, John Goeser 4, Jason K. Smith 5, Sushil Paudyal 6, Juan M. Piñeiro 5
1Texas A&M University, 2Richardson Seeds Ltd, 3University of Wisconsin, 4Rock River Laboratory, 5Texas A&M AgriLife Extension, 6Texas A&M

12:00 p.m.  PSIV-9  Describing the consumption of chlortetracycline-containing supplement offered free-choice to commercial beef cows on pasture
Madeline McKnight 1, W Isaac Jumper 1, Juan C. Cordero 1, Kelsey M. Harvey 1, Jason R. Russell 2, David R. Smith 1
1Mississippi State University, 2Zinpro Corporation

12:00 p.m.  PSIV-22  Detection of parturition of rangeland beef cattle using GPS and accelerometer data
Andres Ricardo Perea 1, Lara Macon 2, Sajidur Rahman 3, Huiying Chen 3, Andrew Cox 1, Shelembia Nyamureyekung’e 1, Huiping Cao 3, Andrés Cibils 4, Rick Estell 2, Glenn C. Duff 3, Santiago Utsumi 1
1Department of Animal and Range Science, New Mexico State University, 2Jornada Experimental Range, USDA ARS, 3New Mexico State University, 4Southern Plains Climate Hub, USDA ARS OCPARC

12:00 p.m.  PSIV-26  Development of a controlled exposure particulate and oxidative radical mask for causality experiments investigating smoke exposure on livestock animals
Tio Brody 1, Arturo Macias Franco 2, Aghata Silva 3, Graham Holton 1, Pedro Mazza 4, Mozart A. Fonseca 1
1University of Nevada, Reno, 2University of Nevada Reno, 3Auburn University, 4Universidade Federal da Bahia

12:00 p.m.  PSIV-15  Economic impact of a 14-d CIDR pre-synchronization on cost per pregnancy in Holstein heifers
Saulo Menegatti Zoca 1, Julie Walker 2, Patricia Villamediana 2, Joseph Dalton 3
1the University of Tennessee, 2South Dakota State University, 3University of Idaho

12:00 p.m.  PSIV-10  Effect of dietary inclusion of fertilized and unfertilized sericea lespedeza hay on performance and plasma metabolome of naturally infected goats
Terra Odom 1, Davia Brown 1, Chelsea Pulsifer 1, Thomas H. Terrill 1, Niki C. Whitley 1, Zaira M. Estrada-Reyes 2, Ibukun M. Ogunade 3, Godstime A. Taiwo 3, Modoluwamu Idowu 3
1Fort Valley State University, 2North Carolina A & T University, 3West Virginia University

12:00 p.m.  PSIV-27  Effect of different ratios of phytogenic feed additives in weaned pigs challenged with a pathogenic Escherichia coli
Seyeon Chang 1, Jaewoo An 1, Dongcheol Song 1, Hyunah Cho 1, Sehyun Park 1, Kyeongho Jeon 1, Hyuck Kim 1, Jinho Cho 1
1Department of Animal Science, Chungbuk National University
12:00 p.m. PSIV-8  **Effect of different semen extenders on post-thaw sperm characteristics of caprine semen**  
Brittany Hirsch, Brittany Scott, Saulo Menegatti Zoca, Jerica JJ Rich  
1College of Agriculture, Arkansas State University, 2SMART Reproduction Services, 3the University of Tennessee

12:00 p.m. PSIV-24  **Effect of growth stage/cutting time and intercropping of whole plant oat with whole plant faba bean forage hay on total digestible nutrient and energy values in beef and dairy cattle**  
Carlene Nagy, David Christensen, Herbert A. Lardner, Victor H. Guevara-Oquendo, Peiqiang Yu  
1University of Saskatchewan, 2Department of Animal and Poultry Science, University of Saskatchewan

12:00 p.m. PSIV-2  **Effect of select nitrocompounds on rumen methane inhibition and antimicrobial activity in vitro**  
Alejandra M. Corona, Sarina A. Garza, Robin C. Anderson, Mozart A. Fonseca, Jackie Kotzur, Natasha L. Mast  
1Texas A&M University - Kingsville, 2USDA/ARS, Southern Plains Agricultural Research Center’s Food & Feed Safety Research Unit, 3University of Nevada, Reno, 4Texas A&M University Kingsville

12:00 p.m. PSIV-14  **Effects of maternal nutrient restriction during late gestation on expelled cotyledonary mRNA expression in primiparous beef females**  
Colby A. Redifer, Abigail R. Rathert-Williams, Lindsey G. Wichman, Allison M. Meyer  
1University of Missouri

12:00 p.m. PSIV-1  **Effects of poor maternal nutrition during gestation on F0 and F1 ewe colostrum and milk composition and colostrum IgG**  
Julianna Bosco, Nicole M. Tillquist, Mia Y. Kawaida, Amanda S. Reiter, Alexandra Bettencourt, Ryan J. Gifford, Terry E. Engle, Sarah A. Reed, Steven A. Zinn, Kristen E. Govoni  
1University of Connecticut, 2Texas A & M, 3Colorado State University, 4Dept. of Animal Science, University of Connecticut

12:00 p.m. PSIV-11  **Effects of sprouted barley on weights, ribeye area, backfat in growing steers**  
Mia Sego, Zachary C. Crump, Bailee Brown, Lillian Okamoto, Bryce W. Roholt, Sanjeewa Ranathunga, Rob Harding, Brady Blackett, Kara J. Thornton  
1Utah State University, 2Renaissance Ag, Vineyard, Utah, 84057, United States

12:00 p.m. PSIV-28  **Evaluation of possible interactions between platelets and neutrophil in cow blood**  
Priyanka Pande, SreeNavya Inupala, Sowmya Jagana, MD Rasel Uzzaman, Mulumebet Worku  
1NC A&T State University
12:00 p.m.  PSIV-30  Exploring the prebiotic activities of proanthocyanidins on a platform using the three-dimensionally (3D)-cultured organoids
Lin Xi 1, Feng Wang 1, Daisy Cagle 1, Yue Zhu 2, Jack Odle 3, Deyu Xie 2
1Department of Animal Science, North Carolina State University, 2Department of Plant and Microbial Biology, North Carolina State University, 3North Carolina State University

12:00 p.m.  PSIV-16  Factors affecting the LH release and ovulatory response to a GnRH treatment in lactating dairy cows on Day 7 of the estrous cycle
Lucas O. e Silva 1, Rodrigo L. O. R. Alves 1, Patrícia R. Cavalcanti 1, Paula R. Cortat 1, Mirela B. Dias 1, Pedro L. J. Monteiro 2, Bruno Gonzales 3, Heitor D. Caetano 4, José Abdo A. Hellu 4, Milo C. Willbank 2, Roberto Sartori 1
1Department of Animal Science, Luiz de Queiroz College of Agriculture (ESALQ), University of São Paulo, 2Department of Animal and Dairy Sciences, University of Wisconsin-Madison, 3São Jorge Farm, 4J.A. Animal Health

12:00 p.m.  PSIV-5  High desert hemp varieties under varied nitrogen fermentation techniques effects on its utilization as livestock feed through in vitro fermentation
Alexa N. Field 1, Aghata Silva 2, Arturo Macias Franco 1, Graham Holton 2, Tio Brody 3, Felipe Masias Barrios 1, Mona Farnisa 1, Mozart A. Fonseca 3
1University of Nevada Reno, 2Auburn University, 3University of Nevada, Reno

12:00 p.m.  PSIV-4  Impact of lipopolysaccharide endotoxin on growth and viability of ovarian granulosa cells
Jeffrey Dominguez Arellanes 1, Briza Castro 1, Charles shuster 1, Craig A. Gifford 1, Jennifer A. Hernandez Gifford 1
1New Mexico State University

12:00 p.m.  PSIV-13  Influence of differing levels of concentrate on circulating cytokine concentrations in beef heifers
Erin Stockland 1, Molly S. Smith 1, Autumn Pickett 1, Reinaldo F. Cooke 1, Rebecca K. Poole 1
1Texas A&M University

12:00 p.m.  PSIV-25  Investigating the use of cover crop inclusion and preservation in silages with addition of molasses, homofermentative and heterofermentative bacterial mixes
Tio Brody 1, Aghata Silva 2, Arturo Macias Franco 3, Graham Holton 1, Pedro Mazza 4, Alexa N. Field 3, Mozart A. Fonseca 1
1University of Nevada, Reno, 2Auburn University, 3University of Nevada Reno, 4Universidade Federal da Bahia

12:00 p.m.  PSIV-12  Monitoring ewe forage selectivity and consumption of tall larkspur (Delphinium spp.) in Southern Utah via visual observation and fecal metabarcoding
Dillon Petty 1, Ryan A. Spurling 2, Chad Gasser 1, Randall Violett 3, Morgan Christensen 1, Andrew Heaton 1, Eric thacker 2, Alexis Sweat 2, Kerry Rood 2, Kara J. Thornton 2, Chad Page 2
1Southern Utah University, 2Utah State University, 3University of Wyoming
12:00 p.m.  PSIV-7  Optimization of indigestible neutral and acid detergent fiber measurement protocols
MacKenzie L. Griffin 1, Jarret A. Proctor 2, Nathan S. Long 2, Jason K. Smith 3, Vinicius N. Gouvea 4, Tommy L. Perkins 5, Matthew R. Beck 1
1USDA-ARS, 2Texas A&M University, 3Texas A&M AgriLife Extension, 4Texas A&M AgriLife Research, 5West Texas A&M University

12:00 p.m.  PSIV-29  Performance and resiliency against gastrointestinal parasites of pregnant does and ewes raised indoor and outdoor during the winter season
Sadikshya Lamsal 1, Uma Karki 1, Santoshi Chaudhary 1, Durga Dhakal 1
1Tuskegee University

12:00 p.m.  PSIV-17  Postnatal obesity amplifies GnRH-induced LH release in prenatal testosterone-treated female sheep
Jessica F. Sustaita-Monroe 1, Sara C. Gurule 1, Leslie King 1, Sarah West 1, Viviana Garza 1, Audrey L. Earnhardt-San 2, Thomas H. Welsh 2, Vasantha Padmanabhan 1, Rodolfo C. Cardoso 1
1Texas A&M University, 2Texas A&M University and AgriLife Research, Department of Animal Science, 3University of Michigan

12:00 p.m.  PSIV-20  The effect of silage additives on male sterile sorghum fermentation heat production and feed-out stability
Douglas Duhatschek 1, Jourdan M. Bell 1, Kristie Keys 2, Diego Druetto 3, Luis F. Ferraretto 4, Katie Raver 5, Filipé Mendonça 6, Mathews C. Garcia 6, Vinicius N. Gouvea 7, Juan M. Piñeiro 2
1Texas A&M University, 2Texas A&M AgriLife Extension, 3Richardson Seeds Ltd, 4University of Wisconsin, 5Rock River Laboratory, 6Luiz de Queiroz College of Agriculture, 7Texas A&M AgriLife Research

12:00 p.m.  PSIV-3  The effects of feeding sprouted barley on rumen health of backgrounded steers
Zachary C. Crump 1, Kara J. Thornton 1, Lillian Okamoto 1, Anthony F. Alberto 1, Mia Sego 1, Brady Blackett 2, Sanjeeva Ranathunga 2, Rob Harding 2, Robert Ward 1, Bryce W. Roholt 1, Bailee Brown 1
1Utah State University, 2Renaissance Ag, Vineyard, Utah, 84057, United States

12:00 p.m.  PSIV-19  The identification of possible MicroRNA biomarkers of successful pregnancy in timed embryo transfer recipients
Nathan Long 1, Scott Pratt 1, Keelee J. McCarty 1, Dean pringle 2
1Clemson University, 2University Of Florida

Poster Session V
1:30 PM - 2:45 PM
140 Aztec/110 Galisteo

1:30 p.m.  PSV-14  Body weight development of calves during the first week of life
Anton M. Vorndran 1, Stefan M. Huber 1, Heinz Bernhardt 1, Markus Peschel 1, Florian Riepl 1, Julia Steinhoff-Wagner 1
1TUM School of Life Science
1:30 p.m.  PSV-23  Characterization of Katahdin Lamb Carcasses in a Traditional Lamb Marketing Context
McKensie Phillips 1, Cody Gifford 1, Tom W. Murphy 2, Bradley A. Freking 2, Courtney Newman 1, Clara Ritchie 1, Whit C. Stewart 1
1University of Wyoming, 2USDA ARS U.S. Meat Animal Research Center

1:30 p.m.  PSV-13  Characterization of the relative abundance of duodenal mRNA related to genes involved in copper absorption in different breeds of sheep
Huey Yi Loh 1, Olivia Renn 2, Martin G. Maquivar 2, Nancy Irlbeck 2, Terry E. Engle 1
1Colorado State University, 2Washington State University

1:30 p.m.  PSV-9  Cold exposure impacts DNA methylation patterns of genes in cattle sperm involved in early embryonic and bone development
Md Nazmul Hossain 1, Yao Gao 1, Michael J. Hatfield 1, Jeanene M. de Avila 1, Matthew C. McClure 2, Min Du 1
1Washington State University, 2ABS Global

1:30 p.m.  PSV-1  Colostrum quality differs by breed and photoperiod exposure in dairy cows
Kayla J. Alward 1, Rebecca Cockrum 1, Alison Duncan 1
1Virginia Tech

1:30 p.m.  PSV-2  Difference in sire PTA evaluated by Taiwan DHI and the original countries
Yu-Xiang Lan 1, Yu-Shen Lin 1, Kai-Hsiang Lin 1, Chan-Liang Su 1, Po-An Tu 1, En-Chung Lin 1
1National Taiwan University

1:30 p.m.  PSV-16  Different late gestation heat stress time-windows and their effects on newborn Holstein calves from northwest México
Andrea D. Del Río-Avilés 1, Dulce C. Valles-Ibarra 1, Milagros G. González-Valdés 1, Marcela I. Morales-Pablos 1, José C. Leyva-Corona 1, Miguel A. Sánchez-Castro 2
1Instituto Tecnológico de Sonora, 2Zoetis

1:30 p.m.  PSV-25  Effect of Garlic on Galectin 3 in goats
Sowmya Jagana 1, SreeNavya Inupala 1, Priyanka Pande 1, MD Rasel Uzzaman 1, Mulumebet Worku 1
1NC A&T State University

1:30 p.m.  PSV-4  Effects of asprosin on nuclear sirtuins expression in bovine granulosa cells
Isadora Maria Batalha 1, Camilo Andres P. Peña-Bello 1, Luis Fernando F. Schütz 1
1University of Nevada - Reno

1:30 p.m.  PSV-30  Effects of high temperature and Clostridium perfringens on the immune function of intestine in growing chickens
Wei Chen 1, Jingdu Li 2, Zhili Qi 2, Minmin Zhou 1, Dong Ruan 1, Yanan Zhang 1, Weiguang Xia 1, Shuang Wang 1, Chenglong Jin 1, Xuebing Huang 1, Kaichao Li 1, Khaled F. M. Abouelezz 1, Chuntian Zheng 1
1Institute of Animal Science, Guangdong Academy of Agricultural Sciences, 2College of Animal Science and Technology and College of Veterinary Medicine, Huazhong Agricultural University
1:30 p.m.  PSV-10  Effects of rumen-bypass protein supplement on growth performance, hepatic mitochondrial function and immune gene expression of beef steers with divergent residual feed intake phenotype
Modoluwamu Idowu 1, Godstime A. Taiwo 1, Taylor S. Sidney 1, Emily Treon 1, Deborah Ologunagba 1, Yara Leal 1, Francisca Eichie 1, Lanre Morenikeji 2, Andres A. Pech-Cervantes 3, Ibukun M. Ogunade 1
1West Virginia University, 2University of Pittsburgh, 3Fort Valley State University

1:30 p.m.  PSV-28  Effects of the dietary concentrate level and harvest weight on growth performance of Spanish goat wethers and doelings
Wei Wang 1, Ryszard Puchala 1, Fabiola L. Encinas 1, Luana Ribeiro 1, Terry A. Gipson 2, Arthur L. Goetsch 1
1Langston University, 2Langston

1:30 p.m.  PSV-15  Environmental factors and management practices do not impact histone toxicity resistance or complement activity of bulls
Luis Ochoa 1, Marcy Ward 1, Jeffrey Dominguez Arellanes 1, Jennifer A. Hernandez Gifford 1, Craig A. Gifford 1
1New Mexico State University

1:30 p.m.  PSV-7  Evaluation of prenatal transportation stress on methylomics and transcriptomics in the stress axis tissues of mature Brahman cows
Audrey L. Earnhardt-San 1, Emilie C. Baker 2, Kubra Z. Cilkiz 3, Rodolfo C. Cardoso 3, Noushin Ghaffari 4, Charles R. Long 5, Penny K. Riggs 3, Ronald D. Randel 6, David G. Riley 1, Thomas H. Welsh 1
1Texas A&M University and AgriLife Research, Department of Animal Science, 2West Texas A&M University, 3Texas A&M University, 4Prairie View A&M University, 5School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, 6Texas A&M AgriLife Research, Overton, TX

1:30 p.m.  PSV-21  Evaluation of the effect of daily probiotic administration on the prevalence of Shiga toxigenic E.coli and select serum and immune parameters during pre and peri-weaning period in goat kids
Eunice Ndegwa 1, Caitlyn Richey 1, Doaa Ali 1
1Virginia State University

1:30 p.m.  PSV-18  Host transcriptional changes detected in the feces of dairy calves supplemented with condensed solubles from milk permeate
Rafaela Rodrigues dos Santos 1, Johan S. Osorio 2, Nirosh Senevirathne 3, Venkateswarlu Sunkesula 4, Fernanda T. Rosa 1
1Texas Tech University, 2Virginia Tech University, 3Cornell University, 4Idaho Milk Products

1:30 p.m.  PSV-24  Implementation of blockchain technologies in the U.S. sheep industry: Producer and industry perceptions
Courtney Newman 1, Cody Gifford 1, Whit C. Stewart 1
1University of Wyoming
Maternal live yeast supplementation improved gut health in suckling and weaned piglets
Yuechi Fu 1, Enkai Li 1, Theresa M. Casey 1, Timothy A. Johnson 1, Olayiwola Adeola 1, Kolapo M. Ajuwon 1
1Purdue University

Plasma citrulline is strongly correlated with jejunal and ileum citrulline concentrations in pigs at weaning
Marko Rudar 1, Alexandra M. Gachman 1, Alex Outlaw 1, Julia Bartosh 1, Haejin Kim 1
1Auburn University

Prevalence, etiology, and risk factors of subclinical mastitis in meat-breed ewes
Gretchen Peckler 1, Maria Jose Fuenzalida 2, Nicole Aulik 3, Sarah J.J. Adcock 1
1Department of Animal and Dairy Sciences, University of Wisconsin-Madison, 2Pathway Preclinical Services, 3Department of Pathobiological Sciences and Wisconsin Veterinary Diagnostic Laboratory, University of Wisconsin-Madison

Productivity at weaning of F1 Dorper x Pelibuey ewes carrying the FecGE allele of the ovine GDF9 gene
Claudia I. Miranda-Carrasco 1, José A. Martínez-Quintana 1, Agustín Corral-Luna 1, Felipe A. Rodríguez-Almeida 1
1Universidad Autónoma de Chihuahua

Serum mineral and vitamin concentrations in central performance tested Rambouillet rams with and without angular limb deformities
Dylan Laverell 1, Tom W. Murphy 2, Jacob Smylie 1, Aaron Kersh 1, Terry E. Engle 3, Whit C. Stewart 1
1University of Wyoming, 2USDA ARS U.S. Meat Animal Research Center, 3Colorado State University

Supplementation of a multi-strain probiotic increases the expression of biomarkers of immunity in Savannah x Spanish goat blood
Emmanuel K. Asiamah 1, Maxwell Mkunga 1, Jayant Lohakare 2
1University of Arkansas at Pine Bluff, 2Prairie View A&M University

The effect of a prenatal immune challenge on offspring skeletal muscle characteristics in the longissimus dorsi of weaned pigs
Thomas W. Dobbins 1, Jerrad F. Legako 1, Luke K. Fuerniss 2, Kaitlyn R. Wesley 2, Bradley J. Johnson 2, Ty M. Mitchell 1, Amy L. Petry 3, Paul R. Broadway 4, Nicole C. Burdick Sanchez 4
1Texas Tech University, Department of Animal and Food Sciences, 2Texas Tech University, 3Division of Animal Sciences, University of Missouri, 4USDA-ARS, Livestock Issues Research Unit

The effect of Bacillus spp. supplementation on performance and immune function of heifers grazing tall fescue pastures
Eric Bailey 1, Anita Ellis 1, Bruno I. Cappellozza 2, Andy McCorkill 1, Emily A. Petzel 1, Derek W. Brake 1
1University of Missouri, 2Chr. Hansen A/S
1:30 p.m. PSV-11 The effect of fermented co-products on sensory characteristics of extruded dog kibble
Larissa A. Koulicoff 1, Logan Kilburn-Kappeler 1, Kadri Koppel 1, Charles G. G. Aldrich 1
1Kansas State University

1:30 p.m. PSV-6 The impacts of heat stress on litter traits of Landrace population in Taiwan
Kai-Hsiang Lin 1, En-Chung Lin 1
1National Taiwan University

1:30 p.m. PSV-3 The influence of Synovex-C growth implants at weaning with different supplementation levels on ovarian parameters in developing beef heifers
Taylor N. Andrews 1, Robert Cushman 2, Alexandria P. Snider 3, George A. Perry 4, Shad H. Cox 5, Richard L. Dunlap 5, Collin Anderson 1, Maria K. Chavez 1, Kristie L. Gallacher 1, Emily A. Melchior-Tiffany 1, Alexis Selman 1, Eric J. Scholljegerdes 1, Adam F. Summers 1
1New Mexico State University, 2USDA, ARS, U.S. Meat Animal Research Center, 3USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit, 4Texas A&M AgriLife Research, Overton, TX, 5Corona Range and Livestock Research Center

1:30 p.m. PSV-12 The influence of trace mineral source on rumen trace mineral solubility and in-vitro fiber digestion in steers fed a lactating dairy diet
Huey Yi Loh 1, Rafael Mezzomo 2, Daiany I. Gomes 2, Briana V. Tangredi 1, Octavio Guimaraes 1, Ryan J. Gifford 1, Alexandra C. Miller 1, Jonah R. Levenson 1, meghan P. Thorndyke 1, Jerry W. Spears 3, Terry E. Engle 1
1Colorado State University, 2Universidade Federal Rural da Amazônia-UFRA, 3North Carolina State University

1:30 p.m. PSV-26 Use of Garlic drench in the modulation of Galectin gene expression in St Croix Sheep
SreeNavya Inupala 1, Sowmya Jagana 1, Priyanka Pande 1, MD Rasel Uzzaman 1, Mulumebet Worku 1
1NC A&T State University

Animal Breeding and Genetics III: Advances in Animal Physiological Genetics
Chair: Christopher Ashwell, West Virginia University
1:30 PM - 3:30 PM
WEST LOWER: 32 Tesuque, Zuni, Acoma

1:30 p.m. 132 Genetics of stress hormone concentrations in hair of healthy nursery pigs and their relationship with back test responses
Fazhir Kayondo 1, Hayder Al-Shanoo 2, Yolande Seddon 2, Dylan Carette 2, Carmen Cole 2, David Janz 2, Frederic Fortin 3, John Harding 4, Michael Dyck 5, Graham Plastow 5, Jack C.M. Dekkers 6
1Iowa State University, 2Western College of Veterinary Medicine, 3Centre de Développement du Porc du Québec Inc., 4Department of Large Animal Clinical Sciences, University of Saskatchewan, 5Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, 6Department of Animal Science, Iowa State University
1:45 p.m. 133 Genetic parameter estimation for dry matter required in Angus cattle
Miguel A. Sánchez-Castro ¹, Tiago L. Passafaro ¹, Yeni L. Bernal-Rubio ¹, Kent J. Andersen ¹, J. Donald Nkrumah ¹, Nicholas Jorgensen ²
¹Zoetis, ²Jorgensen Land & Cattle

2:00 p.m. 134 Estimating the heritability of nitrogen and carbon isotopes in the tail hair of beef cattle
Luis Prada e Silva ¹, Morteza Moradi ¹, Christie Warburton ¹
¹The University of Queensland

2:15 p.m. 135 Gene variants in BOLA-DMB, DECR1, FASN and SREBF1 associated with conceptus death on day 16 of pregnancy in Holstein cows
Carolina L. Gonzalez-Berrios ¹, Courtney Bowden ², Pablo J. Pinedo ³, Jeanette V. Bishop ⁴, Hana Van Campen ⁴, Thomas R. R. Hansen ⁴, Milton G. Thomas ⁵
¹United States Department of Agriculture, Agricultural Research Service, Fort Keogh Livestock and Range Laboratory, Miles City Montana 3United States Department of Agriculture, Agricultural Research Service, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT, USA, ²United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services, National Wildlife Research Center, Fort Collins, CO, USA, ³Department of Animal Sciences, College of Agricultural Sciences, Colorado State University, Fort Collins, CO, USA, ⁴Animal Reproduction and Biotechnology Laboratory, Department of Biomedical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO, USA, ⁵Texas A&M, AgriLife Research, Beeville, TX, USA

2:30 p.m. 136 Evaluation of the relationship between hair coat shedding ability, apparent forage digestibility, and mineral status in Angus cattle
Margaret P. Loftin ¹, Randy Burnett ², Brian Rude ¹, Trent Smith ¹
¹Mississippi State University, ²Southern Arkansas University

2:45 p.m. 137 Longitudinal heritability of ocular microbiota in preweaned beef cattle
Drew Lakamp ¹, Alison Neujahr ¹, Matthew Hille ¹, J. Dustin Loy ¹, Samodha C. Fernando ¹, Matthew L. Spangler ¹
¹University of Nebraska-Lincoln

3:00 p.m. 138 Sire differences for blood urea nitrogen (BUN) in Hereford cattle
Caleb W. Hurst ¹, R. Mark Enns ¹, Craig Huffhines ¹, Kim R. Stackhouse-Lawson ², Scott E. Speidel ¹
¹Colorado State University, ²AgNext, Colorado State University

