



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**

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 ⁴, 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

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, Modoluwamu 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 Tarnonsky ¹, Federico Podversich ¹, Juan Vargas ¹, Wilmer Cuervo ¹, Macarena Gomez-Salmoral 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 Osulale ¹, Modoluwamu 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 Amat¹, Sarah M. Luecke², Kendall C. Swanson², Carl R. Dahlen²

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 Lyte¹

¹Iowa State University

9:45 a.m. 17 **The Rumen Microbiome: Realizing the potential for mediating host performance**

Hannah C. Cunningham-Hollinger¹

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. Myer¹

¹University of Tennessee

11:10 a.m. 19 **The swine gut microbiome and animal production**

Jiangchao Zhao¹

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. Orlando¹, Ning Lu², Carine M. Vier¹, Wayne R. Cast¹, Ron Navales³, Jordi Camp Montoro⁴, Sergio Canavate¹, Jose Henrique Piva¹, Juan Carlos Pinilla¹, Steve Dritz¹

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 Farmer¹

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

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 Khafipour 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. Lents¹, Julio M. Florez², Kyra Martins², Jonathan R. Bostrom², Paula Rodriguez-Villamil², Felipe Ongaratto², Abe Huisman³, Sabreena A. Larson², Daniel F. Ahern⁴, Caitlin E. Ross⁴, Dorothy H. Elsken⁴, Robert A. Cushman¹, Brett R. White⁵, Tad S. Sonstegard²

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. Ahern¹, Caitlin E. Ross¹, Ginger A. Mills¹, Dorothy H. Elsken¹, Hunter L. McConnell², Julio M. Florez³, Kyra Martins³, Massimiliano Beltramo⁴, Tad S. Sonstegard³, Brett R. White⁵, Clay A. Lents⁶

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. Bedenbaugh¹, Serena Sweet¹, Haley Mendoza-Romero¹, Samantha Brener¹, Sydney Hawkins¹, Gina Yu¹, Jessie Zimmermann¹, Patrick Sweeney², Roger Cone², Richard Simerly¹

¹Vanderbilt University, ²University of Michigan

10:50 a.m. 405 **The effects of disease-induced inflammation on reproductive neuroendocrinology: Evidence from sheep**

Allison Renwick¹

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 Long¹, Keelee J. McCarty¹, Nathan Clemson University Long¹

¹Clemson University

11:35 a.m. 30 **Central regulation of KNDy neurons during undernutrition in sheep**

Casey Nestor¹

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. Beck¹, Logan Thompson²
¹USDA-ARS, ²Kansas State University

9:40 a.m. 21 **Beef Cattle and Global Warming**

Alan Rotz¹
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. Campbell¹
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 Selvaraj¹, Viju V. Pillai², Prasanthi P. Koganti¹
¹Cornell University, ²South Dakota State University

1:50 p.m. 45 **Genome editing of livestock for production agriculture and biomedical applications**

Charles R. Long¹
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 Telugu¹
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. Sonstegard¹
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. Ortega¹
¹Michigan State University

Nonruminant Nutrition I: Dietary Interventions for Intestinal Health
Chair: Erin Posey, USDA/APHIS, National Veterinary Services Laboratories
1:30 PM - 3:45 PM
EAST MAIN: 120 Dona Ana

1:30 p.m. 253 **Understanding the health benefits of feeding treated wheat straw for weanling pigs**

Veronica I. Polniak¹, Jaron Lewton², Medhat A. Michael³, Kyan M. Thelen⁴, Adam J. Moeser⁴, Dale W. Rozeboom¹

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 Duarte¹, Chad Stahl², Sung Woo Kim³

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. Kovanda¹, Sofia Rengman², Snehal Tawde², Jeroen Pos², Kwangwook Kim³, Yanhong Liu¹

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 Duarte¹, Zixiao Deng², Erik Eckhardt³, Sung Woo Kim⁴