3:15 p.m. 139 Genomic-based genetic parameters of behavioral ethogram traits in lactating sows under heat stress conditions and their relationship with direct indicators of heat tolerance
Sharlene Hartman ¹, Jay S. Johnson ², Victor B. Pedrosa ³, Allan P. Schinckel ¹, Jeremy N. Marchant ⁴, Leonardo Siqueira Gloria ⁵, Luiz F. Brito ¹
¹Purdue University, ²USDA-ARS Livestock Behavior Research Unit, ³Department of Animal Sciences, Purdue University, ⁴USDA-ARS, ⁵The Pig Improvement Company, Genus plc, Hendersonville, TN, USA
Animal Breeding and Genetics Symposium II
Chair: Angelica Van Goor, USDA-National Institute of Food and Agriculture
1:30 PM - 5:00 PM
WEST UPPER: Ballroom B

1:30 p.m.  Animal Breeding and Genetics Symposium II Introduction

1:35 p.m.  68 Integrating enviromics, genomics, and machine learning for precision breeding of resilient livestock
Guilherme J. M. Rosa 1, Daniela Lourenco 2, Troy N. Rowan 3, Luiz F. Brito 4, Cedric Gondro 5, Jingyi Huang 1, Simone Valle de Souza 5
1University of Wisconsin-Madison, 2University of Georgia, 3University of Tennessee - Knoxville, 4Purdue University, 5Michigan State University

2:05 p.m.  69 The Bigger Picture of Phenomics: Whole-system support for systems research, models and databases
John P. McNamara 1
1Washington State University

2:35 p.m.  70 From Big to Bigger data, the quest to lift genomic prediction accuracy in livestock
Steve Miller 1
1American Angus Association

3:05 p.m.  Animal Breeding and Genetics Symposium II Break

3:20 p.m.  71 How to use novel phenotypes and environmental factors to evaluate complex traits
Breno O. Fragomeni 1
1University of Connecticut

3:50 p.m.  72 The AG2PI vision for resources in agricultural genomics and phenomics: How ASAS can contribute
Christopher K. Tuggle 1, Nicole Scott 1, Jennifer Clarke 2, Brenda M. Murdoch 3, Jack C.M. Dekkers 4, David Ertl 5, Eric Lyons 6, Carolyn J. Lawrence-Dill 1, Patrick S. Schnable 1
1Iowa State University, 2University of Nebraska-Lincoln, 3University of Idaho, 4Department of Animal Science, Iowa State University, 5Iowa Corn Promotion Board, 6University of Arizona

4:20 p.m.  Animal Breeding and Genetics Symposium II Discussion

Ruminant Nutrition III: Modelling, Kinetics
Chair: Kristen Johnson, Washington State University
1:30 PM - 5:15 PM
WEST LOWER: 31 Santa Ana, Sandia, Picuris

1:30 p.m.  428 Awardee Talk: Can the ruminal microbiome ever answer all the questions that nutritionists have?
Todd Callaway 1
1University of Georgia
2:00 p.m. 322 Metabolic pathway and rumen bacterial taxa associated with divergent residual body weight gain phenotypes in beef cattle
Modoluwamu Idowu 1, Godstime A. Taiwo 1, Taylor S. Sidney 1, Francisca Eichie 1, Lanre Morenikeji 2, Andres A. Pech-Cervantes 3, Ibukun M. Ogunade 1
1West Virginia University, 2University of Pittsburgh, 3Fort Valley State University

2:15 p.m. 323 Rumen fluid amine/phenol-metabolome of beef steers with divergent residual feed intake phenotype
Taylor S. Sidney 1, Godstime A. Taiwo 1, Modoluwamu Idowu 1, Andres A. Pech-Cervantes 2, Ibukun M. Ogunade 1, Lanre Morenikeji 3
1West Virginia University, 2Fort Valley State University, 3University of Pittsburgh

2:30 p.m. 324 Characterization and in vitro methane inhibition of Aloe vera and Moringa oleifera plant extracts encapsulated with alginate or alginate-chitosan wall materials
Taofik Adem Ibrahim 1, Abubeker Hassen Imamu 1
1Department of Animal Science, University of Pretoria

2:45 p.m. 325 Understanding variation in residual feed intake of Brahman steers fed two different diets
Luis Prada e Silva 1
1The University of Queensland

3:00 p.m. 326 Effect of curing extent on ruminal in vitro gas production kinetics of red clover hay and silage across storage phases
Diego Zamudio Ayala 1, Raphaella Alexandra De Castro 1, Ana Paula Jimenez 1, Marcus Cardoso 1, Joe B. Poblete 1, Marjorie A. Killerby 1, Juan Jose J. Romero 1
1University of Maine

3:15 p.m. Ruminant Nutrition III: Modelling, Kinetics Break

3:30 p.m. 403 Awardee Talk: Characterization of rumen microbiome and immune genes expression of crossbred beef steers with divergent residual feed intake phenotypes
Godstime A. Taiwo 1, Ibukun M. Ogunade 1
1West Virginia University

4:00 p.m. 327 A novel, in vivo model to increase endogenous pancreatic and small intestinal carbohydrase activity to evaluate limitations of small intestinal starch digestion in cattle
Ronald J. Trotta 1, Kendall C. Swanson 2, James L. Klotz 3, David L. Harmon 4
1University of Kentucky, 2North Dakota State University, 3USDA-ARS Forage-Animal Production Research Unit, 4University of Kentucky Department of Animal & Food Sciences

4:15 p.m. 328 Comparison of predicted nutritional requirements of two feeding systems for dairy cattle implemented in a Monte-Carlo simulation model of herd dynamics
Joseph C. Waddell 1, Edward Cabezas-Garcia 1, Kristan F. Reed 1
1Cornell University
4:30 p.m.  329  Evaluation and prediction of site and extent of protein digestion of feedstuffs commonly fed in beef cattle finishing diets  
Jarret A. Proctor 1, Matthew R. Beck 2, Zachery A. Kasuske 2, Ryan C. Foster 1, Nathan S. Long 1, Tryon A. Wickersham 1, Vinicius N. Gouvea 3, Jason K. Smith 4  
1Texas A&M University, 2USDA-ARS, 3Texas A&M AgriLife Research, 4Texas A&M AgriLife Extension

4:45 p.m.  330  Characterizing the rumen bacterial community in replacement Holstein heifers with divergent genomically enhanced residual feed intake  
Keara O'Reilly 1, Gordon E. Carstens 1, Seidu Adams 2, Samodha C. Fernando 2, Jocelyn R. Johnson 3, Nader Deeb 3  
1Department of Animal Science, Texas A&M University, 2University of Nebraska-Lincoln, 3ST Genetics

5:00 p.m.  331  Investigating the ruminal metagenome of grass and forage-fed bison to uncover metabolic activities that impact the efficiency of plant fiber utilization  
Anlly M. Fresno Rueda 1, Carter Kruse 2, Benoit St-Pierre 1  
1South Dakota State University, 2Turner Institute of Ecoagriculture

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**Beef Species I: Ruminant Nutrition: Growth and Efficiency**  
Chair: Raluca Mateescu, University of Florida  
1:45 PM - 3:00 PM  
EAST UPPER: 235 Mesilla

1:45 p.m.  406  ASAS Young Scholar Awardee Talk: Extended effects of sequential weaning and backgrounding management in southeastern U.S. beef calves on performance, health, and immunological responses through the feedyard  
S. Maggie Justice 1, Kimberly Mullenix 1, S. Leanne Dillard 1, Soren P. Rodning 1, Manuel Chamorro 1, Alex Tigue 2, Brandon B. Smith 1, Peyton Zessin 1, Madison L. Boone 1, Mason Henson 1, Micayla H. West 3, Michael A. Agar 1  
1Auburn University, 2Auburn University/Alabama Cooperative Extension System, 3Auburn University

2:15 p.m.  170  Bakery waste supplementation to late gestating Bos indicus-influenced beef cows successfully impacted offspring postnatal performance  
Vinicius de Souza Izquierdo 1, Joao Silva 2, Elizabeth Palmer 2, Juliana Ranches 3, Joao Bittr 2, Autumn Pickett 4, Reinaldo F. Cooke 4, Joao Vendramini 5, Philipo Morel 2  
1University of Florida - Range Cattle Research & Education Center, 2University of Florida, 3Oregon State University; EOARC, 4Texas A&M University, 5UF/IFAS - Range Cattle Research & Education Center

2:30 p.m.  171  Supplementing Ca salts of soybean oil via low-moisture molasses-based blocks to improve reproductive performance and overall productivity of beef cows  
Autumn Pickett 1, Reinaldo F. Cooke 1, Lucas Gonçalves 2, Samir Burato 2, Mark Holton 2, Nicholas Wege Dias 3, Stefania Pancini 4, Tracey Redifer 4, Sherrie Clark-Deener 4, John Currin 4, Jamie L. Stewart 4, Pedro L.P Fontes 2, Vitor R G Mercadante 5  
1Texas A&M University, 2University of Georgia, 3Kansas State University, 4Virginia Tech, 5Virginia Tech - Animal and Poultry Sciences

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60
2:45 p.m.  

**Effects of anesthetic and analgesic administration at castration on the dry matter and water intake, growth, feed efficiency, and carcass characteristics of beef steers**

Madison Kovarna ¹, Michele Mucciante ¹, Zachary K. Smith ¹, Cody Wright ¹

¹South Dakota State University

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**Growth and Development Symposium**

Chair: Kara Thornton, Utah State University

1:45 PM - 5:15 PM

EAST UPPER: 230 Pecos

1:45 p.m.  

**Growth and Development Symposium Introduction**

1:50 p.m.  

**Functional amino acids in pigs: much more than building blocks for muscle protein deposition**

Lucas Alves Rodrigues ¹, Daniel A. Columbus ²

¹Zinpro Corporation, ²Prairie Swine Centre, Inc.

2:35 p.m.  

**Precision nutrition to enhance poultry performance and health: the role of functional amino acids**

Samuel J. Rochell ¹

¹Auburn University

3:20 p.m.  

**Growth and Development Symposium Break**

3:35 p.m.  

**The potential of dietary guanidinoacetate in beef cattle to manipulate skeletal muscle development and metabolism**

Marcio S. Duarte ¹

¹Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada

4:20 p.m.  

**Functional amino acids in dogs and cats: implications for overall health**

Julia Guazzelli Pezzali ¹

¹Iowa State University

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**Meat Science and Muscle Biology**

Chair: Jade Cooper, Texas A&M University

2:00 PM - 3:30 PM

WEST LOWER: 18 Cochiti, Taos

2:00 p.m.  

**Awardee Talk: Current Status and Future Opportunities for Fresh Pork Quality**

Anna Dilger ¹

¹University of Illinois at Urbana-Champaign

2:30 p.m.  

**Divergent satellite cell profiles of bovine trapezius, longissimus, and bicep femoris muscles in utero**

Jerica R. Hall ¹, Oscar J. Benitez ¹, Bradley J. Johnson ¹

¹Texas Tech University
2:45 p.m.  249  The effects of breed and early supplementation on bovine intramuscular fat deposition, adipogenic and lipogenic gene expression
Aliute-Nkoyo S. Udoka ¹, Joshua L. Jacobs ¹, Susan K. Duckett ¹
¹Clemson University

3:00 p.m.  250  The impact of altering fatty acid combinations in vitro on bovine preadipocyte hyperplasia
Aliute-Nkoyo S. Udoka ¹, Susan K. Duckett ¹
¹Clemson University

3:15 p.m.  252  Use of AgomiR and AntagomiR technologies to alter miRNA expression and muscle hypertrophy in intrauterine growth restricted lambs
Maslyn A. Greene ¹, Rhonda R. Powell ¹, Terri Bruce ¹, James L. Klotz ², Celina M. Checura ¹, Susan K. Duckett ¹
¹Clemson University, ²USDA-ARS Forage-Animal Production Research Unit

Nonruminant Nutrition IV: Nutrition for Growth and Production
Chair: Eric Weaver, South Dakota State University
2:00 PM - 4:15 PM
EAST MAIN: 120 Dona Ana

2:00 p.m.  410  Awardee Talk: Swine feed additives: Current and Future Innovation to Achieve Profitable and Sustainable Production
Joel M. DeRouchey ¹, Mike D. Tokach ¹, Robert Goodband ¹, Jason C. Woodworth ¹, Jordan T. Gebhardt ²
¹Kansas State University, ²Kansas State University

2:30 p.m.  276  Effects of monoglycerides on serum metabolomic profiles in weanling pigs experimentally infected with a pathogenic Escherichia coli
Sangwoo Park ¹, Kwangwook Kim ², Adebayo O O. Sokale ³, Adriana Barri ⁴, Yanhong Liu ¹
¹University of California, Davis, ²Michigan State university, ³BASF Corporation, ⁴BASF SE

2:45 p.m.  277  Investigating the effect of Mopane worm based diets on the meat quality of Indigenous Potchefstroom Koekkoek chickens
Morategi M.C Mojanaga ¹, Morwaledi Morategi Cornelia M. Modisajang-Mojanaga ¹, Baitsholetsi G. Mokolopi ¹
¹University of South Africa

3:00 p.m.  278  Efficacy of water application of a humic substance, butyric acid, vitamins C, D and E and/or electrolytes on performance and mortality in health-challenged nursery pigs
Michael S. Edmonds ¹
¹Kent Nutrition Group, Inc.

3:15 p.m.  Nonruminant Nutrition IV: Nutrition for Growth and Production Break

3:30 p.m.  279  Impact of increasing additions of choline chloride on broiler chicken body weight variability
Caroline R. Gregg ¹, Gerardo A. Abascal-Ponciano ¹, Catarina Stefanello ¹, Jessica D. Starkey ¹, Charles Starkey ²
¹Department of Poultry Science, Auburn University, ²North American Renderers Association
3:45 p.m. 281 Modeling how the inclusion of fibrous by-products to the feed improves the net protein contribution of pork meat  
Berta Llorens Marbà 1, Aline Remus 2, Candido Pomar 2  
1AgriFood Canada, 2AAFC

4:00 p.m. 282 Dynamics of mitochondrial adaptation and energy metabolism in rainbow trout (Oncorhynchus mykiss) in response to sustainable diet and temperature  
John N. Idenyi 1, Jonathan Eya 1, Abigeal Adeyemi 1, Abdallah Hadimundeen 1  
1West Virginia State University

CSAS Symposium II  
Chair: Óscar López-Campos, Agriculture and Agri-Food Canada  
2:00 PM - 4:30 PM  
EAST UPPER: 240 La Cienega

2:00 p.m. CSAS Symposium II Introduction

2:05 p.m. 81 Meat options for dinner–The road less travelled (Bison edition)  
Jayson Galbraith 1  
1Alberta Agriculture and Irrigation

2:35 p.m. 82 Critical comparison of water buffalo (Bubalus bubalis) and cattle on growth performance and carcass traits. A review  
Argenis Rodas-Gonzalez 1  
1University of Manitoba

3:05 p.m. CSAS Symposium II Break

3:20 p.m. 83 Eating and nutritional quality of meats from water buffalo versus cattle. A review.  
Nelson O. Huerta-Leidenz 1  
1Texas Tech University

3:50 p.m. 84 Advances, challenges and prospects for the sustainable use of the chigüiro in Colombia  
Hugo Fernando López Arévalo 1, Elizabeth Mesa 2, Olga Lucía Montenegro Díaz 1, Pedro Sánchez 1, Guillermo Quiroga 1, Catherine Mora 1, Hernán Serrano 2, Rocío Cáceres 3, Carlos Cáceres 3  
1Universidad Nacional de Colombia, 2Grupo en Conservación y manejo de vida silvestre - UNAL, 3self-contained

4:20 p.m. CSAS Symposium II Discussion
2:00 p.m. 107 **Awardee Talk: Improving swine heat stress resilience to optimize productivity and welfare in a changing climate**
Jay S. Johnson 1
1USDA-ARS Livestock Behavior Research Unit

2:30 p.m. 108 **Potential of accelerometers to remotely detect bovine ephemeral fever in heifers using pattern recognition**
Ly Ly Trieu 1, Derek W. Bailey 1, Huiping Cao 1, Tran Cao Son 1, Mark G. Trotter 2, Lauren O’Connor 2, Colin T. Tobin 3
1New Mexico State University, 2CQUniversity, 3North Dakota State University

2:45 p.m. 109 **Animal behavior analysis using unsupervised machine learning techniques**
Jiefei Liu 1, Derek W. Bailey 2, Huiping Cao 2, Tran Cao Son 2, Colin T. Tobin 3
1New Mexico State University, Computer Science Department, 2New Mexico State University, 3North Dakota State University

3:00 p.m. 110 **Evaluation of computer vision to analyze beef cattle feeding behavior**
Egleu D. M Mendes 1, Yalong Pi 2, Jian Tao 2, Luis O. Tedeschi 2
1Texas A&M University / Department of Animal Science, 2Texas A&M University

3:15 p.m. Animal Behavior and Well-Being Break

3:30 p.m. 111 **A suspended molasses block improves post-mixing welfare of gestating sows**
Jeremy N. Marchant 1, Charles Rikard-Bell 2, Ellen Jongman 3
1USDA-ARS, 2Australasian Pork Research Institute Ltd, 3University of Melbourne

3:45 p.m. 112 **Definition and genetic parameters estimation for climatic resilience indicators derived from longitudinal vaginal temperature records in lactating sows under heat stress conditions**
Hui Wen 1, Jay S. Johnson 2, Leonardo S. Gloria 1, Jacob M. Maskal 1, Andre C. Araujo 1, Felipe E. de Carvalho 1, Artur Oliveira Rocha 1, Yijian Huang 3, Luiz F. Brito 4
1Department of Animal Sciences, Purdue University, 2USDA-ARS Livestock Behavior Research Unit, 3Smithfield Premium Genetics, 4Purdue University

4:00 p.m. 113 **Maternal stress influences dam and progeny cortisol, immune, and behavior**
Alexis R. Main 1
1Oklahoma State University

4:15 p.m. 114 **Effect of timing of dam gestational stress on immune and stress responsiveness of the progeny**
Cassidy C. Reddout 1, Janeen L. Salak-Johnson 1, Lily P. Hernandez 1, Alexis R. Main 1
1Oklahoma State University
4:30 p.m. 115 The ramifications of tail docking ewes on mating behavior and reproductive performance
Jocelyn M. Woods 1, Sarah J.J. Adcock 1
1Department of Animal and Dairy Sciences, University of Wisconsin-Madison

Teaching/Undergraduate and Graduate Education Symposium
Chair: Kathrin Dunlap, Texas A&M University
2:00 PM - 5:00 PM
EAST MAIN: 130 Cimarron

2:00 p.m. Teaching/Undergraduate and Graduate Education Symposium Introduction

2:05 p.m. 76 Competitive team participation prepares students for employment
Jennifer L. Wyle 1
1Texas A&M University

2:45 p.m. 75 Do Real Work
Leah Lambrakis 1
1Simmons Pet Food, Inc.

3:25 p.m. Teaching/Undergraduate and Graduate Education Symposium Break

3:40 p.m. 74 Setting students up for success in the agricultural industry
Nicky Oosthuizen 1
1ABS Global

4:20 p.m. 73 Creating context and vision in Animal Science graduates
Tryon A. Wickersham 1
1Texas A&M University

Companion Animal I
Chair: Amanda Dainton, Freshpet
2:00 PM - 5:15 PM
EAST UPPER: 215 San Miguel

2:00 p.m. 183 Assessment of textural characteristics and instrumental color of commercially available whole-muscle jerky-style pet treats
Jorge Romero 1, Hilary Carrera 1, Justin Dunavant 1, Ileana Berganza 1, Gerardo A. Abascal-Ponciano 1, Jorge L. Sandoval 1, Sungeun Cho 1, Jessica D. Starkey 1, Charles Starkey 2
1Department of Poultry Science, Auburn University, 2North American Renderers Association

2:15 p.m. 184 Evaluation of corn fermented protein (CFP) on the fecal microbiome of dogs
Logan Kilburn-Kappeler 1, Tyler Doerksen 1, Andrea Lu 1, Rachel Palinski 1, Nanyan Lu 1, Charles G. G. Aldrich 1
1Kansas State University
2:30 p.m. 185 Effects of a Lactobacillus fermentation product on the fecal characteristics, fecal microbial populations, immune function, and stress markers of adult dogs
Samantha A. Koziol 1, Patricia Massae Oba 2, Katiria Soto-Diaz 3, Andrew J. Steelman 4, Jan S. Suchodolski 5, Erik Eckhardt 6, Kelly S. Swanson 7
1University of Illinois at Urbana-Champaign, 2University of Illinois Urbana-Champaign, 3University of Illinois Department of Animal Sciences, 4University of Illinois Departments of Animal Sciences and Nutritional Sciences, 5Gastrointestinal Laboratory, Texas A&M University, 6Adare Biome, 7University of Illinois at Urbana-Champaign

2:45 p.m. 186 Amino acid digestibility of various protein-based ingredients using the precision-fed cecectomized rooster assay
Patricia Massae Oba 1, Pamela L. Utterback 2, Carl M. Parsons 2, Kelly S. Swanson 2
1University of Illinois Urbana-Champaign, 2University of Illinois at Urbana-Champaign

3:00 p.m. 187 Evaluation of textural characteristics of commercially available meat stick-style pet treats
Juan J. Barberena 1, Hilary Carrera 1, Ileana Berganza 1, Jorge Romero 1, Justin Dunavant 1, Gerardo A. Abascal-Ponciano 1, Sungeun Cho 1, Jessica D. Starkey 1, Charles Starkey 2
1Department of Poultry Science, Auburn University, 2North American Renderers Association

3:15 p.m. 188 Optimal dose and functional properties of yeast supplementation in adult cats
Sergio Miranda de Souza Junior 1, Maria R C de Godoy 2, Thaila Cristina Putarov 3
1University of Illinois at Urbana Champaign, 2University of Illinois at Urbana-Champaign, 3Biorigin

3:30 p.m. Companion Animal I Break - sponsored by Royal Canin

3:45 p.m. 194 Functional properties of inositol in canine nutrition
Emanuela Kayser 1, Maria R C de Godoy 2, Sandra L. Rodrigues-Zaš 1
1University of Illinois at Urbana Champaign, 2University of Illinois at Urbana-Champaign

4:00 p.m. 190 The nutrigenomic effects of dietary choline and L-carnitine on the muscle and liver of lean and overweight cats
Jess Fletcher 1, Sophie Grapentine 2, Alexandra Rankovic 1, Brigitte Brisson 1, Melissa Sinclair 1, Anna Kate K. Shoveller 2, Eric K. Altom 3, Marica Bakovic 2, Adronie Verbrugghe 1
1Ontario Veterinary College, 2University of Guelph, 3Balchem Corp

4:15 p.m. 191 Apparent total tract digestibility, fecal metabolites, and feces quality of pulse-based vegan dog foods with or without added enzymes in adult dogs and comparison to digestibility from a pig model
W. P. G. Van Straten 1, Anna Kate K. Shoveller 2, L. F. Wang 1, E. Beltranena 1, T. Vasanthan 1, Ruurd T. Zijlstra 1
1University of Alberta, 2University of Guelph

4:30 p.m. 192 Evaluation of textural characteristics (texture profile analysis and shear force) on commercial training pet treats
Hilary Carrera 1, Jorge Romero 1, Ileana Berganza 1, Justin Dunavant 1, Gerardo A. Abascal-Ponciano 1, Jessica D. Starkey 1, Charles Starkey 2, Sungeun Cho 1
1Department of Poultry Science, Auburn University, 2North American Renderers Association
Apparent total tract nutrient digestibility of frozen raw, freeze-dried raw, fresh, and extruded dog foods and their effects on fecal characteristics and metabolites of adult dogs
Elizabeth L. Geary 1, Kelly S. Swanson 2, James Templeman 3
1University of Illinois Urbana-Champaign, 2University of Illinois at Urbana-Champaign, 3Primal Pet Group

5:00 p.m. 189 Single-Step GBLUP evaluation for behavioral traits in Labrador Retrievers used as guide dogs
Molly M. Riser 1, Eldin Leighton 2, Jane Russenberger 2, Breno O. Fragomeni 1, Caroline Moser 3
1University of Connecticut, 2International Working Dog Registry, 3Guide Dogs New South Wales

A phytogenic additive improves immune responses of growing beef cattle on grazing system
Isabelle Errobidarte de Matos 1, Alexandre Perdigão 2, Víctor Valério de Carvalho 3, Tiago S. S. Acedo 4, Yohana Clara Siqueira Santana 5, Silvia Isabella Timóteo 5, Cecília Ayala Ferreira 1, Aline Gomes da Silva 5, Henrique Jorge Fernandes 1
1Federal University of Mato Grosso do Sul, Campo Grande, Brazil, 2DSM Nutritional Products Brazil, 3DSM-firmenich, 4DSM Nutritional Products, 5Federal University of Mato Grosso do Sul, Campo Grande, Brazil

A phytogenic feed additive improves performance by Nellore growing bulls grazing on tropical pastures
Isabelle Errobidarte de Matos 1, Víctor Valério de Carvalho 2, Tiago S. S. Acedo 3, Alexandre Perdigão 4, Yohana Clara Siqueira Santana 5, Silvia Isabella Timóteo 5, Cecília Ayala Ferreira 1, Tyler Turner 6, Aline Gomes da Silva 1, Henrique Jorge Fernandes 1
1Federal University of Mato Grosso do Sul, Campo Grande, Brazil, 2DSM Nutritional Products Brazil, 3DSM-firmenich, 4DSM Nutritional Products, 5Federal University of Mato Grosso do Sul, Campo Grande, Brazil, 6DSM Nutritional Products Switzerland

Application of stride length to assess leg soundness for growing gilt
Hsiao-Han Huang 1, En-Chung Lin 1, Kai-Hsiang Lin 1, Shu Han Ting 1
1National Taiwan University

Assessment of strategies to reduce the incidence and severity of digital dermatitis related lameness in feedlot cattle
Daniela M. Meléndez 1, Desiree Gellatly 2, Murray D. Jelinski 3, Sonia Marti 4, Timothy D. Schwinghamer 5, Nicholas Wong 6, Eugene Janzen 7, Karen S. Schwartzkopf-Genswein 1
1Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, 2Olds College, 3University of Saskatchewan, 4IRTA, Ruminant Production, 5Agriculture and Agri-Food Canada, 6Feedlot Health Management Services, 7University of Calgary
Bisphosphonate pharmacokinetics in juvenile horses
Brittany L. Paris 1, Jessica Leatherwood 2, Thomas H. Welsh 3, Carolyn Arnold 4, Kati G. Glass 1, Matthew B. Conrad 5, James M. George 1, Rafael Martinez 6, Paige Linne 1, Travis Mays 7, Aimee Colbath 8, Brian D. Nielsen 9, Amanda N. Bradbery 5
1 Texas A&M University, 2 Tarleton State University, 3 Texas A&M University and AgriLife Research, Department of Animal Science, 4 Texas Tech University, 5 Montana State University, 6 Sam Houston State University, 7 Texas A&M Veterinary Medical Diagnostic Laboratory, 8 Cornell University, 9 Michigan State University

Comparison of a visual health scoring system with vaginal temperatures of newly received feedlot heifers
Mackenzie M. Smithyman 1, Glenn C. Duff 1, Consuelo Sowers 1, Robert Steiner 1, Clint A. Loest 1
1 New Mexico State University

Conditioning dairy cows to a virtual fencing system is compatible with animal welfare
Patricia Fuchs 1, Joanna Stachowicz 2, Manuel Schneider 3, Massimiliano Probo 4, Rupert M. Bruckmaier 5, Christina Umstätter 6
1 Graduate School for Cellular and Biomedical Sciences, University of Bern and Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Grazing Systems, 2 Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Digital Production, 3 Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Forage Production and Grassland Systems, 4 Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Grazing Systems, 5 Veterinary Physiology, Vetsuisse Faculty, University of Bern, 6 Thünen-Institute of Agricultural Technology

Dietary milk fat globule membrane improves neonatal piglet intestinal architecture and enhances mucosal diamine oxidase activity following lipopolysaccharide challenge
Rui Zheng 1, Rebecca Brown 1, Rafael Jimenez-Flores 1, Sheila K. Jacobi 1
1 The Ohio State University

Dietary supplementation of Phyllanthus urinaria ameliorates fatty liver hemorrhagic syndrome in hens
Pei-En Chang 1, Shih-Torng Ding 2
1 National Taiwan University, 2 Department of Animal Science and Technology, National Taiwan University, Taipei, Taiwan

Dose effect of a spice feed additive on ingestion and digestion in fattening bulls
Cléo Omphalius 1, Jean-François Gabarrou 2, Guillaume Desrousseaux 2, Samy Julliand 1
1 Lab-To-Field, 2 Laboratoires Phodé

Effect of creep-feeding on feeding behavior of Nellore calves
Luciana Melo Sousa 1, Gustavo Henrique Maciel Bisio 2, Anna Lidia Francino Garcia 1, Amanda Caroliny Marques de Queiroz 1, Marco Aurélio de Felício Porcionato 3, Flávio Dutra de Resende 4, Gustavo Rezende Siqueira 4
1 UNESP / APTA, 2 UNIFEB / APTA, 3 Trouw Nutrition, 4 APTA
3:00 p.m.  PSVI-6  Effect of industrial hemp (cannabis sativa) on rumination behavior parameters of angus cattle
Nathaniel Ogunkunle 1, Felix U. Samuel 1, Monya D. Simpson 1, Gamal Eden AbdelRahim 1, Xianyan Kuang 2, Judith Boateng 2
1Alabama A&M University, 2Alabama A & M University

3:00 p.m.  PSVI-21  Effects of calcium salts of soybean oil supplementation to Nellore heifers during second and third trimesters of gestation and offspring sex on milk production and performance of the offspring
Amanda Caroliny Marques de Queiroz 1, Rodrigo S. Marques 2, Aline Naime Rodrigues 3, Keuven Nascimento dos Santos 3, Igor Machado Ferreira 3, Mateus José Inácio de Abreu 3, Fernando Rossi Camilo 4, Laura Franco Prados 5, Flávio Dutra de Resende 5, Gustavo Rezende Siqueira 5
1UNESP / APTA, 2Montana State University, 3UNESP/APTA, 4Vaccinar nutrição animal, 5APTA

3:00 p.m.  PSVI-23  Effects of creep-feeding supplementation on growth performance of Nellore calves and milk yield of dams
Luciana Melo Sousa 1, Anna Lidia Francino Garcia 1, Amanda Caroliny Marques de Queiroz 1, Gustavo Henrique Maciel Bisio 2, Marco Aurélio de Felício Porcionato 3, Flávio Dutra de Resende 4, Gustavo Rezende Siqueira 4
1UNESP / APTA, 2UNIFEB / APTA, 3Trouw Nutrition, 4APTA

3:00 p.m.  PSVI-30  Effects of different cobalt sources on ruminal fermentation of lactating dairy cow diets in a dual-flow continuous culture system
Martha U. Siregar 1, Jose A. Arce-Cordero 2, Gerald K. Salas-Solis 1, Ana C. Silva-Vicente 1, James R. Vinyard 1, Efstathios Sarmikasoglou 1, Mikayla L. Johnson 1, Richard Roberto Lobo 3, Szu-Wei Ma 3, Charisse A. Hammond 3, Kaliandra Souza S. Alves 3, Sydney Marie Castillo 3, Lana M. Katz 1, Antonio P. Faciola 1
1Department of Animal Sciences, University of Florida, Florida, 32608, United States, 2Escuela de Zootecnia, Universidad de Costa Rica, San Jose, 11501-2060, Costa Rica, 3University of Florida

3:00 p.m.  PSVI-10  Effects of poor maternal nutrition during gestation on offspring basal immune status
Amanda S. Reiter 1, Mia Y. Kawaida 1, Nicole M. Tillquist 1, Brandon Smith 1, Kristen E. Govoni 2, Steven A. Zinn 2, Sarah A. Reed 2
1University of Connecticut, 2Dept. of Animal Science, University of Connecticut

3:00 p.m.  PSVI-14  Effects of scent and vocal sensory stimuli to ease piglet stress during weaning phase
Sarah Shelby 1, Mattie Still 1, Mason A. Paladino 1, Palika Dias-Morse 2, Kevin Thompson 2, Tsungcheng Cheng Tsai 1, Yan Huang 1
1University of Arkansas, 2University of Arkansas Fayetteville

3:00 p.m.  PSVI-18  Effects of sow vocalization and scent on complete blood cell count during early weaning period
Mason A. Paladino 1, Tsungcheng Cheng Tsai 1, Sarah Shelby 1, Mattie Still 1, Charles V. Maxwell 1, Yan Huang 1
1University of Arkansas
3:00 p.m. PSVI-3  Effects of sprouted barley on feeding behavior and dry matter intake in growing steers
Zachary C. Crump 1, Anthony F. Alberto 1, Bailee Brown 1, Lillian Okamoto 1, Mia Sego 1, Bryce W. Roholt 1, Alissa Waddups 1, Ryan A. Spurling 1
1Utah State University

3:00 p.m. PSVI-1 Elucidating the effects of the CXCL12/CXCR4 axis through hematological changes in sheep during gestation
Hannah C. Bilovesky 1, Jennifer A. Hernandez Gifford 1, Ryan L. Ashley 1
1New Mexico State University

3:00 p.m. PSVI-20 Evaluating the use of on-animal sensors in quantifying dystocia in beef cattle
Justin P. Macor 1, Mark G. Trotter 1
1CQUniversity

3:00 p.m. PSVI-27 Evaluation of coated and non-coated seed species pertinent to the Great basin in response to in vitro ruminal incubation
Graham Holton 1, Aghata Silva 2, Arturo Macias Franco 3, William Richardson 1, Tamzen Stringham 1, Tio Brody 1, Pedro Mazza 4, Matthew Madsen 5, Mozart A. Fonseca 1
1University of Nevada, Reno, 2Auburn University, 3University of Nevada Reno, 4Universidade Federal da Bahia, 5Brigham Young University

3:00 p.m. PSVI-11 Genome-wide association study for 4 behavior traits in a population of Labrador Retrievers bred as guide dogs
Molly M. Riser 1, Eldin Leighton 2, Jane Russenberger 2, Caroline Moser 3, Breno O. Fragomeni 1
1University of Connecticut, 2International Working Dog Registry, 3Guide Dogs New South Wales

3:00 p.m. PSVI-9 In vitro effects of monoglycerides and zinc glycinate: anti-inflammatory and epithelial barrier function
Sangwoo Park 1, Lauren L. Kovanda 1, Adebayo O O. Sokale 2, Adriana Barri 3, Yanhong Liu 1
1University of California, Davis, 2BASF Corporation, 3BASF SE

3:00 p.m. PSVI-5 Optimizing limited deep phenotyping capacity for genetic studies and routine genetic evaluations: Application to boar taint
Alice Markey 1, José Wavreille 2, Patrick Mayeres 3, Anne-Catherine Huet 4, Nicolas Gengler 1
1ULiege-GxABT, 2CRA-W, 3Eleveo, AWE groupe, 4CER groupe

3:00 p.m. PSVI-26 Response of cows to high unsaturated fatty acid diet from the insights of methane production, rumen fermentation and metagenome
Zhantao Yang 1, Yuhui Zheng 2, Shengli Li 2
1China Agricultural University, 2China Agricultural University

3:00 p.m. PSVI-7 snoRNA dysregulated expression and potential roles in bovine subclinical mastitis due to Staphylococcus chromogenes
Faith A. Omonijo 1, David Gagné 2, Mario Laterrière 2, Celine Ster 1, Xin Zhao 3, Eveline M. Ibeagha-Awemu 1
1Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada, 2Quebec Research and Development Centre, Agriculture and Agri-Food Canada, 3Department of Animal Science, McGill University
3:00 p.m.  PSVI-28  The effects supplementing tannin blend on growth performance, energetic efficiency, and carcass characteristics of calf-fed steers
Brooke C. Latack 1, Pedro H. V. Carvalho 2, Marcos V. C. Ferraz 3, Lucas G. Hollerbach 3, Chilove Theusme 3, Richard A. Zinn 1
1University of California Cooperative Extension, 2Colorado State University, 3University of California - Davis

3:00 p.m.  PSVI-4  Undergraduate student perceptions of an experiential learning activity in a livestock feed formulation animal science course
Carly Hoffmann 1, Gordon E. Carstens 1, Scott Cummings 1, Chris Skaggs 1
1Texas A&M University

3:00 p.m.  PSVI-29  Using feeding behavior assessment to evaluate the effects of beef cattle dietary type or the presence of Saccharomyces cerevisiae
Emilee A. Broussard 1, Jhones O. Sarturi 1, Kaliu G. Silva 1, Bradley J. Johnson 1, Barbara Rodrigues 1, Beatriz Dos Reis 1
1Texas Tech University

Beef Species II: Growth and Development
Chair: Raluca Mateescu, University of Florida
3:15 PM - 5:45 PM
EAST UPPER: 235 Mesilla

3:15 p.m.  173  Awardee Talk: Spot sample protocol for gas quantification of grazing beef cattle using a GreenFeed
Elizabeth Dressler 1, Jennifer M. Bormann 1, Robert L. Weaber 1, Megan M. Rolf 1
1Kansas State University

3:45 p.m.  174  Longitudinal assessment of prevalence and incidence of Salmonella and Escherichia coli O157 resistance to antimicrobials in feedlot cattle sourced and finished in two regions of the U.S.
Colten W. Dornbach 1, Kristin E. Hales 1, Erin R. Gubbels 2, James E. Wells 3, Ashley A. Hoffman 1, Ashlee Noelle Hanratty 1, Dalton J. Line 1, Taylor M. Smock 1, Jeff L. Manahan 1, Zach S. McDaniel 1, Kesley B. Kohl 1, Nicole C. Burdick Sanchez 4, Jeffery A. Carroll 4, Warren C. Rusche 2, Zachary K. Smith 2, Paul R. Broadway 4
1Texas Tech University, 2South Dakota State University, 3USDA-ARS, 4USDA-ARS, Livestock Issues Research Unit

4:00 p.m.  175  Effects of random metaphylaxis administered at feedlot arrival to 0, 33, 66, or 100% of high-risk beef cattle on health outcomes, complete blood count, and growth performance
Ashlee Noelle Hanratty 1, Paul R. Broadway 2, Nicole C. Burdick Sanchez 2, Jeffery A. Carroll 2, Ashley A. Hoffman 1, Jeff L. Manahan 1, Zach S. McDaniel 1, Dalton J. Line 1, Colten W. Dornbach 1, Taylor M. Smock 1, Miles Theurer 3, Michael Galyean 4, Kristin E. Hales 1
1Texas Tech University, 2USDA-ARS, Livestock Issues Research Unit, 3Veterinary Research and Consulting Services, 4Texas Tech University Department of Veterinary Medicine
4:15 p.m. 176 Relationships among early life weight and growth among halfblood Bos indicus male calves and associations with carcass weight
Steven Gunari Lake 1, David G. Riley 2, Andy D. Herring 1
1Texas A&M University, 2Texas A&M University and AgriLife Research, Department of Animal Science

4:30 p.m. Beef Species II: Growth and Development Break

4:45 p.m. 443 WSASAS Young Scholar Awardee Talk: Effects of a supplemental water source and trace-mineral based electrolyte drinking solution on intake, performance, and health of newly received feedlot calves
Mackenzie M. Smithyman 1, Vinicius N. Gouvea 2, Dayna L. Campbell 1, Glenn C. Duff 1, Clint A. Loest 1, Mark Branine 3
1New Mexico State University, 2Texas A&M AgriLife Research, 3Zinpro Corporation

5:15 p.m. 177 Determining the body weight to body fat conversion factor for Angus, Charolais, and Brahman growing steers
Luciano A. Gonzalez 1, Jillian Burgess 1, Augusto Imaz 1, Luis O. Tedeschi 2
1The University of Sydney, 2Texas A&M University

5:30 p.m. 178 Tag your it: Use of wearable biometric and remote sensing technology to monitor animal growth, performance, and efficiency in extensively managed landscapes
Ira L. Parsons 1, Stephen Webb 2, Brandi B. Karisch 3, Amanda E. Stone 4, Garrett Street 5
1South Dakota State University West River Research and Extension, Department of Animal Science, 2Texas A&M University, 3Mississippi State University, 4Mississippi State University, Deptartment Animal and Dairy Science, 5Mississippi State University, Dept. Wildlife, Fisheries and Aquaculture

Beef Species III: Reproduction
Chair: Jennifer Hernandez Gifford, New Mexico State University
3:45 PM - 5:15 PM
WEST LOWER: 32 Tesuque, Zuni, Acoma

3:45 p.m. 413 Awardee Talk: Reproductive efficiency–Managing cows to improve reproductive efficiency
George A. Perry 1
1Texas A&M AgriLife Research, Overton, TX

4:15 p.m. 179 Cost and profit per pregnancy associated with estrous synchronization utilizing estrus detection and/or fixed-time artificial insemination
Lacey K. Quail 1, Kaitlin M. Epperson 1, Jaclyn N. Ketchum 1, Chloey P. Guy 2, Jerica JJ Rich 3, Julie Walker 4, Saulo Zoca 5, George A. Perry 2
1Department of Animal Science, Texas A&M University, College Station, TX, 2Texas A&M AgriLife Research, Overton, TX, 3College of Agriculture, Arkansas State University, 4South Dakota State University, 5Department of Animal Science, University of Tennessee, Knoxville, TN
4:30 p.m. 180 Differences in gene expression in granulosa cells harvested from fertile and sub-fertile beef heifers
Rachel Hollingsworth 1, Priyanka Banerjee 1, Paul W W. Dyce 1
1Auburn University

4:45 p.m. 181 Effects of moderate exercise regimen on reproductive development of replacement beef heifers reared in drylots at a high stocking density.
Logan W. Rahmel 1, Reinaldo F. Cooke 2, Shea Mackey 2, Autumn Pickett 2, Eduardo Colombo 2, Mason Drewery 1, Juan Cordero 1, Courtney L. Daigle 2, Kelsey M. M. Harvey 1
1Mississippi State University, 2Texas A&M University

5:00 p.m. 182 Custom bovine heifer development to advance onset of puberty in a limited-resource beef cow-calf operation
Kasey A. Elder 1, Rachel Dunn 1, Kiana Green 1, John F. Odhiambo 1
1Florida A & M University

Poster Session VII
5:15 PM - 6:15 PM
140 Aztec/110 Galisteo

5:15 p.m. PSVII-16 A method to analyse the vertical acceleration of the Peruvian Paso horse for animal breeding purposes
jorge L. Vilela 1, Paola Quintana 1
1Universidad Científica del Sur, Grupo de Investigación Ciencia Equina y Animales Autóctonos

5:15 p.m. PSVII-18 Applying the marbling window concept to enhance intramuscular fat development in beef cattle
Marta M. Santos 1, Thais C. Costa 2, Walmir Silva 1, Leticia Z. Pistillo 1, Sarah E. Dean 3, Dante V. Teixeira 4, Claudia B. Sampaio 5, Mateus P. Gionbelli 6, Lucas L. Verardo 7, Pedro Veiga Rodrigues Paulino 8, Marcio S. Duarte 3
1Department of Animal Science, Universidade Federal de Viçosa, Viçosa, Brazil, 2Department of Animal Science, Universidade Federal de Viçosa, Viçosa, Brazil and Muscle Biology and Nutrigenomics Laboratory, Universidade Federal de Viçosa, Viçosa, Brazil, 3University of Guelph, 4Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada, 5Department of Animal Science, Universidade Federal de Viçosa, Viçosa, Brazil, 6Universidade Federal de Lavras, Brazil, 7Department of Animal Science, Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Brazil, 8Cargill

5:15 p.m. PSVII-10 Characterization of recombination in a small highly inbred beef cattle population
ElHamidi Hay 1, Ashley Ling 1
1USDA/ARS/LARRL

5:15 p.m. PSVII-5 Detection and characterization of copy number variation regions in three selection lines of Nellore cattle
Lorena F. Benfica 1, Luiz F. Brito 1, Ricardo D. do Bem 2, Henrique A. Mulim 1, Larissa G. Braga 2, Joslaine N.S.G Cyrillo 3, Maria Eugenia Z. Mercadante 3
1Purdue University, 2São Paulo State University, 3Institute of Animal Science
Differential freeze/thaw rates affect water-holding capacity and lipid oxidation in beef rib primal cuts
Chandler Stafford 1, Mackenzie Taylor 1, Troy Bird 1, Sulaiman Matarneh 1
1Utah State University

Effect of mineral mixture containing HMTBa in hay-based substrate on methane production
Cibelle Borges Figueiredo 1, Reginaldo Nassau Ferreira 1, Emanuely Zequim Ubeda 1, Gabriela Vitória Pinto Nunes 1, Matheus Alves Miranda 1, Edson Martins Ribeiro Filho 1
1Universidade Federal de Goiás

Effect of pre- and postpartum supplementation of 25-hydroxyvitamin D3 on lactational performance of Holstein cows
Glenn A. Holub 1, James D. Chapman 1, Ken P. Zanzalari 1, Paige N. Gott 2, Bridget M. Craig 3, Heather M. Dann 3
1Phibro Animal Health Corporation, 2DSM Nutritional Products, 3William H. Miner Agricultural Research Institute

Effect of summer months on testicular histoarchitecture and spermatogenesis in Dezhou donkey: A histological study
Muhammad Faheem Muhammad Akhtar 1
1Research Institute of Donkey High-Efficiency Breeding and Ecological Feeding, College of Agronomy, Liaocheng University 25200, CHINA

Effect of trans 10, cis 12 conjugated linoleic acid to dedifferentiated mature bovine adipocytes
Kihoon Park 1, Yanqing Xu 2, Christopher Prajogo 1, Payam Vahmani 2
1UC Davis, 2University of California, Davis

Effect of trimming external fat before cooking on palatability and calorie content of beef ribeye steaks
Oscar Lopez-Campos 1, Patricia Leighton 2, Sophie Zawadski 2, rhona Thacker 2, bryden Schmidt 2, Haley Scott 2, Iaceyl Hudson 2, Nuria Prieto 2
1Agriculture and Agri Food Canada, Science and Technology Branch, 2Agriculture and Agri-Food Canada

Effects of adding either fibrolytic enzymes or sodium butyrate to feedlot diets on rumen parameters of Angus cattle
Daniel M. Casali 1, Leandro A F Silva 1, Ana Laura J. Lelis 1, Johnny M. Souza 2, Eduardo J S Magalhães 3, Mikaeli A S Silva 3, Matheus S. Belini 3, Rafael F. Mathias 3, Tarcisio L A Melo 3, Jorge A V Avila 3, Danilo D. Millen 2
1São Paulo State University (UNESP), Botucatu campus, Brazil, 2São Paulo State University (UNESP), Jaboticabal campus, Brazil, 3São Paulo State University (UNESP), Dracena campus, Brazil

Effects of an electrolyte drinking solution on performance and physiological responses of preconditioning beef calves
Matheus FDL Ferreira 1, Gracia M. P. Hernandez 1, Aline R. Santos 1, David W. Bohnert 2, Juliana Ranches 2
1Oregon State University, 2Oregon State University; EOARC
5:15 p.m. PSVII-20  **Effects of MBP-fMSTNPro45-100mFc, a myostatin inhibitory protein, on myoblast proliferation and differentiation**  
Arthur Wong 1, Sang Beum Lee 2, Yong S. Kim 1  
1University of Hawaii, Manoa, 2Wide River Institute of Immunology

5:15 p.m. PSVII-1  **Estimation of GxE interactions between BCS and winter supplementation for a composite beef breed in Montana**  
Ashley Ling 1, ElHamidi Hay 1  
1USDA/ARS/LARRL

5:15 p.m. PSVII-19  **Evaluation of live and carcass performance of Holstein steers fed lubabegron during the finishing period**  
Reagan Wagner 1, Tayler Hays 1, Taylor Horton 1, William Kayser 2, Phillip Rincker 2, Dale R. Woerner 3  
1Texas Tech University Animal and Food Sciences, 2Elanco Animal Health, 3Texas Tech University

5:15 p.m. PSVII-7  **Genetic evaluation of feed and water intake behavior traits in feedlot cattle**  
Elizabeth Dressler 1, Will Shaffer 1, Cashley Ahlberg 1, Kristi Allwardt 2, Kelsey Bruno 2, Clint Krehbiel 3, Michelle S. Calvo-Lorenzo 4, Chris Richards 2, Sara E. Place 5, Udaya DeSilva 2, Larry A. Kuehn 6, Robert L. Weaber 1, Jennifer M. Bormann 1, Megan M. Rolf 1  
1Kansas State University, 2Department of Veterinary Medicine, University of São Paulo, 3Department of Veterinary Medicine, Federal University of Vicosa, 4University of Georgia, 5Texas Tech University, 6Purdue University

5:15 p.m. PSVII-4  **Genetic parameters for various semen quality and reproductive performance traits in Nellore cattle including X chromosome markers**  
Felipe E. de Carvalho 1, José Bento S. Ferraz 2, Victor B. Pedrosa 1, Joanir P. Eler 2, Elisangela C. de Mattos 2, Marcio R. Silva 2, José Domingos Guimaraes 3, Fernando Bussiman 4, Barbara da Conceição A. Silva 2, Andre C. Araujo 1, Hui Wen 1, Henrique A. Mulim 5, Artur Oliveira Rocha 1, Luiz F. Brito 5  
1Department of Animal Sciences, Purdue University, 2Department of Veterinary Medicine, University of São Paulo, 3Department of Veterinary Medicine, Federal University of Vicosa, 4University of Georgia, 5Purdue University

5:15 p.m. PSVII-8  **Genome-wide association studies for feed efficiency and growth traits in American mink**  
Pourya Davoudi 1, Duy Ngoc Do 1, Bruce Rathgeber 1, Stefanie Colombo 1, Mehdi Sargolzaei 2, Graham Plastow 3, Zhiquan Wang 3, Younes Miar 4  
1Department of Animal Science and Aquaculture, Dalhousie University, 2Department of Pathobiology, University of Guelph, 3Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, 41 Department of Animal Science and Aquaculture, Dalhousie University

5:15 p.m. PSVII-15  **Heart rate variability in post-race thoroughbred racehorses**  
Kathryn Wendorf 1, Clelie Olivier 2, Clarence Edward Ferguson 1  
1Saint Mary of the Woods College, 2McNeese State University
5:15 p.m. PSVII-9  Heterosis effects on reproductive traits in a multibreed beef cattle herd in Panama
Roderick Alexander Gonzalez Murray 1, Milton G. Thomas 2, R. Mark Enns 1, Scott E. Speidel 1
1Colorado State University, 2Texas A&M, AgriLife Research, Beeville, TX, USA

5:15 p.m. PSVII-21  Protective effect of peptide extract derived from beef protein by hydrolysis against oxidative damage
Seung Yun Lee 1, Jong Hyuk Kim 2, Sun Jin Hur 3
1Gyeongsang National University, 2Chungbuk National University, 3Chung-Ang University

5:15 p.m. PSVII-14  Reduction in heart rate variability parameters in horses treated with a mixture of lavender and eucalyptus essential oil
Maura Secrest 1, Kathryn Wendorf 1, Clarence Edward Ferguson 1
1Saint Mary of the Woods College

5:15 p.m. PSVII-29  Ruminant-relevant protein metabolic profiles of byproducts from coffee processing affected by microorganism fermentation duration in relation to its molecular structure spectral profiles
S. Samadi 1, Xin Feng 2, Luciana Prates 2, Peiqiang Yu 3
1Universitas Syiah Kuala, 2University of Saskatchewan, 3Department of Animal and Poultry Science, University of Saskatchewan

5:15 p.m. PSVII-24  Single-nuclei transcriptome of subcutaneous and intramuscular adipose tissues in beef cattle reveals depot-specific cellular heterogeneity
Oscar J. Benitez 1, Tainara C Michelotti 1, Alexandra P. Tegeler 1, Bradley J. Johnson 1, Clarissa Strieder-Barboza 1
1Texas Tech University