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. Boston¹, Feng Wang², Lin Xi¹, Sung Woo Kim³, Vivek Fellner¹, Mark F. Scott⁴, Amanda L. Ziegler⁵, Laurianne Van Landeghem⁵, Anthony T. Blikslager⁵, Jack Odle¹

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 Choi¹, Gabriel Rocha², Sung Woo Kim²

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. Idenyi¹, Jonathan Eya¹, Abdallah Hadimundeen¹, Abigeal Adeyemi¹

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 Fowler¹, Benoit St-Pierre¹, William Gibbons¹, Phil Kerr², Michael Brown¹
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. Redifer¹, Allison M. Meyer¹
¹University of Missouri

2:00 p.m. 284 **Supranutritional mineral supplementation during pregnancy alters placental blood flow and calf mineral concentrations**
Makayla A. Ogg¹, Rodrigo S. Marques¹, Sidney Stratton¹, Julia Dafoe², Darrin L. Boss², Carla Sanford¹, Sarah McCoski¹
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. Trotta¹, David L. Harmon², James L. Klotz³
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. Klotz¹, Susan K. Duckett², Maslyn A. Greene², Celina M. Checura²
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. Paez¹, Andreia Ferreira¹, Galo Vera¹, Leticia Sanglard², James Drouillard¹, Victor Gomez-Leon¹
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. Soffa¹, Brooke E. McAnally¹, Kyle J. Hickman-Brown¹, Molly S. Smith¹, Jennifer A. Spencer², Rebecca K. Poole¹
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. Anthony¹, Amelia R. Tanner¹, Victoria C. Kennedy¹, Cameron S. Lynch¹, Taylor K. Hord¹, Quinton A. Winger¹, Paul J. Rozance²
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. Gurule¹, Jessica F. Sustaita-Monroe¹, Leslie King¹, Viviana Garza¹, Sarah West¹, Morgan Weynand¹, Emily Ecord¹, Vasantha Padmanabhan², Rodolfo C. Cardoso¹

¹Texas A&M University, ²University of Michigan

4:30 p.m. 290 **Ewe undernutrition alters cotyledon development and function**

Francesca Welter¹, Rodrigo S. Marques¹, Amanda N. Bradbery¹, Christian Posbergh¹, Sarah McCoski¹

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 Burato¹, Nicholas Wege Dias², Stefania Pancini³, Lucas Melo Goncalves¹, Madison B. B. Walker¹, Darren D. H. Henry¹, Francine M. Messias Ciriaco¹, Vitor R G Mercadante⁴, Kelsey M. M. Harvey⁵, Pedro L.P. Fontes¹

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 F2 α and gonadotropin-releasing hormone in beef heifers and cows as a convergent presynchronization method in the 7 & 7 Synch protocol**

Lucas J. Palcheff¹, Genevieve M. VanWye¹, Kimberly R. Ricardo¹, Christine M. Spinka¹, Scott E. Pooch¹, Jordan M. Thomas¹

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 Goncalves¹, Saulo Menegatti Zoca², Lucas Neira³, Samir Burato¹, Matthew Patrick Holton⁴, Madison Walker¹, Pedro L.P. Fontes¹

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. Reiter¹, Mia Y. Kawaida¹, Nicole M. Tillquist¹, Brandon Smith¹, Kristen E. Govoni¹, Steven A. Zinn¹, Sarah A. Reed¹

¹University of Connecticut

CSAS Graduate Student Oral Competition: PHD

Chair: Younes Miar, Department of Animal Science and Aquaculture, Dalhousie University

1:45 PM - 3:30 PM

WEST LOWER: 18 Cochiti, Taos

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; Department of Agriculture, Food and Nutritional Science, University of Alberta, 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 improve 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

3:15 p.m. 224 **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

1:45 p.m. 344 **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

2:00 p.m. 345 **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, Rosetta M. Brice ¹, Oluteru E. Orimaye ¹, Michael Wuaku ¹, Uchenna Y. Anele ¹

¹North Carolina Agricultural and Technical State University

2:15 p.m. 346 **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

2:30 p.m. 347 **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

2:45 p.m. 348 **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

3:00 p.m. 349 **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

3:15 p.m. **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. Genter 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 Castro¹, Juliana Candelaria², Molly Austin¹, Charles Shuster¹, Craig A. Gifford¹, Anna C. Denicol², Jennifer A. Hernandez Gifford¹

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 Hauxwell¹, Robert A. Cushman², Joel S. Caton¹, Alison Ward³, Amanda Lindholm-Perry⁴, Alexandria P. Snider⁵, Harvey C. Freetly⁴, Carl R. Dahlen¹, Samat Amat⁶, Bryan W. Neville⁴, Jennifer Thorson⁴, William T. Oliver⁷, Jeremy R. Miles⁴, Matthew S. Crouse⁴

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. Kobza¹, James D. Young¹, John T. Richeson¹, Ty E. Lawrence¹, Travis C. Tennant¹, Kendall L. Samuelson¹

¹West Texas A&M University

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. Banegas¹, Brittany Hutson¹, Caroline R. Gregg¹, Martha Rueda², Jeremiah D. Davis², Joseph Purswell³, Charles Starkey⁴, Jessica D. Starkey¹

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 Cresci¹, Busra Atamer Balkan¹, Luis O. Tedeschi², Antonello Cannas¹, Alberto S. Atzori¹

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 Franco¹, Aghata Silva², Tio Brody³, Mozart A. Fonseca³

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. Gubbels¹, Colten W. Dornbach², Warren C. Rusche¹, Nicole C. Burdick Sanchez³,
Jeffery A. Carroll³, Kristin E. Hales², Paul R. Broadway³, Zachary K. Smith¹
¹South Dakota State University, ²Texas Tech University, ³USDA-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. Gonzalez¹, Milad Bagheri Shirvan¹, Juan Molfino¹
¹The University of Sydney

3:15 p.m. 313 **Efficacy of vermifiltration to treat liquid cattle manure to mitigate carbon and nitrogen emissions.**
JERA L. Monaghan¹, Jennifer Michal¹, B. Thomas Jobson¹, Patrick O'Keeffe¹, Cris de castro-
Nunes², Mackenzie Austin¹, Kristen A. Johnson¹
¹Washington State University, ²Universidad Federal de Vicosa

3:30 p.m. 314 **Dehydrated garlic powder did not influence enteric gas fluxes in feedlot steers**
Oluwatobi Oyedeji¹, Herbert A. Lardner², Hushton Block³, Obioha N. Durunna¹
¹Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5,
²Department of Animal and Poultry Science, University of Saskatchewan, ³Agriculture 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. Cammack¹, Amanda Blair¹, Hector M. Menendez¹, Jameson R. Brennan², Krista
Ehlert¹, Chris Graham¹, Rachel Short¹, Jeff M. Martin¹
¹South Dakota State University, ²South 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. Adcock¹, Jocelyn M. Woods¹, Gretchen Peckler¹
¹Department 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 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 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. Preedy¹, Octavio Guimaraes², Jennifer S. Schutz³, Trent Fox⁴, Miles Theurer⁴
¹Chr Hansen, ²Colorado State University, ³Chr. Hansen, ⁴Veterinary 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. Ale¹, Frank W. Abrahamsen¹, Reshma Gurung², Santosh Chaudharu¹, Nar K. Gurung¹

¹Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA, ²Integrative 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. Yost¹, Nathan Blake¹, Ida Holaskova¹, Domingo Mata-Padrino¹, John Yost¹, Jerry Yates¹, Kelsie Sanders¹, Matthew E. Wilson¹

¹West Virginia University

7:00 a.m. PSI-12 **Characterization of boar reproductive tract microbiome prior to puberty attainment**

Brooke E. McAnally¹, Dallas R. Soffa¹, Molly S. Smith¹, Kyle J. Hickman-Brown¹, Erin Stockland¹, Jeffrey Wiegert¹, Guoyao Wu¹, Rebecca K. Poole¹