5:15 p.m. PSVII-12  The effect of two supplemental Vitamin E dosing strategies in Morgan Horses with marginal/deficient levels of serum alpha-tocopherol
Catherine Ballard 1, Emily Jensen-Vargas 2, Karen Lassell 1, Samantha Dobbins 1
1William H. Miner Agricultural Research Institute, 2University of Vermont

5:15 p.m. PSVII-13  The evaluation of natural vs synthetic vitamin E supplementation for the management of alpha-tocopherol serum levels in Morgan horses.
Catherine Ballard 1, Emily Jensen-Vargas 2, Karen Lassell 1, Samantha Dobbins 1
1William H. Miner Agricultural Research Institute, 2University of Vermont

5:15 p.m. PSVII-2  The impact of genomic information inclusion on breeding value prediction for a novel Parasite Resistance indicator trait in Brazilian Anglo-Nubian goats: a pilot study
Artur Oliveira Rocha 1, Geandro Carvalho Castro 2, Felipe Egute de Carvalho 3, José Elivalto Guimarães Campelo 2, Bruna Lima Barbosa 2, Natanael Pereira da Silva Santos 2, Fabio Barros Britto 4, José Lindenberg Rocha Sarmento 2
1Department of Animal Sciences, Purdue University, 2Department of Animal Sciences, Federal University of Piauí, Teresina, PI, Brazil, 3Purdue University, 4Department of Biology, Federal University of Piauí, Teresina, PI, Brazil
5:15 p.m. PSVII-3  The impact of genotyping strategies on accuracy of genomic prediction in sheep populations: preliminary results of a simulation study
Artur Oliveira Rocha 1, Leonardo Siqueira Gloria 2, Andre C. Araujo 1, Hui Wen 1, Bradley A. Freking 3, Tom W. Murphy 3, Joan M. Burke 4, Ronald M. Lewis 5, Luiz F. Brito 6
1Department of Animal Sciences, Purdue University, 2The Pig Improvement Company, Genus plc, Hendersonville, TN, USA, 3USDA ARS U.S. Meat Animal Research Center, 4USDA ARS Dale Bumpers Small Farms Research Center, 5Department of Animal Science, University of Nebraska–Lincoln, 6Purdue University

5:15 p.m. PSVII-25 Utilization of a small ruminant model for teaching/learning scientific approaches to nutritional and reproductive management
Maggie M. Ratliff 1, Raquel Q. Baptiste 1, John Hite 1, Quinn Baptiste 1, Marlon Knights 2
1Berea College, 2The University of Trinidad and Tobago

Wednesday, July 19, 2023

Poster Session VIII-A
7:00 AM - 8:15 AM
140 Aztec/110 Galisteo

7:00 a.m. PSVIII-A-3 Activity behavior and growth performance during summer of grazing beef heifers with divergent residual feed intake.
Sergio Lasso 1, Maria Camila Londono-Mendez 1, Carolyn J. Fitzsimmons 2, Edward Bork 1, Graham Plastow 3, John A. Basarab 1, Gleise da Silva 1
1Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 2Agriculture and Agri-Food Canada, Edmonton, AB Canada; Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 3Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta

7:00 a.m. PSVIII-A-5 Effect of dosage level of fibrolytic enzymes from trichoderma reesei on in vitro degradation kinetics of intercropped silage from whole plant faba bean and whole oat plant
Carlene Nagy 1, David Christensen 2, Herbert A. Lardner 2, Victor H. Guevara-Oquendo 1, Peiqiang Yu 2
1University of Saskatchewan, 2Department of Animal and Poultry Science, University of Saskatchewan

7:00 a.m. PSVIII-A-1 Effect of source of trace mineral and bismuth subsalicylate on growth, ruminal H2S, and trace mineral status of growing heifers
Mikaela G. Evans 1, John R. Campbell 2, Gabriel O. Ribeiro 3, Darren D. H. Henry 4, Cheryl Waldner 5, Greg B. Penner 3
1Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, 2Department of Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan, 3Department of Animal and Poultry Science, University of Saskatchewan, 4University of Georgia, 5Western College of Veterinary Medicine, University of Saskatchewan
Effect of feeding ground whole flaxseed, defatted flaxseed meal and organic flaxseed meal on production performance, rumen fermentation, and total-tract nutrient digestibility in dairy cows
Viraji B. Warnasooriya 1, Greg B. Penner 1, David Christensen 1, Peiqiang Yu 1, Timothy Mutsvangwa 1
1Department of Animal and Poultry Science, University of Saskatchewan

Effects of new forage barley and oat varieties on silage fermentation characteristics, and feed intake, milk production and composition, and N balance in dairy cows
Christine Leach 1, Aaron D. Beattie 2, David Christensen 1, Timothy Mutsvangwa 1
1Department of Animal and Poultry Science, University of Saskatchewan, 2Department of Plant Sciences, University of Saskatchewan

Evaluation of blood parameters associated to environmental stress in grazing beef heifers with divergent residual feed intake
Maria Camila Londono-Mendez 1, Sergio Lasso 1, Carolyn J. Fitzsimmons 2, Graham Plastow 3, Edward Bork 1, John A. Basarab 1, Gleise da Silva 1
1Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 2Agriculture and Agri-Food Canada, Edmonton, AB Canada; Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 3Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta

Growth and physiological responses to heat stress and zilpaterol hydrochloride in Angus and Brahman steers
Andrea P. Rios 1, Pablo Cesar C. Grijalva 2, Rachel R. Reith 2, Samuel R. Garcia 1, Chelsea Webster 1, Joselyn K. Beard 1, Jessica L. L. Peterson 2, Dustin T. Yates 2, Ty B. B. Schmidt 2, Duarte E. E. Diaz 1
1University of Arizona, 2University of Nebraska-Lincoln

How does the duration of low feed intake affect the ruminant gastrointestinal tract?
Koralie Lambert 1, Anne Clair Chagas 1, Katarzyna Burakowska 1, Koryn S. Hare 2, Daniel H. M. Watanabe 1, Greg B. Penner 3
1University of Saskatchewan, 2Department of Animal Bioscience, University of Guelph, 3Department of Animal and Poultry Science, University of Saskatchewan

Poster Session VIII
7:15 AM - 8:15 AM
140 Aztec/110 Galisteo

A premium dry cat food enhances digestibility and gut health in cats compared to a grocery dry cat food
Ching-Yen Lin 1, Leighann Daristotle 1, Nolan Franz 1
1Blue Buffalo

A premium dry dog food elicits gut health benefits compared to a grocery dry dog food
Ching-Yen Lin 1, Leighann Daristotle 1, Nolan Franz 1
1Blue Buffalo
A probiotic blend improves fecal quality and enhances gut immunity in dogs with chronic diarrhea
Ching-Yen Lin 1, Matt Panasevich 1, Leighann Daristotle 1, Nolan Franz 1
1Blue Buffalo

An experimental weight management food supports metabolism and allows for less calorie restriction for weight loss in both dogs and cats: A retrospective analysis
Laura A. Motsinger 1, Dennis E. Jewell 2, Leslie B. Hancock 1, Elizabeth M. Morris 1, Matthew I. Jackson 1
1Hill's Pet Nutrition, 2Kansas State University, Department of Grain Science and Industry

Antinutritional factors are largely mitigated by extrusion and did not negatively impact digestibility of canine grain-free and grain-inclusive foods
Elizabeth M. Morris 1, Luis J. Montelongo 1, Kathy L. Gross 2, Leslie B. Hancock 1
1Hill's Pet Nutrition, 2Department of Animal Science & Industry, Kansas State University

Baicalin alleviates lincomycin-induced intestinal injury by regulating gut microbiota in weaned pigs
Shunfen Zhang 1, Shanlong Tang 2, Ruqing Zhong 3, Liang Chen 3, Hongfu Zhang 3
1State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, 2Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences

Beef cattle live weight forecast monitored on pasture through artificial intelligence
Marcos Antônio Isaac Júnior 1, Murilo Garrett Moura Ferreira dos Santos 1, Vinícius Yuji Mendes Da Silva 1, Thiago Zanetti Albertini 1, Adriele Giaretta Biase 2
1@Tech, 2Universidade Federal do Acre (UFAC)/Centro de Ciências Exatas e Tecnológicas (CCET)

Consumer acceptance of corn fermented protein compared to traditional yeast and dried distillers’ grain in extruded dog food
Hee Seong S. Kim 1, Logan Kilburn-Kappeler 1, Gongshun Yang 2, Kadri Koppel 1, Charles G. G. Aldrich 1
1Kansas State University, 2Kansas state university

Dietary vitamin D was associated with increased circulating vitamin D in dogs with no observable adverse effect up to 9,992 IU/kg dry matter.
Dennis E. Jewell 1, Kiran S. Panickar 2
1Kansas State University, Department of Grain Science and Industry, 2Science & Technology Ctr, Hills PNC

Effect of replacement dietary of animal protein with insect meal (Hermetia illucens) on growth performance, nutrient digestibility, blood profile, gas emission, and fecal microbial in weaned pigs
Jaewoo An 1, Seyeon Chang 1, Dongcheol Song 1, Hyunah Cho 1, Sehyun Park 1, Kyeongho Jeon 1, Jinho Cho 1
1Department of Animal Science, Chungbuk National University
Evaluating the effects of a dried brewer’s yeast product on the fecal characteristics, metabolites, and microbiota populations of adult dogs
Vanessa M. De La Guardia-Hidrogo 1, Lindsey M. Rummell 2, Thomas N. Asquith 2, Kelly S. Swanson 1
1University of Illinois at Urbana-Champaign, 2Wilbur-Ellis Nutrition

Hexanal, as Identified through Flash Gas Chromatography Electronic Nose Strongly Correlates with PV in Rendered Chicken Meal Samples, Although Additional Compounds Influence Aromatic Palatability
Fiona Mccracken 1, Jason Fowler 1, Claire Timlin 1, Lili Towa 2, Sarah M. Dickerson 1, Craig N. Coon 1
1Four Rivers Kennel, LLC, 2Alph-MOS

Impaired glucose-stimulated insulin secretion in intrauterine growth-restricted neonatal lambs is improved by daily supplementation of ω-3 polyunsaturated fatty acid Ca2+ salts
Melanie R. White 1, Rachel L. Gibbs 1, Pablo Cesar C. Grijalva 1, Zena M. Hicks 1, Haley N. Beer 1, Micah S. Most 1, Ty B. B. Schmidt 1, Jessica L. L. Peterson 1, Dustin T. Yates 1
1University of Nebraska-Lincoln

Improved palatability and digestibility in dry dog food using a porcine intestinal mucosa hydrolysate
Sergi Segarra 1, Boguslawa Dziedzic 2, Mariusz Dziedzic 2
1Bioiberica SAU, 2Petfood Specialities d.o.o.

In-home validation of a canine supplement containing a saccharomyces cerevisiae fermentation product
Julie Gasper 1, Sharon A. Norton 2, S. Ali Naqvi 3, Maria I. Sardi 4
1Cargill, Incorporated, 2Cargill Biotechnology Research and Development Center, 3Cargill Engineering & Data Sciences, 4Cargill Biotechnology Research and Development Center-Biology

Investigating the effects of poor maternal nutrition on F2 offspring growth, residual feed intake, and glucose tolerance
Nicole M. Tillquist 1, Mia Y. Kawaida 1, Amanda S. Reiter 1, Sarah A. Reed 2, Steven A. Zinn 2, Kristen E. Govoni 2
1University of Connecticut, 2Dept. of Animal Science, University of Connecticut

Nutritional epigenetic modifications in beef cattle
Mumuni Gibril 1, Amir Behrouzi 2, Carolyn J. Fitzsimmons 3
1Agriculture and Agri-Food Canada/University of Alberta, 2Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, 3Agriculture and Agri-Food Canada, Edmonton, AB Canada; Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada
7:15 a.m. PSVIII-15  **Saccharomyces cerevisiae fermentation product influences indicators of gut health and function in healthy adult cats**  
Sharon A. Norton 1, Ching-Yen Lin 2, S. Ali Naqvi 3, Anirikh Chakrabarti 4, Maria I. Sardi 5, Nolan Franz 2  
1Cargill Biotechnology Research and Development Center, 2Blue Buffalo, 3Cargill Engineering & Data Sciences, 4Cargill, Inc., 5Cargill Biotechnology Research and Development Center-Biology

7:15 a.m. PSVIII-19  **Saccharomyces cerevisiae fermentation product modulates blood cell counts and gut immunity in healthy adult cats**  
Ching-Yen Lin 1, Sharon A. Norton 2, Nolan Franz 1  
1Blue Buffalo, 2Cargill Biotechnology Research and Development Center

7:15 a.m. PSVIII-16  **Saccharomyces cerevisiae fermentation product promotes improved preference and consumption in adult cats fed an extruded diet**  
Sharon A. Norton 1, Ching-Yen Lin 2, Nolan Franz 2  
1Cargill Biotechnology Research and Development Center, 2Blue Buffalo

7:15 a.m. PSVIII-18  **Standardized amino acid digestibility and nitrogen-corrected true metabolizable energy of frozen raw, freeze-dried raw, fresh, and extruded dog foods using cecectomized and conventional rooster assays**  
Elizabeth L. Geary 1, Carl M. Parsons 2, Pamela L. Utterback 2, James Templeman 3, Kelly S. Swanson 2  
1University of Illinois Urbana-Champaign, 2University of Illinois at Urbana-Champaign, 3Primal Pet Group

7:15 a.m. PSVIII-23  **Volatile flavor profile of wet pet food influences canine and feline palatability performance**  
Lesleigh Beer 1, Sebastian Hernandez 2, Jerrad F. Legako 2, Brittany L. White 1  
1Simmons Pet Food, 2Texas Tech University, Department of Animal and Food Sciences

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**Poster Session IX**
8:30 AM - 9:30 AM  
140 Aztec/110 Galisteo

8:30 a.m. PSIX-18  **A meta-analysis on undigestible neutral detergent fibre as a predictor for feedlot cattle performance and carcass characteristics**  
Melissa S. Williams 1, Jen L. Ellis 1, Greg B. Penner 2, Katharine M. Wood 1  
1University of Guelph, 2Department of Animal and Poultry Science, University of Saskatchewan

8:30 a.m. PSIX-4  **A veterinary gastrointestinal diet affects fecal characteristics, metabolites, bile acids, and microbiota concentrations of antibiotic-treated cats**  
Sara E. Belchik 1, Patricia Massae Oba 2, Ching-Yen Lin 3, Jan S. Suchodolski 4, Kelly S. Swanson 5  
1Uni. of Illinois at Urbana Champaign, 2University of Illinois Urbana-Champaign, 3Blue Buffalo, 4Gastrointestinal Laboratory, Texas A&M University, 5University of Illinois at Urbana-Champaign
8:30 a.m.  PSIX-3  A veterinary gastrointestinal low-fat diet affects fecal characteristics, metabolites, bile acids, and microbiota concentrations of antibiotic-treated dogs
Sara E. Belchik 1, Patricia Massae Oba 2, Ching-Yen Lin 3, Jan S. Suchodolski 4, Kelly S. Swanson 5
1Uni. of Illinois at Urbana Champaign, 2University of Illinois Urbana-Champaign, 3Blue Buffalo, 4Gastrointestinal Laboratory, Texas A&M University, 5University of Illinois at Urbana-Champaign

8:30 a.m.  PSIX-9  Activation of multiple inflammatory signaling pathways may contribute to the pathogenesis of idiopathic cystitis in felines
Selena K. Tavener 1, Rachel A. Eichman 1, Kiran S. Panickar 1
1Science & Technology Ctr, Hills PNC

8:30 a.m.  PSIX-19  Association of the rumen microbiota with carcass merit and beef quality
Devin B. Holman 1, Katherine E. Gzyl 1, Haley Scott 2, Nuria Prieto 2, Oscar Lopez-Campos 3
1Agriculture and Agri-food Canada, 2Agriculture and Agri-Food Canada, 3Agriculture and Agri Food Canada, Science and Technology Branch

8:30 a.m.  PSIX-7  Attenuation of immune allergic response pathways in canines with dermatological problems fed a polyphenol-rich food
Selena K. Tavener 1, Dayakar V. Badri 1, Kiran S. Panickar 1
1Science & Technology Ctr, Hills PNC

8:30 a.m.  PSIX-12  Development of a feed supplement for cats
Hyun-Jun Jang 1, Jung-Ae Kim 1, Dae-Hyuk Kim 1, Yangseon Kim 1
1Center for Industrialization of Agricultural and Livestock Microorganisms

8:30 a.m.  PSIX-20  Differential gene expression in peripheral white blood cells of fertile and sub-fertile beef heifers
Priyanka Banerjee 1, Wellison Jarles j. Da Silva Diniz 1, Paul W W. Dyce 1
1Auburn University

8:30 a.m.  PSIX-2  Effects of diets supplemented with bioactive peptides on nutrient digestibility, immune cell responsiveness, and fecal characteristics, microbiota, and metabolites of adult cats
Patricia Massae Oba 1, Vanessa M. De La Guardia-Hidrogo 2, Janelle Kelly 3, Jennifer L. Saunders-Blades 3, Kelly S. Swanson 2
1University of Illinois Urbana-Champaign, 2University of Illinois at Urbana-Champaign, 3Champion Petfoods

8:30 a.m.  PSIX-14  Evaluation of dried bakery product composition impact on extruded pet food
Larissa A. Koulicoff 1, Yunyi Zhang 1, Sajid Alavi 1, Yong-Cheng Shi 1, Hee Seong S. Kim 1, Charles G. G. Aldrich 1
1Kansas State University

8:30 a.m.  PSIX-21  Evaluation of methane emissions predictions from observed methane emissions data in beef steers, heifers and bulls
Sara E. Place 1, Maya Swenson 1, Edward J. Raynor 2, Kim R. Stackhouse-Lawson 1, Scott E. Speidel 3, R. Mark Enns 3, Pedro H. V. Carvalho 3
1AgNext, Colorado State University, 2AgNext, 3Colorado State University
8:30 a.m. PSIX-23  Fecal starch in feedlot cattle as affected by sampling time and storage method
Jonathan Gonçalves ¹, Mauricio Igarasi ¹, Thiago Da Silva ², Milton Cardoso ³, Thiago Bernardes ⁴
¹University of Uberaba, Brazil, ²USP, ³Consulting nutritionist, ⁴University of Lavras, Brazil

8:30 a.m. PSIX-1  Impact of a botanical blend on training kennel induced stress in dogs
Ashley L. Wagner ¹, Jessica Suagee-Bedore ², Haz Othman ³, Stephanie Cottee ¹
¹Probiotech International Inc., ²Virginia Tech, ³Shield K9

8:30 a.m. PSIX-28  Impact of educational workshops on the adoption of genomic selection tools within the dairy industry
Allison L. Herrick ¹, J. Shannon Neibergs ¹, Joseph Dalton ², Amber Adams Progar ¹, Holly L. Neibergs ¹
¹Washington State University, ²University of Idaho

8:30 a.m. PSIX-25  Impact of performance parameters on sale price of bulls at the Southwest Virginia bull test sale
Hannah Craun ¹, Scott P. Greiner ¹, Vitor R.G R. G. Mercadante ¹, Trinity Vidlund ¹
¹Virginia Tech

8:30 a.m. PSIX-8  Increased expression of ST6GAL1 and VEGFA mediate the inflammatory signaling pathway in feline hyperthyroidism
Selena K. Tavener ¹, Regina L. Hollar ¹, Kiran S. Panickar ¹
¹Science & Technology Ctr, Hills PNC

8:30 a.m. PSIX-10  Influence of graded levels of microbially enhanced protein on nutrient digestibility of extruded cat foods
Youhan Chen ¹, Charles G. G. Aldrich ¹
¹Kansas State University

8:30 a.m. PSIX-27  Innovation in engaged education: working with industry to bridge the gap between degrees, experience, and today’s workforce
Jennifer Martin ¹
¹Colorado State University

8:30 a.m. PSIX-13  Intake differences in small dogs suggest a need for size-specific energy considerations
Allison P. McGrath ¹, Leslie B. Hancock ¹, Elizabeth M. Morris ¹
¹Hill's Pet Nutrition

8:30 a.m. PSIX-29  Needs assessment for the use of genomic selection within the commercial beef sector
Allison L. Herrick ¹, Holly L. Neibergs ¹
¹Washington State University

8:30 a.m. PSIX-16  Observational Canine Aging Study: a diet enriched in antioxidants reduces cognitive and physical decline.
Morgan Key ¹, Jodi Vondran ¹, Leslie B. Hancock ¹, John Brejda ²
¹Hill's Pet Nutrition, ²Alpha Statistics
8:30 a.m.  PSIX-22  Performance, digestibility, and blood parameters in pregnant beef cows fed total mixed ration silages
Robson Ferreira 1, Vinicius Vaz 1, Edmilson Domingues 1, Mateus P. Gionbelli 2, Daniel R. Casagrande 1, Thiago Bernardes 1
1University of Lavras, Brazil, 2Universidade Federal de Lavras, Brazil

8:30 a.m.  PSIX-17  Preliminary assessment of preweaning growth performance of Dexter and Mashona x Dexter calves
Richard Browning 1, Emily G. Hayes 1, Christian Landskroener 1, Heather Meador 1
1Tennessee State University

8:30 a.m.  PSIX-26  Reproductive management practices for beef cow-calf producers in Virginia – a survey
Trinity Vidlund 1, Hannah Craun 1, Vitor R.G R. G. Mercadante 1
1Virginia Tech

8:30 a.m.  PSIX-30  Results from a statewide needs assessment of Iowa beef producers
Miranda M. Culbertson 1, Mary E. Reynolds 1, Denise L. Schwab 1, Patrick B. Wall 1, Christopher A. Clark 1, Beth E. Doran 1, Erika L. Lundy-Woolfolk 1, Russell M. Euken 1, Daniel D. Loy 1
1Iowa State University

8:30 a.m.  PSIX-24  Social trust in a small dairy farmer organization in Southeast Brazil
Beatriz Q. Queiroz dos Reis 1, Elaine Benardes 2, Jhones O. Sarturi 1, Barbara Rodrigues 1, DeAnja Mclain 3, Marie Goulais 3, Juliana Pessoni 1
1Texas Tech University, 2UNESP, 3TEXAS TECH UNIVERSITY

8:30 a.m.  PSIX-5  Spray dried plasma increases protein and meat inclusion in extruded dog kibbles
Joy Campbell 1, Javier Polo 1
1APC

8:30 a.m.  PSIX-11  Testing the anti-inflammatory effects of brewer’s yeast extract on macrophage cell lines in vitro
Vanessa M. De La Guardia-Hidrogo 1, Lindsey M. Rummell 2, Thomas N. Asquith 2, Erick R. Nelson 1, Kelly S. Swanson 1
1University of Illinois at Urbana-Champaign, 2Wilbur-Ellis Nutrition

8:30 a.m.  PSIX-6  The effects of hydrolyzed protein on macronutrient digestibility, fecal metabolites, oxidative stress and inflammatory biomarkers, and skin and coat quality in adult dogs
Clare Hsu 1, Fabio Marx 2, Ryan Guldenpfennig 2, Maria R C de Godoy 1
1University of Illinois at Urbana-Champaign, 2Kemin Industries, Inc.

8:30 a.m.  PSIX-15  The effects of torula yeast as a protein source on digestibility, inflammation, and gut microbiome in Labrador Retrievers with chronically poor stool quality.
Claire Timlin 1, Jason Fowler 1, Sarah M. Dickerson 1, Fiona Mccracken 1, Patrick Skaggs 1, Ricardo Ekmay 2, Craig N. Coon 1
1Four Rivers Kennel, LLC, 2Arbiom
Companion Animal II
Chair: Amanda Dainton, Freshpet
9:30 AM - 12:30 PM
EAST UPPER: 215 San Miguel

9:30 a.m. 441 Awardee Talk: Canine dermal health & hygiene: One Health implications
Erin B. Perry ¹
¹School of Agricultural Sciences, Southern Illinois University, Carbondale, IL

10:00 a.m. 195 Restricted feeding and weight loss change fecal metabolite concentrations and microbiota populations of overweight cats
Danielle Opetz ¹, Patricia Massae Oba ¹, Darcia Kostiuk ², Janelle Kelly ³, Kelly S. Swanson ⁴
¹University of Illinois Urbana-Champaign, ²Champion Pet Foods, ³Champion Petfoods, ⁴University of Illinois at Urbana-Champaign

10:15 a.m. 196 The effect of hydrolyzed protein on fecal microbiota in adult dogs
Clare Hsu ¹, Fabio Marx ², Ryan Guldenpfennig ³, Negin Valizadegan ³, Maria R C de Godoy ¹
¹University of Illinois at Urbana-Champaign, ²Kemin Industries, Inc., ³University of Illinois at Urbana-Champaign

10:30 a.m. 197 Trace mineral source affects haircoat characteristics and shedding in cats
Laura Amundson ¹, Brent Kirn ¹, Allison Millican ¹, Taryn Matti ²
¹Zinpro Corporation, ²Summit Ridge Farms

10:45 a.m. 198 Evaluation of textural characteristics of commercially available sweet potato jerky-style pet treats
Randy N. Domer ¹, Jorge Romero ¹, Ileana Berganza ¹, Hilary Carrera ¹, Justin Dunavant ¹, Sungeun Cho ¹, Jessica D. Starkey ¹, Charles Starkey ²
¹Department of Poultry Science, Auburn University, ²North American Renderers Association

11:00 a.m. Companion Animal II Break

11:15 a.m. 199 Effects of dietary fiber and biotic supplementation on apparent total tract macronutrient digestibility, fecal characteristics, and fecal metabolites of healthy adult dogs
Sofia M. Wilson ¹, Kelly S. Swanson ¹
¹University of Illinois at Urbana-Champaign

11:30 a.m. 200 The effects of whole hemp seed supplementation on health status, voluntary physical activity, fecal quality, and fermentative end-products in healthy adult dogs
Shannon E. Finet ¹, Krystal A. Vargas ¹, Chance Riggins ¹, Maria R C de Godoy ¹
¹University of Illinois at Urbana-Champaign

11:45 a.m. 201 Effect of spray dried plasma compared to egg white or whole egg as functional binders in canned pet food.
Joy Campbell ¹, Carmen Rodriguez ¹, Javier Polo ¹
¹APC
12:00 p.m.  202  Functional properties of Ganoderma lucidum (GL) supplementation in canine nutrition
Emanuela Kayser 1, Luis M.G. M. Osorio 2, Maria R C de Godoy 3
1University of Illinois at Urbana Champaign, 2Illuma Alliance, 3University of Illinois at Urbana-Champaign

12:15 p.m.  203  The effects of daily supplementation of selected probiotic and postbiotic on the microbiome of adult cats
Sergio Miranda de Souza Junior 1, Maria R C de Godoy 2
1University of Illinois at Urbana Champaign, 2University of Illinois at Urbana-Champaign

Poster Session X
9:45 AM - 10:45 AM
140 Aztec/110 Galisteo

9:45 a.m.  PSX-26  A comparison of buffer type and methodology in determination of in vitro digestibility of four bermudagrass cultivars
Abigail E. Boggier 1, Abbigail R. Hines 1, Aghata Elins Moreira da Silva 1, Brandon B. Smith 1
1Auburn University

9:45 a.m.  PSX-3  Animal science for non-majors: Insights on the relationship between student background and identity with overall course experience
Alice P. Brandão 1, Kathrin Dunlap 1, Sushil Paudyal 2, Shawn Ramsey 1
1Texas A&M University, 2Texas A&M

9:45 a.m.  PSX-28  Assessment of a neonatal supplement to improve health in cattle
Brenda Ralston 1, Cassie Doolaege 1, Andrea Hanson 1, Carien Vandenberg 1, Janet Nowosad 1, Merle Olson 2, Nick Allan 3, Kendall Beaugrand 3, John S. Church 4
1Lakeland College, 2Alberta Veterinary Laboratories, 3Chinook Contract Research Inc., 4Thompson Rivers University

9:45 a.m.  PSX-17  Can associations between qualitative descriptors and quantitative behavioral measures in nursery age pigs improve interpretation of behavioral studies?
Andrea M. Luttman 1, Janice M. Siegfurd 1, Catherine W. Ernst 1
1Michigan State University

9:45 a.m.  PSX-1  Data analytics of a global NIRS database of corn nutrient content
Edgar O. Oviedo-Rondón 1, Adriana Toscan 2, Naiara S. Fagundes 2, Juliano K. Vidal 2, Jose Barbi 2, Pascal Thiery 3
1North Carolina State University, 2Adisseo Latin America, 3Adisseo France

9:45 a.m.  PSX-2  Data analytics of a global NIRS database of soybean meal nutrient content
Edgar O. Oviedo-Rondón 1, Adriana Toscan 2, Naiara S. Fagundes 2, Juliano K. Vidal 2, Jose Barbi 2, Pascal Thiery 3
1North Carolina State University, 2Adisseo Latin America, 3Adisseo France
9:45 a.m. PSX-7  Determination of tryptophan requirements of adult and senior Labrador retrievers using the indicator amino acid oxidation technique
Sarah M. Dickerson 1, Claire Timlin 1, Jason Fowler 1, April Graham 1, Danielle Fischer 1, Craig N. Coon 1
1Four Rivers Kennel, LLC

9:45 a.m. PSX-18  Determining the optimal macroenvironment temperature to improve lactating sow and piglet productivity
Mekenzie Cecil 1, Samantha Neeno 1, MaryKate Byrd 1, Tyler C. Field 1, Jeremy Marchant 2, Ji-Qin Ni 1, Brian T. Richert 1, Allan P. Schinckel 1, Robert M. Stwalley 1, Jay S. Johnson 2
1Purdue University, 2USDA-ARS Livestock Behavior Research Unit

9:45 a.m. PSX-19  Does housing pigs with access to a ramp alter pig behavior during the nursery period?
Mary L. Kasakamu 1, Jennifer M. Young 1, Ryan S. Samuel 2, Sarah A. Wagner 3, Christopher J. Byrd 1
1Department of Animal Sciences, North Dakota State University, 2Department of Animal Science, South Dakota State University, 3Texas Tech University School of Veterinary Medicine

9:45 a.m. PSX-4  Effect of course modality and major in an animal science course without a laboratory on course content mastery
Whitney L. Crossland 1, Sam Jackson 1
1Texas Tech University

9:45 a.m. PSX-8  Effect of feeding additional whey protein to senior Labrador retrievers for maintaining lean mass and minimizing inflammation
Craig N. Coon 1, Claire Timlin 1, Jason Fowler 1, Fiona Mccracken 1
1Four Rivers Kennel, LLC

9:45 a.m. PSX-11  Effect of preservation method on nutritive value of kudzu forage
Diva N. Rigney 1, Abbigail R. Hines 1, Courtney Heaton 1, Brandon B. Smith 1
1Auburn University

9:45 a.m. PSX-20  Effects of a phytogenic supplement pre- and post-calving on colostrum yield and composition, and cow-calf performance
Grace H. Jardon 1, Madison Kovarna 1, Katherine Moening 1, Andrea Brandner 1, Hannah Werner 1, Jeff S. Heldt 2, Ana Clara Baião Menezes 1
1South Dakota State University, 2Micronutrients USA LLC

9:45 a.m. PSX-12  Effects of Cottonseed meal supplementation on calf performance and forage utilization grazing late season summer forage
Connor R. Kern 1, Ryan R. Rathmann 1, Jhones O. Sarturi 1, Aaron B. Norris 1, Whitney L. Crossland 1
1Texas Tech University

9:45 a.m. PSX-13  Effects of different supplementations during the rainy season on nitrogen metabolism of beef cattle steers on tropical pasture
Dêbora Siniscalchi 1, Karine Dalla Vecchia Camargo 1, Natalia Villas Boas Fonseca 1, Marcelo Augusto Oliveira Castro 1, Isadora Alves Donnella 1, Willian Aparecido de Souza 1, Lucas Dos Santos Del Vecchio 1, Carlos Eduardo Vicente Junior 1, Laura Franco Prados 2, Pedro Veiga Rodrigues Paulino 2, Yury Tatiana Granja-Salcedo 3, Ricardo Reis 4
9:45 a.m. PSX-14  **Effects of forage and grain-based finishing diets on fatty acid profile of Angus steers backgrounded either in a moderate or in a high plane of nutrition**
Nadini Haththotuwe Gamage 1, Francine Giotto 2, Mozart A. Fonseca 1, Amilton de Mello 2
1University of Nevada, Reno, 2University of Nevada

9:45 a.m. PSX-23  **Effects of partial or total nitrogen replacement of soybean meal with urea on intake, digestibility and nitrogen balance in growing Nellore × Red Angus bulls**
Julia Travassos da Silva 1, Sebastião de Campos Valadares Filho 2, Pauliane Pucetti 3, Fernando Alerandralo Alerandralo Andrade Cidrini 4, Gilyard Angelo Angelo Pinheiro de Souza 4, Lucas G. Hollerbach 5, Livia Moreira Gandra 4, Kendall C. Swanson 6
1Universidade Federal de Viçosa / NDSU, 2Universidade Federal de Viçosa, 3Universidade Federal de Viçosa / North Dakota State University, 4Universidade Federal de Viçosa, 5University of California - Davis, 6North Dakota State University

9:45 a.m. PSX-22  **Effects of milk replacer supplementation with beta-glucans on male dairy calf performance**
Jessica M V Pereira 1, Gustavo Mazon 2, Megan M. Woodrum Setser 2, Joao H C Costa 1
1University of Vermont, 2University of Kentucky

9:45 a.m. PSX-5  **Evaluating the impact of an online newsletter on virtual stakeholder engagement with extension educational materials**
Samir Burato 1, Jennifer J. J. Tucker 1, Lisa T. L. Baxter 1, Arthur Lee Jones 1, Brent C. Credille 1, Dylan Blake B. Davis 1, Robert Lawton Stewart 1, Francis L. R. Fluharty 1, Francine M. Messias Ciriaco 1, Jason D. Duggin 1, Darren D. H. Henry 1, Pedro L.P Fontes 1
1University of Georgia

9:45 a.m. PSX-21  **Evaluation of the effect of extended-term delivery of local anesthetic on mitigating the pain caused by castration**
Natalia Dee 1, Nick Allan 2, Merle Olson 3, Brenda Ralston 4, Joe Ross 2, Crystal Schatz 2, Kendall Beaugrand 2, Karen S. Schwartzkopf-Genswein 5, John R. Campbell 6, Nathan Erickson 7, Diego Moya 6
1University of Saskatchewan, 2Chinook Contract Research Inc., 3Alberta Veterinary Laboratories, 4Lakeland College, 5Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, 6Department of Large Animal Clinical Sciences, Western College of Veterinary Medicine, University of Saskatchewan, 7Western College of Veterinary Medicine, University of Saskatchewan

9:45 a.m. PSX-6  **From bright leaf to Berkshires: An alternative swine production course and outreach program**
Derrick J. Coble 1
1North Carolina A&T State University

9:45 a.m. PSX-9  **Gonadectomy is not correlated with altered T-lymphocyte populations in senior Labrador Retrievers**
Fiona Mccracken 1, Jason Fowler 1, Sarah M. Dickerson 1, Claire Timlin 1, Patrick Skaggs 1, Craig N. Coon 1
1Four Rivers Kennel, LLC
9:45 a.m. PSX-29 LidoBandsTM for use in lambs
Brenda Ralston 1, Merle Olson 2, Nick Allan 3, Andrea Hanson 1, Joe Ross 3, Kendall Beaugrand 3, Crystal Schatz 3, Denis Nagel 4, Ann Hammad 5
1Lakeland College, 2Alberta Veterinary Laboratories, 3Chinook Contract Research Inc., 4Solvet, 5Chinook Contract Research

9:45 a.m. PSX-10 Pilot study estimating energy expenditure in dogs using a quantified health approach indicates potential to improve estimation of energy requirements
K. M. Carnagey 1, R. J. Thompson 1, S. M. Wernimont 1
1Hill's Pet Nutrition

9:45 a.m. PSX-15 Precision beef dry matter intake estimation on extensive rangelands
Ira L. Parsons 1, Hector M. Menendez 2, Jameson R. Brennan 3, Krista Ehler 2
1South Dakota State University West River Research and Extension, Department of Animal Science, 2South Dakota State University, 3South Dakota State University, West River Research and Extension, Department of Animal Science

9:45 a.m. PSX-24 Pre-slaughter factors affecting mobility, blood parameters, bruising, and muscle pH of finished beef cattle in the United States
Paxton A. Sullivan 1, Melissa Davis 1, Mahesh Nair 1, Ann Hess 2, Daniel Mooney 3, Lily N. Edwards-Callaway 1
1Department of Animal Sciences, Colorado State University, 2Department of Statistics, Colorado State University, 3Department of Agricultural and Resource Economics, Colorado State University

9:45 a.m. PSX-30 Scratching the surface: Investigating the nature and potential causes of pruritic cattle
Merle Olson 1, Nick Allan 2, Kendall Beaugrand 2, Crystal Schatz 2, Denis Nagel 3, Ann Hammad 4, Larry Frichske 3, Joe Ross 2, Frederic Sauve 5, Dan April 6, Brenda Ralston 6, Andrea Hanson 6
1Alberta Veterinary Laboratories, 2Chinook Contract Research Inc., 3Solvet, 4Chinook Contract Research, 5University of Montreal, 6Lakeland College

9:45 a.m. PSX-16 The effects of vaccination program and grazing season on beef cattle milk fatty acid composition when grazing native rangeland in New Mexico
Kate Ropp 1, Emily A. Melchior-Tiffany 1, Eric J. Scholljegerdes 1
1New Mexico State University

9:45 a.m. PSX-25 The fecal metabolome differs between Nelore bulls fed pre and post feedlot diets: Initial results
Jessica M. Malheiros 1, Matheus Henrique Vargas de Oliveira 2, Pollyana Ferreira da Silva 3, Luiz Alberto Colnago 4, Josineudson Augusto II Vasconcelos Silva 5
1Beef Cattle Research Center, Animal Science Institute (IZ), Sertãozinho, São Paulo, Brazil., 2São Paulo State University, Jaboticabal, SP, Brazil, 3University of São Paulo, São Carlos, SP, Brazil, 4Embrapa Instrumentation, São Carlos, SP, Brazil, 5São Paulo State University, Botucatu, SP, Brazil
The impact of feeding young Nellore bulls with a low concentrate diet for different periods followed by a high concentrate diet on dry matter intake and performance
Pauliane Pucetti ¹, Sebastião de Campos Valadares Filho ², Julia Travassos da Silva ³, kellen Ribeiro de Oliveira ², Julia Gabriela Baroni Alves ², Yuri Cesconetto Ebani ², Kendall C. Swanson ⁴
¹Universidade Federal de Viçosa / North Dakota State University, ²Universidade Federal de Viçosa, ³Universidade Federal de Vícosa / NDSU, ⁴North Dakota State University

Poster Session XI
11:00 AM - 12:00 PM
140 Aztec/110 Galisteo

A case study of the environmental footprint of dairy-beef production in Catalonia: A tool to improve sustainability
Maria Devant ¹, marita Ruiz-Colmenero ², Marta Terre ¹, Guillem De Planell ³, Adriadna Ballega ², Miquel Andón ², Assumpció Anton ², Ralph Rosenbaum ², Montserrat Núñez ²
¹IRTA, Ruminant Production, ²IRTA; Sustainability in Biosystems, ³Grup Viñas

A novel calculation method in the difference procedure for determining energy digestibility of ingredients for pigs
Hansol Kim ¹, Beob G. Kim ¹
¹Konkuk University

Chronic exposure of Fusarium mycotoxins can impair reproductive performance of sows and growth of their progeny
Darlene J. Bloxham ¹, Luna Nereida ², Clemence Selosse ³, Patrick Garres ³, Jaume Castellví ⁴, Damien P. Preveraud ⁵
¹Adisseo USA Inc, ²RDNutrition, ³CODRAH, ⁴ADISSEO, ⁵Adisseo

Comparison of spectral and motion sensing for grazing behavior determination in extensive systems
Ryan Wright ¹, Charleez Simcik ¹, Robin R. White ¹
¹Virginia Tech School of Animal Sciences

Different initial body weight and dietary supplementation of tryptophan, threonine, and methionine on feeding behavior index of growing pigs under a sanitary challenge
Graziela Alves da cunha valini ¹, Steve Méthot ¹, Aline Remus ², Luciano Hauschild ³
¹Agriculture and Agri-Food Canada, ²AAFC, ³Faculdade de Ciências Agrárias e Veterinárias - Câmpus de Jaboticabal - Unesp

Effect of a sensory additive to maximize Sow feed intake and piglets’ performance during lactation under heat stress conditions
Sergi López-Vergé ¹, Maolong He ², Jiaqi Lv ², Haifeng Wang ³, Gemma Tedó ², Emily Otto-Tice ²
¹Innovation Division, Lucta S.A., UAB Research Park, Campus UAB, Cerdanyola del Vallès, Spain, ²Lucta, S.A., ³Zhejiang University
11:00 a.m.  PSXI-23  Effects of dietary threonine, tryptophan, and glycine supplementation on growth performance and intestinal barrier function in broiler chickens raised under multiple stress
Hyun Woo Kim ¹, Seung Yun Lee ², Jong Hyuk Kim ³
¹Chung-Ang University, ²Gyeongsang National University, ³Chungbuk National University

11:00 a.m.  PSXI-3  Effects of limit feeding complete diets to high risk receiving calves
Michelle Johnson ¹, Cody Shelton ², Cyle C. Jones ², Daniel Rivera ³
¹University of Arkansas, ²University of Arkansas Division of Agriculture, ³University of Arkansas Southwest Research and Extension Center

11:00 a.m.  PSXI-20  Effects of termite meal supplementation on egg-laying hens and their egg quality
Yoko Tsukahara ¹, Hajime Kumagai ¹, Keisuke Nishida ², Shozo Tomonaga ¹, Hiroyuki Hirooka ¹, Kenji Matsuura ¹
¹Graduate School of Agriculture, Kyoto University, ²Nishida Poultry Farm

11:00 a.m.  PSXI-15  Estimating vegetation index for outdoor free-range pig production using YOLO
Sang-Hyon OH ¹, Yu-Jeong Jung ¹, Mun Hye Kang ¹, Jae-Cheol Jang ¹, Jin-Hyun Park ¹
¹Gyeongsang National University

11:00 a.m.  PSXI-13  Growth and onset of puberty in replacement gilts fed on ad libitum or restricted bases using an electronic sow feeder.
Richard T. Niblett ¹, Kimberly A. Williams ¹, Marguerite B. Cross ¹, Alexis L. Clapp ¹, Mark J. Estienne ¹
¹Virginia Tech

11:00 a.m.  PSXI-5  Impact of different vaccine formulations in reducing methane production in beef cattle
Musah Muntari ¹, Brette Poliakiwski ¹, Mario Vilches ¹, Odile Polanco ¹, Damon Smith ¹, Ryon Walker ¹, Ky G. Pohler ¹, Cliff C. Lamb ¹
¹Texas A&M University

11:00 a.m.  PSXI-12  In vitro assessment of binding agents as an alternative to activated charcoal for the prevention of boar taint
Melissa Parent ¹, Christine Bone ¹, E. James Squires ¹
¹University of Guelph

11:00 a.m.  PSXI-21  Inclusion of former food products in post-weaning piglets’ diet: impact on the fatty acid profile of subcutaneous adipose tissue and on serum metabolites
Luciano Pinotti ¹, Michele Manoni ¹, Alice Luciano ¹, Sharon Mazzoleni ¹, Matteo Ottoboni ¹, Marco Tretola ¹
¹University of Milan
11:00 a.m.  PSXI-29  **Influence of a direct fed microbial on growth performance, carcass data, and immune function in feedlot finishing steers.**
Alexandra C. Miller 1, Rafael Mezzomo 2, Briana V. Tangredi 1, Huey Yi Loh 1, Jonah R. Levenson 1, Octavio Guimaraes 1, Sophie M. Zuchegno 1, Erlene Chek 1, Daiany I. Gomes 2, Jennifer S. Schutz 3, Terry E. Engle 1
1Colorado State University, 2Universidade Federal Rural da Amazônia-UFRA, 3Chr. Hansen

11:00 a.m.  PSXI-9  **Investigation to characterize the swine gut microbiota at different growth stages using 16S rRNA gene high-throughput sequencing data**
Jihye Cha 1, Soyoung Choi 2, Jin A Lim 2, Seul a Jung 2
1National Institute of Animal Science, 2National institute of animal science

11:00 a.m.  PSXI-27  **Live yeasts enhance ruminal fermentation of fibrous feedstuffs**
YAMICELA CASTILLO-CASTILLO 1, Bexy Gonzalez-Mora 2, Robin C. Anderson 3, Jaime Salinas-Chavira 4, Claudio Angulo-Montoya 5, Lianne Romero-Vilorio 2, Oscar Ruiz-Barrera 2, Ramon Copado-Garcia 6
1UNIVERSIDAD AUTONOMA DE CHIHUAHUA, 2Universidad Autónoma de Chihuahua, 3USDA/ARS, Southern Plains Agricultural Research Center’s Food & Feed Safety Research Unit, 4Universidad Autonoma de Tamaulipas, 5Universidad Autonoma de Sinaloa, 6Universidad Autonoma de Nuevo Leon

11:00 a.m.  PSXI-11  **Microbiome taxa involved in carbohydrate breakdown and synthesis of SFCA in the piglet gut**
Cary P. Davies 1, Weili Xiong 2, Robert Cole 3, Robert O’Meally 3, William T. Oliver 1, James E. Wells 1, Katie Summers 1
1USDA-ARS, 2US Food and Drug Administration, 3Johns Hopkins School of Medicine

11:00 a.m.  PSXI-24  **Microencapsulation protected Lactobacillus viability and its function in modulating the intestinal microbiota in newly weaned piglets**
Linyan Li 1, Fugui Yin 2, Xiaoyin Wang 1, Chongwu Yang 2, Hai Yu 2, Dion Lepp 2, Qi Wang 2, Martin Lessard 3, Luca Lo Verso 3, Martin Mondor 4, chengbo Yang 5, Shaoping Nie 6, Joshua Gong 2, Tao Wang 7
1State Key Laboratory of Food Science and Technology, China-Canada Joint Lab of Food Science and Technology (Nanchang), Nanchang University, Nanchang, Jiangxi 330047, China; Guelph Research and Development Centre, Agriculture & Agri-Food Canada, Guelph, Ontario N1G 5C9, Canada, 2Guelph Research and Development Centre, Agriculture & Agri-Food Canada, Guelph, Ontario N1G 5C9, Canada, 3Sherbrooke Research and Development Centre, Agriculture & Agri-Food Canada, Sherbrooke, Quebec J1M 0C8, Canada, 4St-Hyacinthe Research and Development Centre, Agriculture & Agri-Food Canada, St-Hyacinthe, Quebec J2S 8E3, Canada, 5Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada, 6State Key Laboratory of Food Science and Technology, China-Canada Joint Lab of Food Science and Technology (Nanchang), Nanchang University, Nanchang, Jiangxi 330047, China, 7University of Manitoba

11:00 a.m.  PSXI-25  **Mixed meal replacing soybean meal and its impacts on growth performance, immunity properties, and meat quality of finishing pigs**
Shuai Liu 1, Xianliang Zhan 1, Zhentao He 1, Xiaolu Wen 1, Lei Hou 1, Shuting Cao 1, Zongyong Jiang 1, Li Wang 1
1Institute of Animal Science, Guangdong Academy of Agricultural Sciences
Nitrogen excretion and urine pH in growing pigs decreased by lowing dietary protein concentrations
Beob G. Kim 1, Jeonghyeon Son 1
1Konkuk University

Nitrogen footprint assessment of Korean native beef cattle farms: Uncertainty analysis and mitigation scenarios
Jun Suk Byun 1, Tae Hoon Kim 1, Ridha Ibibdhi 2, Rajaraman Bharanidharan 1, Yookyung Lee 3, Kyoung Hoon Kim 1
1Seoul National University, 2INRAE, Institute Agro Dijon, 3National Institute of Animal Science

Prediction models for phosphorus excretion of pigs
Jeonghyeon Son 1, Beob G. Kim 1
1Konkuk University

Prediction of fecal and urinary nitrogen excretion in growing pigs based on the ingredient composition
Hansol Kim 1, Seung B. Yoo 1, Beob G. Kim 1
1Konkuk University

Preliminary investigations into developmental origins of pulmonary arterial pressure in beef cattle
Scott E. Speidel 1, R. Mark Enns 1, Caitlin N. Cadaret 1
1Colorado State University

Ruminal bacterial diversity indexes of grazing beef cattle receiving different supplements plus phyogenic additives
Karine Dalla Vecchia Camargo 1, Débora Siniscalchi 1, Natalia Vilas Boas Fonseca 1, Willian Aparecido De Souza 1, Marcelo Augusto Oliveira Castro 1, Barbara Carolina Afonso 1, Isadora Alves Dornellas 1, Fiorella Viquez Umaña 2, Laura Franco Prados 3, Pedro Veiga Rodrigues Paulino 3, Yury Tatiana Grana-Grañal-Salcedo 4, Hilário Cucquet Mantovani 2, Ricardo Reis 5
1Universidade Estadual Paulista - Unesp, 2University of Wisconsin - Madison, 3Cargill, 4Corporación Colombiana de Investigación Agropecuaria - AGROSAVIA, 5Sao Paulo State University (UNESP)

Sensing of defecation and urination events through carbon dioxide monitoring
Ryan Wright 1, Alyssa Ganino 1, Robin R. White 1
1Virginia Tech School of Animal Sciences

Study on semantic segmentation technology for efficient manure treatment in pig barn by intelligent cleaning machine
Sangho Lee 1, Jin-ho Won 1, Jintack Jeon 1, Changju Yang 1, Gookhwan Kim 1
1Department of Agricultural Engineering, The National Institute of Agricultural Sciences

The effects cattle breed (Holstein vs Angus × Holstein) on growth performance, energetic efficiency, and carcass characteristics of calf-fed steers
1Colorado State University, 2University of California Cooperative Extension, 3University of California - Davis
11:00 a.m.  PSXI-26  Utilization of Chickpeas cull in laying hens of second cycle
Juan M. Uriarte 1, Hector R. Guemez 2, Javier Romo 2, Juan M. Romo 2
1Universidad Autónoma de Sinaloa, 2Universidad Autonoma de Sinaloa

Poster Session XII
12:15 PM - 1:15 PM
140 Aztec/110 Galisteo

12:15 p.m.  PSXII-22  Analysis of the upper respiratory tract microbiome in newly-received feedlot heifers according to subsequent incidence of bovine respiratory disease
Autumn Pickett 1, Reinaldo F. Cooke 1, Rodrigo Bicalho 2, Vinicius N. Gouvea 3
1Texas A&M University, 2FERA Diagnostics and Biologicals, 3Texas A&M AgriLife Research

12:15 p.m.  PSXII-15  Automatic estimation of body condition score in finished cattle using deep learning computational architectures in two-dimensional images
Allberson Bruno De Oliveira Dantas 1, Murilo Garrett Moura Ferreira dos Santos 1, Mateus Modesto 2, Vinicius Yuji Mendes Da Silva 1, Thiago Zanetti Albertini 1
1@Tech, 2@IoTHouse

12:15 p.m.  PSXII-30  Changes in ruminal digesta and ruminal ammonia-N concentration with differing durations feed restriction for sheep
Koryn S. Hare 1, Koralie Lambert 2, Anne Clair Chagas 2, Daniel H. M. Watanabe 2, Greg B. Penner 3
1Department of Animal Bioscience, University of Guelph, 2University of Saskatchewan, 3Department of Animal and Poultry Science, University of Saskatchewan

12:15 p.m.  PSXII-7  Characterization of runs of homozygosity islands in American mink using whole-genome sequencing data
Pourya Davoudi 1, Duy Ngoc Do 1, Stefanie Colombo 1, Bruce Rathgeber 1, Mehdi Sargolzaei 2, Graham Plastow 3, Zhiquan Wang 3, Younes Miar 4
1Department of Animal Science and Aquaculture, Dalhousie University, 2Department of Pathobiology, University of Guelph, 3Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, 41 Department of Animal Science and Aquaculture, Dalhousie University