¹Texas 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. Liuzzo¹, Ryan R. Reuter¹, Blake K. Wilson¹

¹Oklahoma 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. Hare¹, Emily Croft², Katharine M. Wood², Greg B. Penner³, Michael A. Steele⁴

¹Department of Animal Bioscience, University of Guelph, ²University of Guelph, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴Department 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 Yang¹, Yuhui Zheng², Shengli Li²

¹China Agricultural University, ²China 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 Giesey¹, Jeff A. Brady², Olabiyi Obayomi², Tryon A. Wickersham³, Natasha L. Mast⁴
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 Urrutia¹, Sebastian Maresca², Sebastian O. López-Valiente³, German Canton², Cristian Gomez⁴, Claudio Cabral⁵, Alejandro M. Rodriguez⁶, Nicolas DiLorenzo⁷
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 Dhungana¹, Oluwaseun Odunfa¹, Anthony Osterman¹, Daniel Woods¹, Kimberly Cooper¹, Changzheng Wang¹, Ilkyu Yoon², Yun Jiang¹
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 Odunfa¹, Anjan Dhungana¹, Alex Golinski², Maria I. Sardi², S. Ali Naqvi³, Ilkyu Yoon⁴, Fredrick Bebe¹, Ehsan Khafipour⁵, Yun Jiang¹
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 Neville¹, Layla King¹, Pawel P. Borowicz¹, Larry P. Reynolds¹, Joel S. Caton¹
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. Bien¹, Daisy Kaplan¹, Mohammed Embaby¹, Prasanth S. Pillai², Manoj Kumar², Amer AbuGhazaleh¹, Karen Jones¹, Amir Sadeghpour¹, Jayakrishnan Nair¹
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. Poblete¹, Diego Zamudio Ayala¹, Marcus Cardoso¹, Ana Paula Jimenez¹, Glenda Pereira², Yun Jiang³, Juan Jose J. Romero¹
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 Discepolo 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, Efstathios Sarmikasoglou ¹, Lana M. Katz ¹, Sanjeeva 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

7:00 a.m. PSI-4 **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

7:00 a.m. PSI-21 **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

7:00 a.m. PSI-24 **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

7:00 a.m. PSI-20 **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

7:00 a.m. PSI-17 **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, Philippe Moriel ¹
¹University of Florida, ²University of Maine, ³USDA

7:00 a.m. PSI-18 **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

7:00 a.m. PSI-7 **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

7:00 a.m. PSI-14 **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

Animal Breeding and Genetics II: Advances in Animal Biomedical Model Genetics

Chair: Gota Morota, School of Animal Sciences, Virginia Polytechnic Institute and State University

8:00 AM - 10:45 AM

WEST LOWER: 32 Tesuque, Zuni, Acoma

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. Brown¹, Devon Fitzpatrick¹, Sanjeev Datar², Thomas F. Bishop¹, Alison L. Van Eenennaam³

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 Bhatia¹, Xuechun Bai², Frederic Fortin³, John Harding⁴, Michael Dyck⁵, Catherine Field⁵, Claire Rogel-Gaillard⁶, Fany Blanc⁶, Graham Plastow⁵, Jack C.M. Dekkers¹

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 Ampofo¹, Hung Mai², Arun Dhar³, Daniel Greevers⁴, Harris Wright⁴, Breno O. Fragomeni¹

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 Kukor¹, R. Mark Enns¹, Timothy N. Holt¹, Matthew Cleveland², Ben P. Holland³, Alyssa B. Word³, Guy Ellis³, Miles Theurer⁴, Scott E. Speidel¹

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. Baty¹, R. Mark Enns¹, Timothy N. Holt¹, Scott E. Speidel¹

¹Colorado State University

9:45 a.m. 128 **Reviewing the definition of mortality in broiler chickens**

Jennifer Richter¹, Fernando Bussiman¹, Jorge A. Hidalgo¹, Vivian Breen², Ignacy Misztal¹, Daniela Lourenco¹