12:15 p.m.  PSXII-11  Comparison of Egg-laying ability among of eight lines including Korean Native Chicken (KNC)
DaeHyeok Jin 1
1National Institute of Animal Science

12:15 p.m.  PSXII-10  Development of a 70K SNP genotyping array for American mink (Neogale vison)
Duy Ngoc Do 1, Karim Karimi 1, Mehdi Sargolzaei 2, Graham Plastow 3, Zhiquan Wang 3, Younes Miar 4
1Department of Animal Science and Aquaculture, Dalhousie University, 2Department of Pathobiology, University of Guelph, 3Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, 41 Department of Animal Science and Aquaculture, Dalhousie University
12:15 p.m.  PSXII-29  Development of an In Vitro Rumen Fermentation Model to Assess Fusobacterium necrophorum Growth Inhibition
Tyler A. Thomas 1, Alyssa Deters 2, Alexandra C. Miller 1, Huey Yi Loh 1, Terry E. Engle 1, T.G. Nagaraja 3
1Colorado State University, 2Kansas State University, 3Kansas State University College of Veterinary Medicine

12:15 p.m.  PSXII-20  Differences in fat accretion rate of different depots of Angus, Brahman and Charolais feedlot steers
Jillian E M Burgess 1, Jose A. Imaz 1, Luciano A. Gonzalez 1
1The University of Sydney

12:15 p.m.  PSXII-6  Effect of caffeic acid supplementation on growth performance, inflammatory response, antioxidant capacity, and intestinal barrier function in LPS-challenged piglets
Xiaobin Wen 1, Ruqing Zhong 1, Liang Chen 1, Hongfu Zhang 1
1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences

12:15 p.m.  PSXII-26  Effect of different supplements plus phytogenic additives on ruminal bacterial community of grazing beef cattle
Karina Dalla Vecchia Camargo 1, Débora Siniscalchi 1, Natalia Vilas Boas Fonseca 1, Maria Luisa Curvelo Silva 1, Carlos Eduardo Vicente Junior 1, Déborah Marcia Felipe Rodrigues 1, Carlos Eduardo Lima 1, Lincoln Cassio De Oliveira Miranda 1, Laura Franco Prados 2, Pedro Veiga Rodrigues Paulino 2, Yury Tatiana Granja-Salcedo 3, Hilário Cuquetto Mantovani 4, Ricardo Reis 5
1Universidade Estadual Paulista - Unesp, 2Cargill, 3Corporación Colombiana de Investigación Agropecuaria - AGROSAVIA, 4University of Wisconsin - Madison, 5Sao Paulo State University (UNESP)

12:15 p.m.  PSXII-27  Effect of feed additives in the production of greenhouse gases
Emanuely Zequim Ubeda 1, Edson Martins Ribeiro Filho 1, Matheus Alves Miranda 1, Reginaldo Nassar Ferreira 1, Cibelle Borges Figueiredo 1, Gabriela Vitória Pinto Nunes 1, Hugo Jayme Matias Coelho Peron 2
1Universidade Federal de Goiás, 2Instituto Federal Goiano

12:15 p.m.  PSXII-14  Effects of feeding 10-G on performance and carcass quality of yearling beef steers
Aubrey C. Thompson 1, Ty E. Lawrence 1, Loni W. Lucherk 1, Kevin Martens 2, Travis C. Tennant 1
1West Texas A&M University, 2Life Products, Inc

12:15 p.m.  PSXII-19  Effects of feeding hybrid rye grain as a replacement for barley grain on feed intake, growth performance and carcass characteristics of finishing beef cattle
Fuquan Zhang 1, Rachel E. Carey 1, Rebecca S. Brattain 2, Herman Wehrle 3, Greg B. Penner 4
1University of Saskatchewan, 2KWS Cereals USA, LLC., 3KWS CEREALS USA, LLC., 4Department of Animal and Poultry Science, University of Saskatchewan
12:15 p.m.  PSXII-8  Effects of pre-synchronization with short-term Melengesterol Acetate in nulliparous beef heifers
Griffin T. Nicholls 1, Bethany J. Funnell 2, Ron Lemenager 1, Kara R. Stewart 1
1Purdue University, 2Purdue University College of Veterinary Medicine

12:15 p.m.  PSXII-16  Evaluation of a grade ruler approach for yield grading of veal carcasses
Oscar Lopez-Campos 1, Nuria Prieto 2, Marcel Marcoux 2, Catherine Thibault 2, Sophie Zawadski 2, Haley Scott 2
1Agriculture and Agri Food Canada, Science and Technology Branch, 2Agriculture and Agri-Food Canada

12:15 p.m.  PSXII-24  Examining relationships between residual feed intake classification, enteric emissions, and apparent total tract digestibility in late gestation beef heifers
Kortney Acton 1, Marcio S. Duarte 1, Kendall C. Swanson 2, Jen L. Ellis 1, Katharine M. Wood 1
1University of Guelph, 2North Dakota State University

12:15 p.m.  PSXII-25  Examining relationships between residual feed intake classification, enteric emissions, and apparent total tract digestibility in yearling beef heifers
Kortney Acton 1, Marcio S. Duarte 1, Kendall C. Swanson 2, Jen L. Ellis 1, Katharine M. Wood 1
1University of Guelph, 2North Dakota State University

12:15 p.m.  PSXII-5  Genetic parameters for dry matter intake in beef cattle as a function of water restriction: insights into environmental sensitivity and genetic-by-environment interactions
Will Shaffer 1, Jorge A. Hidalgo 2, Nora Bello 3, Rylie Noland 4, Jennifer M. Bormann 1, Robert L. Weaber 1, Clint Krehbiel 5, Michelle S. Calvo-Lorenzo 6, Chris Richards 7, Sara E. Place 8, Udaya DeSilva 7, Larry A. Kuehn 9, Megan M. Rolf 1
1Kansas State University, 2University of Georgia, 3The Ohio State University, 4University of Missouri, 5Texas Tech University, 6Elanco Animal Health, 7Oklahoma State University, 8AgNext, Colorado State University, 9U.S. Meat Animal Research Center

12:15 p.m.  PSXII-1  Genetic regions associated with cryptorchidism in related wagyu cattle
Allison L. Herrick 1, Jennifer N. Kiser 1, Holly L. Neibergs 1
1Washington State University

12:15 p.m.  PSXII-4  Genomic improvement of disease resistance using two breeding strategies in a population of Penaeus vannamei (Pacific white shrimp): A simulation study
issabelle Ampofo 1, Julian Kobayashi 1, Clara Miller 1, Shauneen O’Neil 1, Arun Dhar 2, Breno O. Fragomeni 1
1University of Connecticut, 2University of Arizona
Identifying selection signatures for immune response and resilience to Aleutian disease in mink using genotypes data

Guoyu Hu 1, Duy Ngoc Do 1, Ghader Manafiazar 2, Alyson Ann Kelvin 3, Graham Plastow 4, Mehdi Sargolzaei 5, Zhiqian Wang 4, Younes Miar 6
1Department of Animal Science and Aquaculture, Dalhousie University, 2Department of Animal Science and Aquaculture, 3Vaccine and Infectious Disease Organization (VIDO), University of Saskatchewan, 4Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, 5Department of Pathobiology, University of Guelph, 61 Department of Animal Science and Aquaculture, Dalhousie University

Including non-additive genetic effects in genomic prediction and estimation of variance components for performance and heat stress traits in pigs

Leticia F. Oliveira 1, Luiz F. Brito 1, Jay S. Johnson 2, Renata Veroneze 3
1Purdue University, 2USDA-ARS Livestock Behavior Research Unit, 3Universidade Federal de Viçosa

Lactation persistence analysis and its genetic correlations with productive, reproductive, and health traits in the first two parities in Lucerna cattle.

Sergio N. Sanchez Sierra 1, Luis Gabriel Gonzalez Herrera 2, Francisco Peñagaricano 3
1University of Georgia, 2Universidad Nacional de Colombia - Sede Medellín, 3University of Wisconsin-Madison

Partial indicators monitoring in dairy farm: effect of feed efficiency improvement on gross margin

Gian Simone Sechi 1, Alberto S. Atzori 2
1Dipartimento di Agraria University of Sassari, Sassari, 07100 Italy, 2Dipartimento di Agraria, Università di Sassari, Sassari 07100, Italy

Performance of Nellore bulls fed snaplage in fishing diets

Thiago Bernardes 1, Elizanne Lima 2, Tulio Justino 2, Edmilson Domingues 1, Robson Ferreira 1, Daniel R. Casagrande 1, Mateus P. Gionbelli 3
1University of Lavras, Brazil, 2UFLA, 3Universidade Federal de Lavras, Brazil

Post-weaning impacts of late gestation maternal feed restriction on the calf rumen microbiome

Kelly L. Woodruff 1, Jordan D. Williams 1, Gwendolynn L. Hummel 1, Scott L. Lake 1, Hannah C. Cunningham-Hollinger 2
1University of Wyoming, 2University of Wyoming

The design of equipment that combines a high-pressure jet and a translational scraper to improve the manure treatment efficiency of pig barn cleaning machine

Jintack Jeon 1, Jin-ho Won 1, Sangho Lee 1, Changju Yang 1, Gookhwan Kim 1
1Department of Agricultural Engineering, The National Institute of Agricultural Sciences

The influence of sire on gestation length and calf performance

Mason A. Carter 1, Tommy L. Perkins 2
1West Texas A&M, 2West Texas A&M University

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The probiotic containing Bacillus licheniformis and Bacillus subtilis improves feed efficiency in beef cattle
Matheus Cordeiro 1, Natalia De Melo 1, Ana De Oliveira 1, Bruno I. Cappellozza 2, Thiago Bernardes 1
1University of Lavras, Brazil, 2Chr. Hansen A/S

Advancing anemia detection in small ruminants with convolutional neural networks and smartphone integration
Reginald Randall 1, Aftab Siddique 1, Andres A. Pech-Cervantes 1, Jan van Wyk 2, Sudhanshu Panda 3, Ajit Mahapatra 4, Eric Morgan 5, Kensley Stegall 1, Thomas H. Terrill 1
1Fort Valley State University, 2University of Pretoria, 3University of North Georgia Gainesville Campus, 4Advisor, 5Queen’s University Belfast

Effect of dietary supplementation of Lactobacillus rhamnosus on blood profiles, intestinal morphology, immune responses, and gene expression of tight junction proteins and cytokines of weaned pigs
Jinmu Ahn 1, Hyunjin Kyoung 1, Kyeong Il Park 1, Yonghee Kim 1, Jae In Lee 1, Sewon Ha 1, Jinwook Nam 1, Kimoon Kim 1, Yonggu Kang 1, Youngmin Park 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University

Effect of dietary supplementation of Lactobacillus rhamnosus on growth performance, frequency of diarrhea, nutrient digestibility, and blood biochemical parameters of weaned pigs
Youngmin Park 1, Hyunjin Kyoung 1, Kyeong Il Park 1, Yonghee Kim 1, Jinmu Ahn 1, Jae In Lee 1, Sewon Ha 1, Jinwook Nam 1, Kimoon Kim 1, Yonggu Kang 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University

Effect of inclusion of hay and concentrate containing monensin and methionine on in vitro methane production
Edson Martins Ribeiro Filho 1, Reginaldo Nassar Ferreira 1, Cibelle Borges Figueiredo 1, Gabriela Vitória Pinto Nunes 1, Emanuely Zequim Ubeda 1, Matheus Alves Miranda 1, Hugo Jayme Matias Coelho Peron 2
1Universidade Federal de Goiás, 2Instituto Federal Goiano

Effect of methionine inclusion in mineral mixture on greenhouse gas production
Matheus Alves Miranda 1, Reginaldo Nassar Ferreira 1, Cibelle Borges Figueiredo 1, Emanuely Zequim Ubeda 1, Gabriela Vitória Pinto Nunes 1, Edson Martins Ribeiro Filho 1, Hugo Jayme Matias Coelho Peron 2
1Universidade Federal de Goiás, 2Instituto Federal Goiano

Effect of supplementation of red osier dogwood extract on feed intake and growth performance of newly weaned beef calves
Wenzhu Yang 1, Emma J. J. McGeough 2, Kim H. Ominske 2, Lingyun Chen 3
1Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, 2University of Manitoba, 3University of Alberta
1:30 p.m. PSXIII-21  Effects of bacterial direct-fed microbial mixtures on beef cattle feeding behavior
Kaliu Gabriel Scaranto Silva 1, Jhones O. Sarturi 1, Bradley J. Johnson 1, Barbara Rodrigues 1, Beatriz Dos Reis 1
1Texas Tech University

1:30 p.m. PSXIII-10  Effects of dietary Lactobacillus reuteri on growth performance, frequency of diarrhea, and blood biochemical parameters of weaned pigs
Yonggu Kang 1, Hyunjin Kyoung 1, Kyeong Il Park 1, Yonghee Kim 1, Jinmu Ahn 1, Jae In Lee 1, Sewon Ha 1, Jinwook Nam 1, Kimoon Kim 1, Youngmin Park 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University

1:30 p.m. PSXIII-8  Effects of dietary Lactobacillus reuteri on immune responses, blood profiles, intestinal morphology, and ileal gene expression of weaned pigs
Sewon Ha 1, Hyunjin Kyoung 1, Kyeong Il Park 1, Yonghee Kim 1, Jinmu Ahn 1, Jae In Lee 1, Jinwook Nam 1, Kimoon Kim 1, Yonggu Kang 1, Youngmin Park 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University

1:30 p.m. PSXIII-9  Effects of dietary mixed selenium supplementation on growth performance, frequency of diarrhea, and blood profiles and biochemical constituents of weaned pigs
Jinwook Nam 1, Kyeong Il Park 1, Hyunjin Kyoung 1, Yonghee Kim 1, Jinmu Ahn 1, Jae In Lee 1, Sewon Ha 1, Kimoon Kim 1, Yonggu Kang 1, Youngmin Park 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University

1:30 p.m. PSXIII-12  Effects of dietary mixed sources of selenium supplementation on immune responses, stress parameter and gut microbiota of weaned pigs
Ikcheol Shin 1, Kyeong Il Park 1, Hyunjin Kyoung 1, Yonghee Kim 1, Jinmu Ahn 1, Jae In Lee 1, Sewon Ha 1, Jinwook Nam 1, Kimoon Kim 1, Yonggu Kang 1, Youngmin Park 1, Minho Song 1
1Chungnam National University

1:30 p.m. PSXIII-6  Effects of high humidity under high-temperature conditions on growing pigs
Yonghee Kim 1, Hyunjin Kyoung 1, Kyeong Il Park 1, Jinmu Ahn 1, Jae In Lee 1, Sewon Ha 1, Jinwook Nam 1, Kimoon Kim 1, Yonggu Kang 1, Youngmin Park 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University

1:30 p.m. PSXIII-22  Effects of isoacids on rumen pH, microbial protein and in situ dry matter disappearance in beef heifers fed growing diet
Lucas G. Mota 1, Ithalo Freitas 2, Mark E. Branine 3, Glenn C. Duff 1
1New Mexico State University, 2Federal University of Tocantins, 3Zinpro Corporation

1:30 p.m. PSXIII-2  Effects of probiotic Lactobacillus rhamnosus on growth performance, diarrhea frequency, and blood biochemical parameters of weaned pigs
Kimoon Kim 1, Hyunjin Kyoung 1, Kyeong Il Park 1, Yonghee Kim 1, Jinmu Ahn 1, Jae In Lee 1, Sewon Ha 1, Jinwook Nam 1, Yonggu Kang 1, Youngmin Park 1, Ikcheol Shin 1, Minho Song 1
1Chungnam National University
Effects of probiotic Lactobacillus rhamnosus on intestinal morphology, blood profiles, immune responses, and ileal gene expression of weaned pigs
Hyunjin Kyoung, Kyeong Il Park, Yonghee Kim, Jinmu Ahn, Jae In Lee, Sewon Ha, Jinwook Nam, Kimoon Kim, Yonggu Kang, Youngmin Park, Ikcheol Shin, Minho Song
Chungnam National University

Evaluation of protein quality of select chicken-based protein sources using the precision-fed cecectomy rooster assay
Julio Mioto, Patricia Massae Oba, Pamela L. Utterback, Carl M. Parsons, Leah K. Lambrakis, Harry Chu, Brannon Daniels, Maria R C de Godoy
University of Illinois, University of Illinois Urbana-Champaign, University of Illinois at Urbana-Champaign, Simmons Pet Food, Inc.

Feeding one-year storage sorghum silage base diets: effects of grain processing on performance of backgrounding beef cattle
Leandro O. Abdelhadi, Guillermo Mattioli, Nicolas DiLorenzo
FCV-UNLP, UF-NFREC, Universidad Nacional de La Plata, Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

Feeding one-year stored sorghum silage: effects of grain processing on intake and apparent total tract digestibility of backgrounding beef heifers
Leandro O. Abdelhadi, Guillermo Mattioli, Nicolas DiLorenzo
FCV-UNLP, UF-NFREC, Universidad Nacional de La Plata, Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

Feeding sorghum silage: effects of grain processing on intake and apparent total tract digestibility of backgrounding beef heifers
Leandro O. Abdelhadi, Guillermo Mattioli, Nicolas DiLorenzo
FCV-UNLP, UF-NFREC, Universidad Nacional de La Plata, Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

Investigating the genetic background of juniper consumption in goats
Henrique A. Mulim, John Walker, Daniel F. Waldron, Danilo Quadros, Lorena F. Benfica, Felipe Egute de Carvalho, Luiz F. Brito
Purdue University, Texas A&M AgriLife Research and Extension Center, University of Arkansas System Division of Agriculture

Nutraceutical effects of fertilized and unfertilized sericea lespedeza hay on gastrointestinal parasitism and whole-plasma metabolome of naturally infected goats
Yuri Smith, Godstime A. Taiwo, Ibukun M. Ogunade, Andres A. Pech-Cervantes, Modoluwanmu Idowu, Zaira M. Estrada-Reyes, Thomas H. Terrill
Fort Valley State University, West Virginia University, North Carolina A & T University

Proof of concept of feeding non-protein nitrogen based special liquid product (StimGain) improve the performance and production in swine and poultry
Abdullah A. Mahfuz, Kevin Doppenberg, Mohan Dasari
Feed Energy Company
1:30 p.m. PSXIII-16  Selected feed additives to improve diet digestibility and carcass quality of feedlot-finished Angus crossbred steers
Mikael Neumann 1, André Martins de Souza 1, Victor Valério de Carvalho 2, Tiago S. S. Acedo 3, Fabiano Marafon 4, Rogerio Semchechem 4, Bruno José Venancio 1, Luísa da Costa 1, Ellen Baldissera 1
1Universidade Estadual do Centro-Oeste, 2dsm-firmenich, 3DSM Nutritional Products, 4DSM Nutritional Products Brazil

1:30 p.m. PSXIII-14  Supplementation of a phytogenic feed additive on growth performance, feed intake and carcass traits of growing and finishing beef steers
Wenzhu Yang 1, Paulo de Mello Tavares Lima Lima 2, Shelby M. Ramirez 3, Erin F. Schwandt 4, Tim A. McAllister 1
1Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, 2Universidade de São Paulo, 3DSM Nutritional Products North America, 4DSM Nutritional Products

1:30 p.m. PSXIII-30  The bovine microbiome: A holistic view on different bacterial communities in cattle
Godson Aryee 1, Sarah M. Luecke 1, Carl R. Dahlen 1, Samat Amat 2
1North Dakota State University, 2North Dakota State University, Department of Microbiological Sciences

1:30 p.m. PSXIII-20  The effect of adding Rumalato on enteric methane production in goats
Manuel Romero-Huelva 1, Pedro Romero 1, Laura Martinez 2, Juan Jose Mallo 2, Monica Puyalto 2, David Yañez 1
1EEZ-CSIC, 2Norel S.A.

1:30 p.m. PSXIII-25  The effect of adding hemp varieties and cannabidiol levels on the in vitro ruminal microbiome
Aghata Silva 1, Arturo Macias Franco 2, Tio Brody 3, Steven Frese 2, Mozart A. Fonseca 3
1Auburn University, 2University of Nevada Reno, 3University of Nevada, Reno

1:30 p.m. PSXIII-15  Use of creatinine as a marker to estimate urine output in beef cattle fed a finishing or backgrounding diet
Gwinyai E. Chibisa 1
1University of Idaho

1:30 p.m. PSXIII-3  Trace mineral source matters to reduce trace mineral excretion and maximize mineral retention in growing pigs
Jesus A. Acosta Camargo 1, Chelsie K. Foran 1, Ashley Provin 2, Deana Hancock 3
1Novus International Inc., 2Novus international, 3Novus International

1:30 p.m. PSXIII-15  Use of creatinine as a marker to estimate urine output in beef cattle fed a finishing or backgrounding diet
Gwinyai E. Chibisa 1
1University of Idaho

1:30 p.m. PSXIII-5  Using Synchrotron-radiation based Microspectroscopy to detect the effects of steam pressure toasting duration on protein-related molecular structure characteristics in the endosperm of Faba bean seeds
Maria Rodríguez-Espinosa 1, David Christensen 2, Rex N. Newkirk 2, Yongfeng Ai 1, Peiqiang Yu 2
1University of Saskatchewan, 2Department of Animal and Poultry Science, University of Saskatchewan
1:30 p.m. 300 PrimeOne Sire Comparison on Jersey Dairy Cows
Kara Belt 1, Ty E. Lawrence 1, Travis C. Tennant 1, Loni W. Lucherk 1, David G. Lust 1, Katyn J. Richardson 1, Tommy L. Perkins 1
1West Texas A&M University

1:45 p.m. 301 Determining individual dry matter intake of Charolais bulls from ingestion time recorded with RGB-D cameras
Pablo P. Guarnido Lopez 1, Fredy Ramirez-Agudelo 2, Emilia Ribeira-Ferreiro 1, Mohammed Ben Aouda 1
1Institut AgroDijon, University Bourgogne, University Bourgogne Franche-Comté, F-21000, Dijon, France, 2Grupo de Investigación en Ciencias Agrarias – GRICA, Escuela de Producción Animal, Facultad de Ciencias Agrarias, Universidad de Antioquia, Medellín, Colombia.

2:00 p.m. 302 Incremental variables in predicting beef cattle dry matter intake
Nathan Blake 1, Matthew Walker 1, Ida Holaskova 1, Domingo Mata-Padrino 1, Matthew E. Wilson 1
1West Virginia University

2:15 p.m. 303 Accuracy of the SmartScale in-pen weighing system
Meredith A. Harrison 1, Scott Zimmerman 1
1C-Lock Inc.

2:30 p.m. 304 Precision weighing technologies to measure real-time drinking behavior, body mass, and growth in steers managed using virtual fencing technology in extensive pastures
Ira L. Parsons 1, Hector M. Menendez 2, Logan R. Vandermark 3, Lily J. McFadden 3, Anna Dagel 4, Krista Ehlert 2, Jameson R. Brennan 4
1South Dakota State University West River Research and Extension, Department of Animal Science, 2South Dakota State University, 3South Dakota State University, Wester River Research and Extension, Department of Animal Science, 4South Dakota State University, West River Research and Extension, Department of Animal Science

2:45 p.m. 306 ShinyAnimalCV: Interactive web application for object detection and three-dimensional visualization of animals using computer vision
Jin Wang 1, Lirong Xiang 2, Gota Morota 3, Carissa Wickens 1, Emily Cushon 1, Samantha Brooks 1, Haipeng Yu 1
1Department of Animal Sciences, University of Florida, 2Biological and Agricultural Engineering Department, North Carolina State University, 3School of Animal Sciences, Virginia Polytechnic Institute and State University
3:00 p.m.  307  **HotHog: A smartphone application to support environmental management decisions for non-pregnant and gestating sows**  
Jay S. Johnson ¹, Angela R. Green-Miller ², Betty McConn ³, Lindsey Robbins ⁴, Brianna N. Gaskill ⁴, Donald C. Lay ¹, Allan P. Schinckel ⁴  
¹USDA-ARS Livestock Behavior Research Unit, ²University of Illinois, ³United States Department of Agriculture, ⁴Purdue University

**Teaching/Undergraduate and Graduate Education**  
Chair: Kathrin Dunlap, Texas A&M University; Tryon Wickersham, Texas A&M University  
1:30 PM - 3:15 PM  
EAST MAIN: 130 Cimarron

1:30 p.m.  409  **Awardee Talk: Philosophy and Examples from a Career in Animal Science Education**  
Carolyn E. Huntington ¹  
¹Auburn University

2:00 p.m.  390  **Colorado State University Seedstock Merchandising Team: Creating impactful student experience and engagement in the beef industry**  
Samantha F. Cunningham ¹  
¹Colorado State University

2:15 p.m.  391  **Common knowledge or common sense? Identifying systematic misconceptions of animal agriculture and food familiarity in higher education individuals**  
Katie Corbitt ¹, Karen A. Hiltbrand ¹, Madison Coursen ¹, Soren P. Rodning ¹, Brandon B. Smith ¹, Donald Mulvaney ¹  
¹Auburn University

2:30 p.m.  392  **Evaluation of assessment strategy on student retention of knowledge in sequential animal science courses**  
Alison M. Kuderka ¹, Allison N. Vautier ¹, Scott E. Speidel ¹, R. Mark Enns ¹, Caitlin N. Cadaret ¹  
¹Colorado State University

2:45 p.m.  393  **Impact of concurrent enrollment in laboratory and lecture sections of an animal reproduction course on students’ final course percentages**  
Ashley R. Hartman ¹, Karol E. Fike ¹, David M. Grieger ¹  
¹Kansas State University

3:00 p.m.  394  **Transformative animal science fellows program for a sustainable, efficient, profitable beef production future**  
Donald Mulvaney ¹, Paul W W. Dyce ¹, Kimberly Mullenix ¹, S. Leanne Dillard ¹, Wellison Jarles j. Da Silva Diniz ¹, Terry D. Brandebourj ¹, Russell B. Muntifering ¹, Werner G. Bergen ¹, Soren P. Rodning ¹, Lawrence Hamberlin ¹, Brandon B. Smith ¹  
¹Auburn University
NRCS Symposium
Chair: Kristen Johnson, Washington State University
1:30 PM - 4:30 PM
EAST UPPER: 215 San Miguel

1:30 p.m.  NRCS Symposium Introduction

1:40 p.m.  433  Leveraging Feed Technologies to Reduce Methane Emissions from Livestock
Sara E. Place ¹
AgNext, Colorado State University

2:05 p.m.  434  Creating Market Opportunities with Climate-Smart Agricultural Practices
Kristi M. Cammack ¹
South Dakota State University

2:30 p.m.  435  Opportunities for Conservation Research Support, Feed Management Planning and Practice Cost Sharing
Greg Zwicke ¹, Renee Leech ¹
USDA-NRCS

2:55 p.m.  NRCS Symposium Break

3:05 p.m.  436  A Strategy for a Climate-Resilient Sustainable Feed System
Julie Adamchick ¹
World Wildlife Fund

3:30 p.m.  437  Incentivizing and Aligning U.S. Industry to Drive Change
Leah Wilkinson ¹
American Feed Industry Association

3:55 p.m.  NRCS Symposium Panel Discussion

Animal Health I
Chair: Holly Neibergs, Washington State University
2:00 PM - 4:00 PM
EAST UPPER: 220 Ruidoso

2:00 p.m.  154  Antibody and cell-mediated responses associated with BVDV and interferon-gamma expression in reciprocal Angus-Brahman first generation crosses
MacKenzie G. Chapman ¹, Shollie M. Falkenberg ², Rohana P. Dissanayake ³, Andy D. Herring ¹

¹Texas A&M University, ²Auburn University, ³USDA-ARS
2:15 p.m. 155 Impact of ambient temperature on bovine viral diarrhea virus and infectious bovine rhinotracheitis vaccination response
Sarah Blaske ¹, Kaitlin M. Epperson ¹, Lacey K. Quail ¹, Jaclyn N. Ketchum ¹, Chloey P. Guy ², Charles R. Long ³, George A. Perry ²
¹Department of Animal Science, Texas A&M University, College Station, TX, ²Texas A&M AgriLife Research, Overton, TX, ³School of Veterinary Medicine and Biomedical Sciences, Texas A&M University

2:30 p.m. 156 The role of veterinary services on nutrition schemes, management, and health practices for sheep and goats in rural Ngaka Modiri Molema District Municipality, North West Province of South Africa.
Baitsholetsi G. Mokolopi ¹, James W. Oguttu ¹
¹University of South Africa

2:45 p.m. 157 Enhancing animal protection: Topical RNAi with innovative nanotechnology for sustainable animal health
Yunjia Yang ¹, Gordon Xu ², Timothy Mahony ¹, Bing Zhang ³, Neena Mitter ¹, Karishma Mody ¹
¹Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, ²Australian Institute for Bioengineering and Nanotechnology, The University of Queensland, ³Department of Agriculture and Fisheries, Ecosciences Precinct

3:00 p.m. 158 Fusobacterium varium in liver abscesses, ruminal and colonic contents and tissues: Does it have a role in liver abscesses?
Alyssa K. Deters ¹, Mina Abbasi ¹, Xiaorong Shi ¹, Jacques Mathieu ², T.G. Nagaraja ³
¹Kansas State University, ²Rice University, ³Kansas State University College of Veterinary Medicine

3:15 p.m. 159 Design and development mechanics of a random forest-based decision-tree model for sub-acute rumen acidosis management in feedlots
Karun Kaniyamattam ¹, Vishnudas Veettil ¹, Madeline E. Rivera ¹, Luiz Diaz Batista ¹, Luis O. Tedeschi ¹
¹Texas A&M University

3:30 p.m. 160 Effect of diets containing soybean co-products formulated for high-risk stocker cattle on growth performance, morbidity and mortality associated with respiratory disease
Kirsten A. Midkiff ¹, Beth B. Kegley ², Robin A. Cheek ¹, Doug L. Galloway ¹, Jana L. Reynolds ¹, Benjamin P. Shoulders ¹, Jeremy G. Powell ¹
¹University of Arkansas System Division of Agriculture, ²University of Arkansas Division of Agriculture

3:45 p.m. 161 A system dynamics model of bovine respiratory disease epidemiology and prevention strategies in an integrated beef production system
Lijith Kacheri-Moolan ¹, Karun Kaniyamattam ¹, Luis O. Tedeschi ¹
¹Texas A&M University
Meat Science and Muscle Biology Symposium
Chair: Mahesh Nair, Colorado State University
2:00 PM - 4:00 PM
WEST UPPER: Ballroom B

2:00 p.m.  Meat Science and Muscle Biology Symposium Introduction

2:05 p.m.  85  Live animal mitochondria: A target for production optimization
Sarah H. White-Springer ¹
¹Texas A&M University

2:35 p.m.  87  Mitochondria: Life, Death, and the In-between
Tracy L. Scheffler ¹
¹Department of Animal Sciences, University of Florida

3:05 p.m.  86  Mitochondrial changes with feed additives and pulmonary hypertension
Chaoyu Zhai ¹
¹University of Connecticut

3:35 p.m.  Meat Science and Muscle Biology Symposium Discussion

Forages and Pastures I
Chair: W. Brandon Smith, Auburn University
2:00 PM - 4:30 PM
WEST LOWER: 18 Cochiti, Taos

2:00 p.m.  419  Invited Talk: Virtual Fence Technology for Strategic Land and Livestock Management
David W. Bohnert ¹, Juliana Ranches ¹, Dustin D. Johnson ¹, Katherine Wollstein ¹, Bryan A. Endress ¹, Rory C. O'Connor ², Kirk Davies ², Chad Boyd ²
¹Oregon State University; ²USDA-ARS

2:30 p.m.  420  Integrating livestock and cropping systems: Interseeding cereal rye into corn for late season grazing
Kathy J. Soder ¹
¹USDA-ARS

2:45 p.m.  421  Inherent livestock feed production: Abundance of non-edible biomass in Germanys agricultural and processing sector
Anton M. Vormdran ¹, Julia Steinhoff-Wagner ¹, Wilhelm Windisch ¹
¹TUM School of Life Science

3:00 p.m.  422  Mineral content of invaded grassland forages is affected by precipitation and management
Rachael G. Christensen ¹, John R. Hendrickson ¹, David L. Toledo ¹
¹USDA-ARS

3:15 p.m.  Forages and Pastures I Break
3:30 p.m. 415  Awardee Talk: Foraging for Collaboration: Beef-Forage System Strengths Unite Research and Extension Efforts in the ASAS Southern Section
Kimberly Mullenix 1, Shane Gadberry 2, Justin D. Rhinehart 3, S. Leanne Dillard 4, Jennifer J. J. Tucker 4, Robert Lawton Stewart 4, Joao Vendramini 5, Daniel H. Poole 6, Nicole C. Burdick Sanchez 7, Vitor R G Mercadante 8, Christy L. Bratcher 9, Thomas H. Welsh 10, John Arthington 11, Matthew H. Poore 6, Audrey L. Earnhardt-San 10, Russell C. Carrell 12, S. Maggie Justice 1, Dallas R. Soffa 13
1Auburn University, 2UA Livestock and Forestry Station, 3University of Tennessee, 4University of Georgia, 5UF/IFAS - Range Cattle Research & Education Center, 6North Carolina State University, 7USDA-ARS, Livestock Issues Research Unit, 8Virginia Tech - Animal and Poultry Sciences, 9Texas Tech University, Department of Animal and Food Science, 10Texas A&M University and AgriLife Research, Department of Animal Science, 11Department of Animal Sciences - University of Florida, 12Cargill Animal Nutrition, 13Texas A&M University

4:00 p.m. 423  Effects of prescribed fire timing on stocker cattle performance and native plant species composition in the Kansas Flint Hills
Zachary M. Duncan 1, Alan J. Tajchman 1, Jack Lemmon 1, William R. Hollenbeck 1, Dale A. Blasi 1, KC Olson 1
1Kansas State University

4:15 p.m. 424  Botanical Composition and Quality of Beef Cattle Diets on a Burned Versus Unburned Foothills Rangeland
Janessa A. Kluth 1, Noah Davis 1, Sam Wyffels 2, Clayton Marlow 1, Lance Vermeire 3, Megan L. Van Emon 3, Makae Nack 1, Taylre Sitz 1, Thomas Hamilton 1, Jeremiah Peterson 1, Timothy DelCurto 1
1Montana State University, 2Montana State University Extension, 3Fort Keogh Ag Experiment Station

**Beef Species Symposium III**
Chair: Jhones Sarturi, Texas Tech University
2:00 PM - 4:45 PM  
EAST UPPER: 235 Mesilla

2:00 p.m.  Beef Species Symposium III Introduction

2:05 p.m. 88  Opportunities to improve nutrient use efficiency of beef cattle and promote environmental stewardship through ration optimization
Jason K. Smith 1, Jarret A. Proctor 2, Nathan S. Long 2
1Texas A&M AgriLife Extension, 2Texas A&M University

2:40 p.m. 89  Physiological mechanisms related to feed efficiency of beef cattle
Andrew P. Foote 1, Carlee M. Salisbury 1, Hunter L. McConnell 2, Mindy E. King 1
1Oklahoma State University, 2Department of Food and Animal Sciences, Oklahoma State University

3:15 p.m.  Beef Species Symposium III Break

3:30 p.m. 90  Leveraging the potential of molecular and genetic markers to improve feed efficiency in beef cattle
Amanda Lindholm-Perry 1
1USDA, ARS, U.S. Meat Animal Research Center
4:05 p.m. 91 Grazing management–tools for improving the efficiency of grazing beef production
Logan Thompson 1, Isabella Maciel 2, Matthew R. Beck 3, Jason E. Rowntree 4
1Kansas State University, 2Noble Research Institute, 3USDA-ARS, 4Michigan State University

Ruminant Nutrition IV: Supplementation of Ruminant Diets I
Chair: David Harmon, University of Kentucky Department of Animal & Food Sciences
2:00 PM - 4:45 PM
WEST LOWER: 31 Santa Ana, Sandia, Picuris

2:00 p.m. 356 Dietary fenugreek seed extract improves dry matter intake, apparent total tract nutrient digestibility, and alters whole blood transcriptome of Holstein dairy heifers
Godstime A. Taiwo 1, Taylor S. Sidney 1, Modoluwamu Idowu 1, Francisca Eichie 1, Lanre Morenikeji 2, Ibukun M. Ogunade 1
1West Virginia University, 2University of Pittsburgh

2:15 p.m. 357 The influence of supplemental protein levels on beef cattle grazing winter foothill rangelands: cow and subsequent calf performance
Thomas Hamilton 1, Sam Wyffels 2, Makae Nack 1, Janessa A. Kluth 1, Jeremiah Peterson 1, Timothy DelCurto 1, TJ Carlisle 3
1Montana State University, 2Montana State University Extension, 3NCBA

2:30 p.m. 358 The effects of varying levels of cotton gin byproduct and wet brewers’ grains on growth performance of growing and finishing steers
Madeline Newsome 1, Matt H. Poore 1, Deidre D. Harmon 1, April D. Shaeffer 1, Charlotte L. Talbott 1, Vivek Fellner 2, Emily H. Griffith 1
1NC State University, 2North Carolina State University

2:45 p.m. 359 Investigation of supplementation rates for extruded 100% DDGS cubes on mixed grass prairie in Western Oklahoma
Zane N. Grigsby 1, Charles Worthington 1, Marty G. New 1, Paul A. Beck 1
1Oklahoma State University

3:00 p.m. 360 Effect of dietary protein levels and growth promotants in dairy-beef cross steers on nitrogen utilization efficiency
Carlee M. Salisbury 1, Matthew R. Beck 2, Paul A. Beck 1, Andrew P. Foote 1
1Oklahoma State University, 2USDA-ARS

3:15 p.m. Ruminant Nutrition IV: Supplementation of Ruminant Diets I Break

3:30 p.m. 361 The Effects of Feeding Sprouted Barley on Cow Calf Pairs Health and Performance
Zachary C. Crump 1, Anthony F. Alberto 1, Bailee Brown 1, Bryce W. Roholt 1, Lillian Okamoto 1, Mia Sego 1, Robert Ward 1, Brady Blackett 2, Rob Harding 2, Sanjeewa Ranathunga 2, Kara J. Thornton 1, Ryan A. Spurling 1
1Utah State University, 2Renaissance Ag, Vineyard, Utah, 84057, United States
The influence of supplemental protein level on the intake, digestion, and metabolism of beef cattle consuming low-quality, high-fiber roughages
Jeremiah Peterson 1, Janessa A. Kluth 1, Thomas Hamilton 1, Taylre Sitz 1, Jackie Pondolfino 1, Sam Wyffels 2, Megan L. Van Emon 3, Jed Eberly 1, Timothy DelCurto 1
1Montana State University, 2Montana State University Extension, 3Fort Keogh Ag Experiment Station

Effect of protein and starch supplementation level on intake and digestibility by steers consuming low-quality forage: I. Bos taurus taurus
Jodi R. Cox 1, Tryon A. Wickersham 1
1Texas A&M University

The effects of replacing dried distillers grains with solubles with a heat-treated soybean meal in forage-based growing cattle diets
Grady J. Gullickson 1, Madeliene Nichols 1, Yssi L. Entzie 1, Lydia E. Hansen 1, Sarah R. Underdahl 1, Colin T. Tobin 1, Kendall C. Swanson 1, Zachary E. Carlson 1
1North Dakota State University

Effects of supplementing carinata meal compared with cottonseed meal on performance, carcass characteristics, and sensory attributes in beef steers consuming a finish diet
Tessa M. Schulmeister 1, Federico Tarnonsky 1, Federico Podversich 1, Araceli B. Maderal 1, Wilmer Cuervo 1, Ignacio Fernandez Marenchino 1, Juan Vargas 1, Vanesa Ramirez-Sepulveda 1, Macarena Gomez-Salmoral 1, Sabina Novo 1, Angela M. Gonella 1, Jose C. B. Dubeux 1, Nicolas DiLorenzo 2
1University of Florida, 2Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

Animal Breeding and Genetics IV: Advances in Animal Environmental Genetics
Chair: Zhihua Jiang, Washington State University
2:00 PM - 5:00 PM
WEST LOWER: 32 Tesuque, Zuni, Acoma

ASAS Young Scholar Awardee Talk: Stress-induced DNA methylation changes and their implications in livestock production
Emilie C. Baker 1, Audrey L. Earnhardt-San 2, Kobra Z. Cilkiz 3, Brittni P. Littlejohn 4, Rodolfo C. Cardoso 5, Noushin Ghaffari 5, Charles R. Long 3, Penny K. Riggs 7, Ronald D. Randel 8, Thomas H. Welsh 2, David G. Riley 2
1West Texas A&M University, 2Texas A&M University and AgriLife Research, Department of Animal Science, 3Texas A&M University, 4University of Arkansas System, Division of Agriculture, Department of Animal Science, 5Texas A&M University, 6Prairie View A&M University, 7School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, 8Department of Animal Science, Texas A&M University, and Texas A&M AgriLife Research, 9Texas A&M AgriLife Research, Overton, TX

Targhee Sire Benchmarking at the U.S. Sheep Experiment Station
Carrie S. Wilson 1, J. Bret B. Taylor 1, Tom W. Murphy 2, Whit C. Stewart 3, David R. Notter 4, Ronald M. Lewis 5
1USDA-ARS-RSPER, 2USDA ARS U.S. Meat Animal Research Center, 3University of Wyoming, 4Virginia Tech, 5Department of Animal Science, University of Nebraska-Lincoln
2:45 p.m. 141 Exploring alternative approaches for the National Argentine Angus cattle genomic evaluation program
Agustin R. Curutchet¹, Breno O. Fragomeni¹, Horacio Guitou², Aldo Monti²
¹University of Connecticut, ²Asociacion Argentina de Angus

3:00 p.m. 142 Genotype-by-environment interactions in dairy cattle raised in California and New England
Bruna Santana¹, Asha Miles², Francesco Tiezzi³, Breno O. Fragomeni¹
¹University of Connecticut, ²AGIL-ARS-USDA, ³North Carolina State University

3:15 p.m. Animal Breeding and Genetics IV: Advances in Animal Environmental Genetics Break

3:30 p.m. 407 Awardee Talk: A survey of researchable questions posed in collaborating with South Africans
Michael MacNeil¹
¹Delta Genetics

4:00 p.m. 143 Validation strategies of sensor data in the context of heat stress detection
Pauline Lemal¹, Marie-Nguyet Tran², Martine Schroyen¹, Nicolas Gengler¹
¹ULiege-GxABT, ²Eleveo, AWE groupe

4:15 p.m. 144 Using digital twin simulations to optimize genetic selection in an admixed beef herd
Bailey N. Engle¹, Gerhard Moser², Kira Villiers³, Mathias Suarez², Eliza Grey², Ben J. Hayes³, Matthew Kelly²
¹USDA, ARS, U.S. Meat Animal Research Center, ²Australian Agricultural Company, ³University of Queensland

4:30 p.m. 145 The relationship of methane emissions with Stayability in Angus cattle
Isaac F. Torres-Quijada¹, Scott E. Speidel¹, Miranda L. Zuvich¹, Edward J. Raynor², Pedro H. V. Carvalho¹, Sara E. Place³, Kim R. Stackhouse-Lawson³, R. Mark Enns¹
¹Colorado State University, ²AgNext,³AgNext, Colorado State University

4:45 p.m. 146 Effect of sire on methane production
Levi R. Kilian¹
¹Colorado State University

Companion Animal Symposium II
Chair: Amanda Dainton, Freshpet
2:00 PM - 5:00 PM
EAST UPPER: 230 Pecos

2:00 p.m. Companion Animal Symposium II Introduction

2:15 p.m. 92 Implications of processing and handling on the functionality of animal derived products for pet foods
Elisabeth Huff Lonergan¹, Carl Frame²
¹Iowa State University, ²Kemin Nutrisurance North America
2:45 p.m. 93 Animal based ingredients in diets for captive exotic animals
Cheryl L. Morris 1
1Iowa State University

3:15 p.m. Companion Animal Symposium II Break

3:30 p.m. 94 Sustainable Feeding Solutions Across the Animal Kingdom: Identifying and Implementing
Ellen S. Dierenfeld 1
1World Wildlife Fund

4:00 p.m. 95 Nutritional Ecology of Arthropod Predator-Prey Interactions
Shawn Wilder 1, Cody Barnes 1
1Oklahoma State University

4:30 p.m. Companion Animal Symposium II Discussion

Poster Session XIV
2:45 PM - 3:45 PM
140 Aztec/110 Galisteo

2:45 p.m. PSXIV-3 3-Nitrooxypropanol dosages to reduce methane emission by feedlot beef cattle
Cibeli A. Pedrini 1, Fábio S. Machado 1, Maria B. Niehues 2, Alexandre Perdigão 3, Victor Valério de Carvalho 4, Tiago S. S. Acedo 5, Maik Kindermann 6, Luis Tamassia 6, Nicola Walker 6, Jefferson Gandra 7
1Federal University of Grande Dourados, 2São Paulo State University, Botucatu, Brazil, 3DSM Nutritional Products Brazil, 4dsm-firmenich, 5DSM Nutritional Products, 6DSM Nutritional Products Switzerland, 7Federal University of South and Southeast Para, Xinguara, Brazil

2:45 p.m. PSXIV-4 Body condition and production status impacts on estrus indicators in beef cattle on a producer farm
Jeremiah Arowolo 1, Ramya Sri Kolikapongu 2, Sharath Chandra Namani 2, Jalani Brown 2, Bryanna holmes 2, Niki C. Whitley 2, Adel R. R. Moawad 2
1Fort valley state University, 2Fort Valley State University

2:45 p.m. PSXIV-5 Classification of postpartum beef cows as estrous cycling or anestrous through the use of estrus detection patches
Kim Ricardo 1, Genevieve VanWye 1, Lucas Palcheff 1, Jordan M. Thomas 1
1University of Missouri

2:45 p.m. PSXIV-6 Comparison of changes in SNP effects and GEBV using different training populations in simulated data
Gaurav Dutta 1, Bruna Santana 1, issabelle Ampofo 1, Agustin Curutchet 1, Molly M. Riser 1, Breno O. Fragomeni 1
1University of Connecticut
Comparison of detection of Fasciola in naturally infected slaughter (dairy) cattle by postmortem examination, sedimentation, antibody ELISA and real-time PCR
Ishmael F. Jaja¹, Zuko Mpisana², Charles Byaruhanga³, Christopher Marufu³
¹University of Fort Hare, ²University of Fort Hare, ³University of Pretoria

Comparison of the effects of hydroxy-selenomethionine and selenium-enriched yeast against hydrogen peroxide-induced oxidative stress in rat intestinal epithelial cells
Saheed O. osho¹, Berta Higgins¹, Angela R. Boyer², kari saddoris-clemons¹, Brooke Humphrey¹, Miriam Garcia¹
¹Phibro Animal Health Corporations, ²Phibro Animal Health

Effects of dietary restriction and one-carbon metabolite supplementation during early gestation on the maternal gut and vaginal microbiota in cattle
Sarah M. Luecke¹, Godson Aryee¹, Devin B. Holman², Kaycie N. Schmidt¹, Matthew S. Crouse³, Alison Ward⁴, Carl R. Dahlen¹, Joel S. Caton¹, Samat Amat⁵
¹North Dakota State University, ²Agriculture and Agri-food Canada, ³USDA, ARS, U.S. Meat Animal Research Center, ⁴University of Saskatchewan, ⁵North Dakota State University, Department of Microbiological Sciences

Effects of vitamin/mineral supplementation during gestation in beef heifers on immunoglobulin concentrations in colostrum and immune responses in naturally and artificially reared calves
Jennifer L. Hurlbert¹, Kerri A. Bochantin¹, Friederike Baumgaertner¹, Ana Clara Baiao Menezes², James D. Kirsch¹, Kevin K. Sedivec³, Carl R. Dahlen¹
¹North Dakota State University, ²South Dakota State University, ³North Dakota State University - Central Grasslands Research Extension Center

Estimation of genetic parameters of traits associated with water efficiency, feed efficiency and growth in beef cattle
Dinesh M. Thekkoot¹, Nathan Blake², Domingo Mata-Padrino², Kevin C. Garossino¹, Matthew E. Wilson²
¹Vytelle, ²West Virginia University

Evaluating the inoculating bacterial communities within the bovine dam and neonate after applying an ablation technique to the dam vaginal microbiome prior to parturition
Riley D. Messman¹, Rebecca M. Swanson¹, Shankar Ganapathi Shanmugam¹, Caleb O. Lemley¹
¹Mississippi State University
2:45 p.m.  PSXIV-12  Evaluation of an ensiled, self-fed diet for backgrounding beef cattle
Sergio Viano 1, Daniel G. Méndez 1, Lucas González 2, Irene Ceconi 1
1Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria de General Villegas, Buenos Aires, Argentina, 2Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria de General Villegas, Buenos Aires, Argentina; Consejo Nacional de Investigaciones Científicas y Técnicas, Ciudad Autónoma de Buenos Aires, Argentina; Universidad de Buenos Aires, Facultad de Agronomía, Ciudad Autónoma de Buenos Aires, Argentina

2:45 p.m.  PSXIV-13  Evaluation of on-animal sensors for monitoring diurnal physical activity of beef bulls during the breeding season
Caleb Rykaczewski 1, Nora Bello 1, Justin Kieffer 1, Anita Z. Chang 2, Mark G. Trotter 2, Alvaro Garcia-Guerra 1
1The Ohio State University, 2CQUUniversity

2:45 p.m.  PSXIV-14  Evaluation of short-chain fatty acids in cattle treated with the natural additive Fator P®
Luís Ferreira 1, Wellington Araújo 1, Andre Daurea 1, Lauriston Bertelli 1, Flávia Verza 2, Ana Saltoratto 2
1Premix Company, 2Ribeirão Preto University

2:45 p.m.  PSXIV-15  Evaluation of the methanogenic population in cattle treated with the natural additive Fator P®
Luís Ferreira 1, Wellington Araújo 1, Andre Daurea 1, Lauriston Bertelli 1, Flávia Verza 2, Ana Saltoratto 2
1Premix Company, 2Ribeirão Preto University

2:45 p.m.  PSXIV-16  Evaluation of water intake equations with an emphasis on physiological status and evaluation of current relevance behind environmental parameters
Arturo Macias Franco 1, Aghata Silva 2, Claudia B. Sampaio 3, Mozart A. Fonseca 4
1University of Nevada Reno, 2Auburn University, 3Department of Animal Science, Universidade Federal de Viçosa, Viçosa, Brazil, 4University of Nevada, Reno

2:45 p.m.  PSXIV-17  Examining mammary gland transcriptomic profiles using RNA-seq in slick and wild-type haired Holstein cattle under tropical conditions
Zully E. Contreras-Correa 1, Mark A. Arick 2, Héctor L. Sánchez-Rodríguez 3, Caleb O. Lemley 1
1Mississippi State University, 2Institute for Genomics, Biocomputing & Biotechnology, Mississippi State University, 3University of Puerto Rico–Mayagüez

2:45 p.m.  PSXIV-18  Fit of the Zero-Inflated Negative Binomial Model to Analyze Fecal Egg Counts
Hilal Yazar Gunes 1, Réka Howard 1, Miguel Fudolig 2, Joan M. Burke 3, Ronald M. Lewis 4
1University of Nebraska-Lincoln, 2University of Nevada-Las Vegas, 3USDA ARS Dale Bumpers Small Farms Research Center, 4Department of Animal Science, University of Nebraska–Lincoln

2:45 p.m.  PSXIV-19  Gas flux by calves from dams identified as either high or low methane emitters
Emalee J. Friend 1, Stacey A. Gunter 1, Corey A. Moffet 1
1USDA-ARS, Oklahoma and Central Plains Agricultural Research Center
2:45 p.m.  PSXIV-20  Genetic differences related to beef production traits in Bos taurus or Bos indicus influenced cattle
Lillian Okamoto 1, Morgan R. stegemiller 2, Caleb Reichhardt 3, Anthony F. Alberto 1, Laura A. Motsinger 4, Sarah A. Bayles 1, Bryce W. Roholt 1, Matthew D. Garcia 1, Brenda M. Murdoch 5, Kara J. Thornton 1
1Utah State University, 2Department of Animal, Veterinary, and Food Sciences, University of Idaho, 3University of Hawai‘i at Mānoa, 4Hill’s Pet Nutrition, 5University of Idaho