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. Zuvich¹, Scott E. Speidel¹, Isaac F. Torres-Quijada¹, 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

10:15 a.m. 130 **Genetic analysis of count-based horn fly abundance phenotypes in beef cattle**
Amanda M. Warner¹, Nancy Hinkle¹, Bradley Heins¹, Dean Pringle², Samuel E. Aggrey¹, Romdhane Rekaya¹
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. Warner¹, Nancy Hinkle¹, Bradley Heins¹, Dean Pringle², Samuel E. Aggrey¹, Romdhane Rekaya¹
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. Selsby¹
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. Rogers¹, Brittany Hutson¹, Martha Rueda², Jeremiah D. Davis², Joseph Purswell³, Charles Starkey⁴, Jessica D. Starkey¹
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. Fiallos¹, Brittany Hutson², Martha Rueda³, Jeremiah D. Davis³, Joseph Purswell⁴, Charles Starkey⁵, Jessica D. Starkey²
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. Posey¹, Agus Suryawan², Hanh Nguyen², Christina Sciarillo³, Barbara Stoll², Caitlin Vonderohe², Doug Burrin², Marta Fiorotto², Teresa A. Davis²
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. Gibbs¹, Haley N. Beer¹, Taylor A. Lacey¹, Melanie R. White¹, Zena M. Hicks¹, Pablo Cesar C. Grijalva¹, Jessica L. L. Peterson¹, Ty B. B. Schmidt¹, Dustin T. Yates¹
¹University of Nebraska-Lincoln

9:30 a.m. 240 **Prolonged maternofetal inflammation in the pregnant ewe at mid-gestation increases subsequent fetal inflammatory tone and disrupts skeletal muscle growth and glucose metabolism near term**

Zena M. Hicks¹, Rachel L. Gibbs¹, Haley N. Beer¹, Melanie R. White¹, Taylor A. Lacey¹, Pablo Cesar C. Grijalva¹, Micah S. Most¹, Ty B. B. Schmidt¹, Jessica L. L. Peterson¹, Dustin T. Yates¹
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. White¹, Rachel L. Gibbs¹, Pablo Cesar C. Grijalva¹, Zena M. Hicks¹, Haley N. Beer¹, Micah S. Most¹, Ty B. B. Schmidt¹, Jessica L. L. Peterson¹, Dustin T. Yates¹
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. Costa¹, Mateus P. Gionbelli²

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. Crouse¹, Kathlyn Hauxwell², Joel S. Caton², Alison Ward³, Carl R. Dahlen², Samat Amat⁴, Harvey C. Freetly¹, Amanda Lindholm-Perry¹, Bryan W. Neville¹, William T. Oliver⁵, Jennifer Thorson¹, Alexandria P. Snider⁶, Jeremy R. Miles¹, Robert A. Cushman⁷
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 Anas¹, Alison Ward², Kacie L. McCarthy³, Ana Clara Baiao Menezes⁴, Pawel P. Borowicz¹, Larry P. Reynolds¹, Joel S. Caton¹, Carl R. Dahlen¹, Wellison Jarles j. Da Silva Diniz⁵

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. Shira¹, Gabrielle M. Becker¹, Brenda M. Murdoch¹, Kara J. Thornton², Gwinyai E. Chibisa¹, Gordon K. Murdoch³

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. Grijalva¹, Micah S. Most¹, Haley N. Beer¹, Rachel L. Gibbs¹, Zena M. Hicks¹, Taylor A. Lacey¹, Melanie R. White¹, Ty B. B. Schmidt¹, Jessica L. L. Peterson¹, Dustin T. Yates¹

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. Markel¹, Timothy N. Holt², Scott L. Lake¹, Kelly L. Woodruff¹, Bryson Mills¹, Clayton Bedke¹, Cody Gifford¹, Hannah C. Cunningham-Hollinger³

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. Gibbs¹, Rebecca Swanson¹, Joselyn K. Beard², Shawna M. Clement¹, Zena M. Hicks¹, Pablo Grijalva¹, Melanie R. White¹, Jessica L. L. Peterson¹, Ty B. B. Schmidt¹, Dustin T. Yates¹

¹University of Nebraska-Lincoln, ²University of Arizona

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. Adams¹, Jalme Fernandes Jr.², Marcia Fernandes³, Ricardo Reis³, Luis O. Tedeschi¹

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 Arabica drench in goats**

Yaser M. Ahmed¹, MD Rasel Uzzaman¹, Mulumebet Worku¹

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 Ruminant 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. Bowdridge 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**

Geraldo Balieiro Neto ¹, Marcio Jorge ², Alexandre Berndt ³, Marcela S.J. Munhoz ², Bruna R. Amancio ⁴, Carlos E.K.M.C Jordao ³, Sarah B. Gianvecchio ⁴, Marcio D. Rabelo ³

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 Freetly 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 Soylooglu 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, Maximiliano 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

Physiology and Endocrinology II

Chair: Nicole Burdick Sanchez, USDA-ARS, Livestock Issues Research Unit

8:30 AM - 10:30 AM

EAST UPPER: 220 Ruidoso

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. Trotta¹, James L. Klotz²

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. Ahern¹, Julio M. Florez², Kyra Martins², Abe Huisman³, Tad S. Sonstegard², Brett R. White⁴, Clay A. Lents⁵

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. Kessler¹, Rupert M. Bruckmaier¹, Josef J. Gross¹

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. Ketchum¹, Jessica Drum², Caleta Willis³, Chloey P. Guy⁴, Sofia Ortega⁵, Karl Kerns⁶, Charles R. Long⁷, Charles Love⁸, Thomas H. Welsh⁹, Ronald D. Randel⁴, George A. Perry⁴

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**

Caleta Willis¹, Jaclyn N. Ketchum², Kaitlin M. Epperson², Lacey K. Quail², Chloey P. Guy³, Charles Love⁴, Karl Kerns⁵, Charles R. Long⁶, Ronald D. Randel³, Thomas H. Welsh⁷, George A. Perry³

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

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**

Nonruminant Nutrition III: Amino Acid and Chelated Minerals

Chair: Sung Woo Kim, NC State University

8:30 AM - 11:30 AM

EAST MAIN: 120 Dona Ana

8:30 a.m. 430 Awardee Talk: Recent breakthroughs in mineral nutrition research that are influencing commercial swine diet formulation

Jason C. Woodworth¹, Joel M. DeRouchey¹, Mike D. Tokach¹, Robert Goodband¹, Jordan T. Gebhardt²

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 Remus¹, Candido Pomar¹

¹AAFC

9:15 a.m. 262 Weaning-induced changes in tissue cysteine utilization in pigs

Alexandra M. Gachman¹, Brooke Newell¹, Alex Outlaw¹, Julia Bartosh¹, Haejin Kim¹, Marko Rudar¹

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 valini¹, Aline Remus², Luciano Hauschild³

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 Wongchanla¹, Sangwoo Park¹, Kwangwook Kim², Shuhan Sun¹, Xunde Li¹, Yanhong Liu¹

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. Almendares¹, Diego E. Ventura¹, Ruben Kriseldi², Alex Corzo², Roshan Adhikari³, Jason Lee³, Chance Williams⁴, Charles Starkey⁵, Jessica D. Starkey¹

¹Department of Poultry Science, Auburn University, ²Aviagen, ³C.J. Bio America, ⁴Wayne-Sanderson Farms, ⁵North American Renderers Association

10:30 a.m. 266 **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, Christopher 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

10:45 a.m. 268 **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 Internationl Inc, ⁴Novus international

11:00 a.m. 269 **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 Internationl Inc

11:15 a.m. 270 **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

8:30 a.m. 408 **Awardee Talk: Team Approach to Beef Cattle Extension Programming**