2:45 p.m.  PSXIV-21  Genetic diversity in Mashona, a Sanga-type cattle from southern Africa
Ashley Ling 1, ElHamidi Hay 1, Emily G. Hayes 2, Richard Browning 2, Harvey D. Blackburn 3
1USDA/ARS/LARRL, 2Tennessee State University, 3USDA-ARS

2:45 p.m.  PSXIV-22  Impact of maternal plane of nutrition in combination with strategic OCM supplementation during early pregnancy on vascularity and cell proliferation in the fetal small intestine
Mojtaba Daneshi 1, Jessica Syring 1, Yssi Entzie 1, Layla King 1, Muhammad Anas 1, Mara Hirchert 1, Matthew S. Crouse 2, Alison Ward 3, Carl R. Dahlen 1, Pawel P. Borowicz 1, Joel S. Caton 1
1North Dakota State University, 2USDA, ARS, U.S. Meat Animal Research Center, 3University of Saskatchewan

2:45 p.m.  PSXIV-1  Impact of slow-release nitrogen or regular protein based supplementation during late gestation on maternal and offspring performance in beef cattle
Mateus P. Gionbelli 1, Diana Devia 1, Karolina B. Nascimento 1, Thais Correia Costa 1, Luana Santos 1, German Ramirez-Zamudio 1, Marcio S. Duarte 2
1Universidade Federal de Lavras, Brazil, 2University of Guelph

2:45 p.m.  PSXIV-23  In vitro evaluation of protein kinetics of soy-based ingredients
Megan R. Bible 1, Pernille Rasmussen 1, Simone H. Rasmussen 1, Alfred Blanch 1, Jessika van Leeuwen 1, Helle N. Lærke 2, Mette S. Hedemann 2
1Hamlet Protein, 2Aarhus University

2:45 p.m.  PSXIV-2  Inclusion of a slow-release nitrogen ingredient associated or not with monensin on performance, metabolism, and carcass parameters of finishing beef cattle fed high starch diets
Gabriel Damasio 1, Karolina B. Nascimento 1, Thais Correia Costa 1, Luana Santos 1, Lusiane Pinto 1, Andrey Miranda 1, German Ramirez-Zamudio 1, Marcio S. Duarte 2, Mateus P. Gionbelli 1
1Universidade Federal de Lavras, Brazil, 2University of Guelph

2:45 p.m.  PSXIV-24  Inducing luteolysis prior to atresia of the first follicular wave by altering the interval to prostaglandin F2α administration after long-term progestin presynchronization
Genevieve VanWye 1, Emily G. Smith 1, Christine Spinka 1, Michael F. Smith 1, Matthew Lucy 1, Jordan M. Thomas 1
1University of Missouri
2:45 p.m. PSXIV-25  Investigating the relationship between maternal protectiveness and temperament in beef cattle
Corley D. Rogers 1, Temple Grandin 1, Terry E. Engle 1, Shawn L. Archibeque 1, Franklyn B. Garry 1
1Colorado State University

2:45 p.m. PSXIV-26  Live animal longissimus thoracis mitochondrial capacities at 10, 13, and 18 months of age are related to meat quality in Angus and Brahman steers
Lauren T. Wesolowski 1, Pier L. Semanchik 1, Jessica L. Simons 1, Chloey P. Guy 2, Audrey L. Earnhardt-San 1, David G. Riley 1, George A. Perry 2, Charles R. Long 3, Tanner J. Machado 4, Ronald D. Randel 2, Thomas H. Welsh 1, Sarah H. White-Springer 5
1Texas A&M University and AgriLife Research, Department of Animal Science, 2Texas A&M AgriLife Research, Overton, TX, 3School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, 4Texas A&M University-Kingsville, Department of Animal Science and Veterinary Technology, 5Texas A&M University

2:45 p.m. PSXIV-27  Liver abscesses in feedlot cattle: Further studies on etiology and pathogenesis Liver abscesses in feedlot cattle: Further studies on etiology and pathogenesis
Harith M. Salih 1, Raghavendra G. Amachawadi 2, Taghreed S. Mahmood 1, Qing Kang 1, Alyssa Deters 1, Ty E. Lawrence 3, T.G. Nagaraja 2
1Kansas State University, 2Kansas State University College of Veterinary Medicine, 3West Texas A&M University

2:45 p.m. PSXIV-28  Post-confluence cell age affects LPS induced interleukin-8 secretion in IPEC-J2 cells.
Julie Simmons 1, Adrienne Woodward 1, Hang Lu 1, Nathan Horn 1
1United Animal Health

2:45 p.m. PSXIV-29  Seminal plasma uterine priming in embryo-recipient beef cows alters preweaning offspring growth but not indices of body composition.
Rebecca M. Swanson 1, Riley D. Messman 1, Rhonda C. Vann 1, Dustin T. Yates 2, Darcie R. Sideling 1, Caleb O. Lemley 1
1Mississippi State University, 2University of Nebraska-Lincoln

Small Ruminant
Chair: Tom Murphy, USDA ARS U.S. Meat Animal Research Center
3:30 PM - 5:00 PM
EAST MAIN: 130 Cimarron

3:30 p.m. 374  Birth season and production system effects on post-weaning growth and gastrointestinal nematode infection of Katahdin lambs
Tom W. Murphy 1, Andrew Hess 2, Jim E. Miller 3, Joan M. Burke 4
1USDA ARS U.S. Meat Animal Research Center, 2University of Nevada Reno, 3Louisiana State University, 4USDA ARS Dale Bumpers Small Farms Research Center
3:45 p.m. 375 Effects of breedtype and gender on performance, feeding behavior, and feed efficiency in growing goats
Merrick E. Irvin 1, Negusse F. Kidane 2, Gordon E. Carstens 1, William B. Foxworth 3, Keara O'Reilly 1, Scott Horner 3
1Department of Animal Science, Texas A&M University, 2Department of Agriculture, Nutrition and Human Ecology at Prairie View A&M University and Prairie View A&M University, International Goat Research Center, 3Prairie View A&M University International Goat Research Center

4:00 p.m. 376 Effects of mineral supplementation during range grazing on ovine performance
Ryan A. Spurling 1, Dillon Petty 2, Chad Gasser 2, Randall Violett 3, Morgan Christensen 2, Andrew Heaton 2, Eric Thacker 1, Alexis Sweat 1, Kerry Rood 1, Kara J. Thornton 1, Chad Page 1
1Utah State University, 2Southern Utah University, 3University of Wyoming

4:15 p.m. 377 Evaluation of feed intake, feed efficiency and days on trial in growing goats fed a total mixed diets using GrowSafe feeding technology
Negusse F. Kidane 1, Merrick E. Irvin 2, William B. Foxworth 3, Gordon E. Carstens 2, Scott Horner 3, Keara O'Reilly 2
1Department of Agriculture, Nutrition and Human Ecology at Prairie View A&M University and Prairie View A&M University, International Goat Research Center, 2Department of Animal Science, Texas A&M University, 3Prairie View A&M University International Goat Research Center

4:30 p.m. 378 Genetic parameter estimates of post-weaning growth and gastrointestinal nematode infection traits of Katahdin lambs
Andrew Hess 1, Tom W. Murphy 2, Jim E. Miller 3, Joan M. Burke 4
1University of Nevada Reno, 2USDA ARS U.S. Meat Animal Research Center, 3Louisiana State University, 4USDA ARS Dale Bumpers Small Farms Research Center

4:45 p.m. 379 Impacts of Serecia Lespedeza and Black seed meal dietary supplementation on sperm quality and fertility parameters of male goats
Sharath Chandra Namani 1, Ramya Sri Kolikapongu 1, Sai Chandan Chelkapally 1, Rania Heikal 1, Ayesha Neha 1, Arshad Shaik 1, Andres A. Pech Cervantes 1, Niki C. Whitley 1, Brou Kouakou 1, Thomas H. Terrill 1, Adel R. R. Moawad 1
1Fort Valley State University

Production, Management and Environment III: Applied Management Protocols
Chair: Obioha Durunna, Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5
3:45 PM - 5:15 PM
EAST MAIN: 120 Dona Ana

3:45 p.m. 316 Routine claw trimming data provides insight into the occurrence of claw lesions Holstein herds in the central region of South Africa
Robyn C. Joubert 1, Esté Van Marle-Köster 1, H F. Strydom 1
1University of Pretoria
4:00 p.m. 317  Characterizing Foot and Leg Scores for Montana Registered Angus Cattle
Taylre Sitz 1, Timothy DelCurto 1, Hannah DelCurto-Wyffels 1, Megan L. Van Emon 2, Sam Wyffels 3, Jeremiah Peterson 1, Thomas Hamilton 1, Kelli J. Retallick 4, Esther Tarpoff 5, Andre Garcia 2, Kurt Kangas 5
1Montana State University, 2Fort Keogh Ag Experiment Station, 3Montana State University Extension, 4American Angus Association, 5American Angus Association

4:15 p.m. 318  The effect of developing heifers to a lower percentage of mature body weight at breeding on pregnancy rates and longevity within the herd
Josie Crouch 1, Travis Mulliniks 2, Jacki A. Musgrave 1, Kathy Hanford 1, Kacie L. McCarthy 2
1University of Nebraska-Lincoln, 2University of Nebraska

4:30 p.m. 319  Single timed-AI heifer development and delayed feedlot entry of non-pregnant heifers
Douglas G. Landblom 1, Songul Senturklu 2, Lauren L. Hanna 3, Bryon Parman 3, George A. Perry 4, Steve Paisley 5
1North Dakota State University Dickinson Research Extension Center, 2Canakkale Onsekiz Mart University, 3North Dakota State University, 4Texas A&M AgriLife Research, Overton, TX, 5University of Wyoming

4:45 p.m. 320  Effects of sorting strategy on within-pen variation and profitability
Meredith A. Harrison 1, James W. Oltjen 2
1C-Lock Inc., 2University of California, Davis

5:00 p.m. 321  Rancher motivations for joining sustainability programs
Sarah C. Klopatek 1, James W. Oltjen 2, Leslie Roche 2, Kim R. Stackhouse-Lawson 3, Allison Cantwell 4
1JBS, 2University of California, Davis, 3AgNext, Colorado State University, 4USDA

Thursday, July 20, 2023

ARPAS Symposium
Chair: Kristen Hales, Texas Tech University
8:00 AM - 12:00 PM
EAST UPPER: 235 Mesilla

8:00 a.m.  ARPAS Symposium Introduction

8:05 a.m. 104  Development of an experimental model to induce liver abscesses in steers using an acidsotic diet challenge and oral bacterial inoculation
Zach S. McDaniel 1, Kristin E. Hales 1, T.G. Nagaraja 2, Raghavendra G. Amachawadi 2, Ty E. Lawrence 3, Travis C. Tennant 3, Jeff A. Carroll 4, Nicole C. Burdick Sanchez 5, Michael Galleyean 6, Taylor M. Smock 1, Michael A. Ballou 1, Vinicius Machado 1, Emily M. Davis 7, Rand Broadway 4
1Texas Tech University, 2Kansas State University College of Veterinary Medicine, 3West Texas A&M University, 4USDA, 5USDA-ARS, Livestock Issues Research Unit, 6Texas Tech University Department of Veterinary Medicine, 7Texas Tech University, Department of Veterinary Sciences
8:20 a.m. The effects of roughage neutral detergent fiber concentration and bulk density of steam-flaked corn on performance, carcass characteristics, and liver abscesses in finishing beef steers
Zach S. McDaniel 1, Michael Galyean 2, Rand Broadway 3, Nicole C. Burdick Sanchez 4, Jeff A. Carroll 3, Ashlee Noelle Hanratty 1, Ashley A. Hoffman 1, Colten W. Dornbach 1, Dalton J. Line 1, Taylor M. Smock 1, Kristin E. Hales 1
1Texas Tech University, 2Texas Tech University Department of Veterinary Medicine, 3USDA, 4USDA-ARS, Livestock Issues Research Unit

8:35 a.m. Using a novel direct-fed microbial as an alternative for tylosin phosphate to control liver abscesses and decrease antimicrobial use in finishing beef steers
Ashley A. Hoffman 1, Samodha C. Fernando 2, James E. Wells 3, Dale R. Woerner 1, Jeff L. Manahan 1, Nathan S. Long 4, Zach S. McDaniel 1, Taylor M. Smock 1, Dalton J. Line 1, Paul R. Broadway 5, Jeffery A. Carroll 5, Nicole C. Burdick Sanchez 5, Kristin E. Hales 1
1Texas Tech University, 2University of Nebraska-Lincoln, 3USDA-ARS, 4Texas A&M University, 5USDA-ARS, Livestock Issues Research Unit

8:50 a.m. Fusobacteria, Bacteroidetes, and more! Linking the microbial communities in bovine liver abscesses to the gut
Lee Pinnell 1, J. Daniel Young 2, Tyler Thompson 3, Cory Wolfe 1, Tony C. Bryant 4, Mahesh Nair 3, John T. Richeson 2, Paul Morley 1
1Texas A&M University, 2West Texas A&M University, 3Colorado State University, 4Five Rivers Cattle Feeding

9:40 a.m. ARPAS Symposium Break

10:00 a.m. Development of a bacteriophage-based feed additive to prevent bovine liver abscesses
Jacques Mathieu 1, Jenny Laverde 2, Cory Schwarz 1, Marina Tikhonova 2, Megan Miller 1, Nicole C. Burdick Sanchez 3, Jeffery A. Carroll 3, Paul R. Broadway 3, Pedro Alvarez 1
1Rice University, 2Sentinel Environmental, 3USDA-ARS, Livestock Issues Research Unit

10:50 a.m. Development of a novel, experimental, minimally invasive model to investigate the genesis and etiology of liver abscesses in cattle
Paul R. Broadway 1, T.G. Nagaraja 2, Ty E. Lawrence 3, Raghavendra G. Amachawadi 2, Jeffery A. Carroll 1, Nicole C. Burdick Sanchez 1, Michael Galyean 4, Kristin E. Hales 5
1USDA-ARS, Livestock Issues Research Unit, 2Kansas State University College of Veterinary Medicine, 3West Texas A&M University, 4Texas Tech University Department of Veterinary Medicine, 5Texas Tech University

11:40 a.m. ARPAS Symposium Discussion
8:30 a.m. 147 Determining status of five genetic conditions in U.S. sheep with a medium-density ovine bead array
Ronald M. Lewis 1, Bradley A. Freking 2, Michael P. Heaton 2, Klint Gore 3, Joan M. Burke 4, Benjamin G. Pejsar 5, Russell L. Burgett 6, Daniel J. Brown 3
1Department of Animal Science, University of Nebraska-Lincoln, 2USDA ARS U.S. Meat Animal Research Center, 3Animal Genetics and Breeding Unit (A Joint Venture of the NSW Department of Primary Industries and University of New England), University of New England, 4USDA ARS Dale Bumpers Small Farms Research Center, 5Neogen Corporation – GeneSeek Operations, 6National Sheep Improvement Program

8:45 a.m. 148 Does increased gametic variance translate to increased heterogeneity in progeny?
Maeve Williams 1, Saeid Naderi 2, Donagh P. Berry 1
1Teagasc, 2Irish Cattle Breeding Federation

9:00 a.m. 149 Marker effect p-value for large genotype populations with the algorithm for proven and young
Natalia Leite 1, Matias Bermann 2, Shogo Tsuruta 2, Ignacy Misztal 2, Daniela Lourenco 2
1Topigs Norsvin, 2University of Georgia

9:15 a.m. 150 Repeatability of rangeland behavioral and social traits derived from GPS collars
John H. Bergeron 1, Scott Huber 1, Tracy Shane 1, Jason Karl 2, Melanie Hess 3, Robert Washington-Allen 1, Mike Cox 4, Andrew Hess 5
1University of Nevada, Reno, 2University of Idaho, 3University of Nebraska-Lincoln, 4Nevada Department of Wildlife, 5University of Nevada Reno

9:30 a.m. 151 Depth video data-enabled predictions of longitudinal dairy cow body weight using thresholding and Mask R-CNN algorithms
Ye Bi 1, Leticia Campos 1, Jin Wang 2, Haipeng Yu 2, Mark Hanigan 1, Gota Morota 3
1Virginia Tech, 2Department of Animal Sciences, University of Florida, 3School of Animal Sciences, Virginia Polytechnic Institute and State University

9:45 a.m. 152 Leveraging RFID technology to investigate the genetic associations between feeding behavior and leg health in floor-raised broilers
Anderson A. Carvalho Alves 1, Arthur F. Araujo Fernandes 2, Vivian Breen 2, Rachel Hawken 2, Guilherme J. M. Rosa 3
1Department of Animal and Dairy Sciences, University of Wisconsin - Madison, 2Cobb-Vantress, Inc., 3University of Wisconsin-Madison

10:00 a.m. 153 Genomic prediction and genetic parameters of residual feed intake computed using linear and non-linear regression methods in broiler chickens
Anderson A. Carvalho Alves 1, Arthur F. Araujo Fernandes 2, Vivian Breen 2, Rachel Hawken 2
1Department of Animal and Dairy Sciences, University of Wisconsin - Madison, 2Cobb-Vantress, Inc.
8:30 a.m.  162  Evaluating the potential of a thermal imaging system to identify subclinical mastitis in dairy cattle
Bhuwan Shrestha 1, Juan M. Piñeiro 2, Sushil Paudyal 3
1Texas A&M University, 2Texas A&M AgriLife Extension, 3Texas A&M

8:45 a.m.  168  Characterization of the culturable fraction of bovine ocular microbiota and its in vitro antimicrobial activities against pinkeye pathogens
Sarah M. Luecke 1, Gerald Stokka 1, Kaycie N. Schmidt 1, Garrett Havelka 1, Samat Amat 2
1North Dakota State University, 2North Dakota State University, Department of Microbiological Sciences

9:00 a.m.  169  Effects of intranasal prebiotics, probiotics and synbiotics on the nasopharyngeal microbiota of feedlot cattle
Samat Amat 1, Trevor Alexander 2
1North Dakota State University, Department of Microbiological Sciences, 2Agriculture Agri-Food Canada, Lethbridge Research and Developmental Center

9:15 a.m.  165  Evaluation of the use of prenatal immune stimulation on the ability to alter postnatal immune function in weaned pigs
Nicole C. Burdick Sanchez 1, Ty M. Mitchell 2, Paul R. Broadway 1, Brooke M. Bowen 2, Emily M. Davis 3, Thomas W. Dobbins 2, Samantha N. Barker 2, Jerrad F. Legako 2, Amy L. Petry 4, Jeffery A. Carroll 1
1USDA-ARS, Livestock Issues Research Unit, 2Texas Tech University, Department of Animal and Food Sciences, 3Texas Tech University, Department of Veterinary Sciences, 4Division of Animal Sciences, University of Missouri

9:30 a.m.  166  Pre-weaned calves have increased cortisol levels post-wildfire smoke exposure
Juliana Ranches 1, Gracia M. P. Hernandez 2, Aline R. Santos 2, Matheus Ferreira 2, Jenifer Cruickshank 2
1Oregon State University; EOARC, 2Oregon State University

9:45 a.m.  167  Plasma metabolomics at weaning and 30 days prior to AI in beef heifers with varying reproductive potential
Anna Holliman 1, Priyanka Banerjee 1, Paul W W. Dyce 1
1Auburn University

10:00 a.m.  163  Colostrum pasteurization improves health status and blood immunity in dairy calves through manipulating intestinal microbial community
Tianyu Chen 1, Shuyuan Zhang 1, Haotong Song 1, Jiaying Ma 1, Muhammad Zahoor Khan 1, Jingjun Wang 1, Shuai Liu 1, Zhijun Cao 1
1State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University
8:30 a.m. 225 Invited Talk: Improving efficiency of grazing livestock production systems with novel sensors
Travis Mulliniks 1, Yijie Xiong 1, Isabella C. F. S. Condotta 2, Dalton Anderson 1, Kacie L. McCarthy 1, Mitchell Stephenson 1
1University of Nebraska, 2University of Illinois at Urbana-Champaign

9:00 a.m. 232 In vitro digestibility of dry matter and nitrogen of Napier grass silage is affected by fertilization with cow-dung bio-digester slurry and fermentable carbohydrate additives at ensiling.
Mashudu Daniel Rambau 1, Felix Fushai 1, Joseph J. Baloyi 1
1University of Venda

9:15 a.m. 426 Forages containing plant secondary compounds can improve digestibility, rumen ammonia and rumen metabolites of pasture: an in vitro continuous culture case study.
Rachael G. Christensen 1, Jonathan Halvorson 1, Jennifer W. MacAdam 2, Scott L. Kronberg 1, John R. Hendrickson 1
1USDA-ARS, 2Utah State University

9:30 a.m. 233 Fermentation characteristics of brassica and wheat mixed silages
Flint W. Harrelson 1, Patricia L. Harrelson 1, Caroline R. Roush 1, Amanda R. Skidmore 1, Amy S. Collick 1
1Morehead State University

9:45 a.m. 234 Can we use moderate quality round bale bermudagrass silage to stretch wheat pasture?
Paul A. Beck 1, Matthew R. Beck 2, Don Hubbell 3, Tom Hess 4, Andrew P. Foote 1, Shane Gadberry 5, Beth B. Kegley 4
1Oklahoma State University, 2USDA-ARS, 3University of Arkansas Retired, 4University of Arkansas Division of Agriculture, 5UA Livestock and Forestry Station

10:00 a.m. 235 Effects of curing extent on the phytoestrogen levels of red clover hay and silage across storage phases
Diego Zamudio Ayala 1, Marta Lima 2, Raphaella Alexandra De Castro 1, Ana Paula Jimenez 1, Marcus Cardoso 1, Colt W. Knight 1, Juan Jose J. Romero 1
1University of Maine, 2Virginia Tech
8:30 a.m.  366  **Effects of acidosis bout events on animal growth and development, and the effectiveness of liver abscess-controlling antibiotic on diminishing its incidence.**

Luiz Fernando Dias Batista 1, Madeline E. Rivera 1, Luis O. Tedeschi 1

1Texas A&M University

8:45 a.m.  367  **Early fetal to neonatal vitamin A supplementation improves growth performance and development of muscle and pre-adipocyte in Korean native calves**

XueCheng Jin 1, DongQiao Peng 2, WangYong Jeong 1, JunHee Lee 1, Ghassemi Nejad Jalil 1, JaeSung Lee 1, HongGu Lee 3

1Department of Animal Science and Technology, Sanghuh College of Life Science Konkuk University, Seoul 05029, Republic of Korea, 2Department of Animal Science, College of Animal Science, Jilin University, 5333 Xi’an Road Changchun City, Jilin Province, P.R. China, 3Department of Animal Science and Technology, Sanghuh College of Life Science, Konkuk University, Seoul 05029, Republic of Korea

9:00 a.m.  368  **Effects of supplemental methionine or choline on health and performance of high-risk receiving beef heifers**

Madeline S. Grant 1, Dale A. Blasi 1, Evan C. Titgemeyer 1

1Kansas State University

9:15 a.m.  369  **Effects of supplementing sources of zinc on digestibility parameters of beef steers**

Arminda S. James 1, Brian Rude 1, Trent Smith 1, Angela R. Boyer 2

1Mississippi State University, 2Phibro Animal Health

9:30 a.m.  370  **Evaluation of nutrient digestibility by calves born from early and late shedding Angus dams**

Jennifer Keele 1, Brian Rude 1, Trent Smith 1, Brandi B. Karisch 1, Malori Masaitis 1

1Mississippi State University

9:45 a.m.  371  **Effect of calcium magnesium carbonate and/or tylosin phosphate supplementation on behavior, rumination activity, feedlot growth performance and carcass characteristics in yearling beef steers**

Becca Grimes Francis 1, Forest L. Francis 1, Erin R. Gubbels 1, Thomas Norman 1, Thiago Maia Ribeiro 1, Santana Hanson 1, Cassidy Ross 1, Devan Paulus Compart 2, Warren C. Rusche 1, Zachary K. Smith 1

1South Dakota State University, 2Papillon Agricultural Company

10:00 a.m.  373  **Effects of different trace mineral supplementation strategies on liver mineral status and gene expression of at-risk mineral deficient feedlot cattle**

Anthony F. Alberto 1, Caleb Reichhardt 2, Bailee Brown 1, Laura A. Motsinger 3, Kerry Rood 1, Brett Bowman 1, Bryce W. Roholt 1, Matthew D. Garcia 1, Kara J. Thornton 1

1Utah State University, 2University of Hawai‘i at Mānoa, 3Hill’s Pet Nutrition
Animal Breeding and Genetics Symposium III
Chair: Zhihua Jiang, Washington State University
8:30 AM - 12:00 PM
WEST UPPER: Ballroom B

8:30 a.m.   Animal Breeding and Genetics Symposium III Introduction

8:35 a.m.  97 Dissection of evolution of cis-regulatory elements and its application on genetic control of complex traits in farm animals
Huaijun Zhou
1
1University of California, Davis

9:05 a.m.  98 Molecular phenomics - A multi-omics approach to understanding complex traits in cattle
Fernando Biase
1
1Virginia Tech

9:35 a.m.  99 Noncoding RNAs alter our interpretations of genome to phenome
Darren E. Hagen, Anna K. Goldkamp
1
1Oklahoma State University

10:05 a.m. Animal Breeding and Genetics Symposium III Break

10:20 a.m. 96 Animal genomes to phenomes: Funding and perspectives from USDA-NIFA
Angelica G. Van Goor, Timothy Sullivan, Christian Tobias
1
1USDA-National Institute of Food and Agriculture

10:50 a.m. 100 The central dogma of phenomics: P = G + R + E + G x R x E?
Zhihua Jiang
1
1Washington State University

11:20 a.m. Animal Breeding and Genetics Symposium III Discussion