Jeffrey Lehmkuhler ¹

¹University of Kentucky

9:00 a.m. 225 **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 Coursen¹, Katie Corbitt¹, Samantha Bennett¹, David Martin¹, Jason T. Sawyer¹,
Donald Mulvaney¹
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. Guelker¹, Brandi B. Karisch², Daniel Rivera³
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. Hiltbrand¹, Katie Corbitt¹, Madison Coursen¹, David Martin¹, Kimberly Mullenix¹,
Derek Ross¹, Ed Youngblood¹, Brandon B. Smith¹, Donald Mulvaney¹
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. Rentfrow¹
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 Corbitt¹, Savannah Locke¹, Karen A. Hiltbrand¹, David Shannon¹, Soren P. Rodning¹,
Jason T. Sawyer¹, Donald Mulvaney¹, Darcey Richburg¹
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 Gambino¹, Maddie Buzzeo²
¹The Breakthrough Institute, ²National Association for State Departments of Agriculture

11:15 a.m. 231 **Podcasting as an extension tool: Limitations and opportunities**
Katie Corbitt¹, Samantha Bennett¹, David Martin¹, Jason T. Sawyer¹, Soren P. Rodning¹,
Donald Mulvaney¹
¹Auburn University

11:30 a.m. 427 **A survey of Mississippi beef cattle producer attitudes, practices, and demographics**
Sarah M. Montgomery-Williams¹, Kaitlin Brumbelow¹, Jamie E. Larson¹, Josh Maples¹, Brandi
B. Karisch¹
¹Mississippi State University

Ruminant Nutrition II: Feed Additives

Chair: Guillermo Scaglia, North Dakota State University

8:30 AM - 11:45 AM

WEST LOWER: 31 Santa Ana, Sandia, Picuris

8:30 a.m. 332 **Effects of ruminal LPS on primary bovine ruminal epithelial cells**

Efstathios Sarmikasoglou¹, Leah Chu², Feng Yue², Antonio P. Faciola¹

¹Department of Animal Sciences, University of Florida, Florida, 32608, United States,

²Department of Animal Sciences, University of Florida

8:45 a.m. 333 **Using specific Bacillus strains to improve digestibility and performance of growing steers**

Liyi Pan¹, Karen Eyre¹, Karen Harper¹, Luis Prada e Silva¹

¹The University of Queensland

9:00 a.m. 334 **Use of feed additives in unweaned calves with compromised gut integrity after a transportation**

Sonia Marti¹, Marta Blanch², Maria Devant¹

¹IRTA, Ruminant Production, ²Lucta S.A.

9:15 a.m. 335 **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 Marti¹, Marta Blanch², Maria Devant¹

¹IRTA, Ruminant Production, ²Lucta S.A.

9:30 a.m. 336 **Evaluation of a Bacillus spp. probiotic on beef cattle performance, nutrient digestibility and enteric methane emissions**

Araceli B. Maderal¹, Ignacio Fernandez Marenchino¹, Juan Vargas¹, Federico Tarnonsky¹,

Federico Podversich¹, Wilmer Cuervo¹, Vanesa Ramirez-Sepulveda¹, Horacio Blanchard¹,

Macarena Gomez-Salmoral¹, Tessa M. Schulmeister¹, Oscar Queiroz², Bruno I. Cappellozza

², Nicolas DiLorenzo³

¹University of Florida, ²Chr. Hansen A/S, ³Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

9:45 a.m. 337 **Supplementation of a kaolin and yeast-based feed additive on performance of feedlot cattle**

Wenzhu Yang¹, Erin F. Schwandt², Paige N. Gott², April W. Levy², Tim A. McAllister¹

¹Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ²DSM Nutritional Products

10:00 a.m. **Ruminant Nutrition II: Feed Additives Break**

10:15 a.m. 338 **A survey of mycotoxin occurrence in US corn and corn by-product feed ingredients from 2018- 2022 harvest years**

Erin F. Schwandt¹, Paige N. Gott¹, Lan Zheng¹, April W. Levy¹

¹DSM 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 ⁸, Ricardo Reis ⁹

¹dsm-firmenich, ²São Paulo State University, Jaboticabal, Brazil, ³DSM Nutritional Products Brazil, ⁴São 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. Shike¹

¹University of Illinois at Urbana-Champaign

9:45 a.m. **Ruminant Nutrition Symposium Break**

10:00 a.m. 439 **Identifying forage efficient cows**

David Lalman¹

¹Oklahoma State University

10:35 a.m. 440 **Management strategies for beef cows and heifers grazing arid rangelands**

Eric J. Scholljegerdes¹

¹New Mexico State University

11:10 a.m. 441 **Nutrient use in the beef cow and calf: opportunities and challenges**

Allison M. Meyer¹

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 Scholz¹

¹New Mexico State University

9:45 a.m. 58 **Inclusive Strategies for Course Development: Moving Beyond ADA Compliance**

Aaron Salas¹

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. Tillquist¹

¹University of Connecticut

11:10 a.m. **ASAS Diversity, Equity and Inclusion Symposium Discussion**

Animal Breeding and Genetics Symposium I

Chair: Jennifer Hernandez Gifford, New Mexico State University

9:00 AM - 12:30 PM

WEST UPPER: Ballroom B

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. Murdoch¹, Benjamin D. Rosen², Stephanie McKay³, Timothy Smith²

¹University of Idaho, ²USDA, ³University of Missouri-Columbia

9:35 a.m. 53 **Establishing a pan-epigenome for cattle and sheep**

Stephanie McKay¹, Brenda M. Murdoch², Darren E. Hagen³

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 Phelps¹

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 Cheng¹

¹University of California, Davis

11:20 a.m. 56 **Biomarker-based high throughput sperm phenotyping: The good, the bad and the ugly**

Peter Sutovsky¹

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 Templeman¹

¹Primal Pet Group

9:30 a.m. 60 **AAFCO approval and regulatory process for novel ingredients**

Liz Koutsos¹, Carson Haynes¹

¹EnviroFlight

10:00 a.m. 61 **Life stage feeding: Is there path forward for senior/geriatric nutrient recommendations?**

Dottie Laflamme¹

¹ACVIM-Nutrition

10:30 a.m. **Companion Animal Symposium I Break**

10:45 a.m. 62 **Sulphur amino acids: Assessing requirements and utilization in dogs and cats**

Julia Guazzelli Pezzali ¹

¹Iowa State University

11:15 a.m. 63 **Implications of regulations, consumers and companies on dog and cat nutrition**

J. H. Kersey ¹

¹Simmons 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. Cappelozza ¹, Giuseppe Copani ¹

¹Chr. 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. Cappelozza ¹, Giuseppe Copani ¹

¹Chr. 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

¹West Texas A&M University, ²Iowa State University; Top Genomics, LLC, ³Veterinary 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

¹Texas 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

¹Montana State University, ²Camas 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 University

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 Abdelrahim ¹, Martha Verghese ¹, Ernst Cebert 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. Efirid 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. Cappelozza ¹, Paolo Fantinati ¹, Jean-Christophe Bodin ¹, Jens Joergensen ¹, Diwakar Vyas ², Samia Farooq ¹, Laís 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

9:45 a.m. PSIII-11 **Effects of inoculation of alfalfa hay with *Pediococcus pentosaceus* and α -amylase on hay temperature, microbial ecology, nutrient composition, and feed value**

Daisy Kaplan¹, Richard A. Bien¹, Mohammed Embaby¹, Andy Skidmore², Wade Patterson², Erin B. Perry³, Amer AbuGhazaleh¹, Kelly Bender⁴, Jayakrishnan Nair¹

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

9:45 a.m. PSIII-3 **Effects of milk replacer composition on beef x dairy calf growth and muscle fiber cross-sectional area**

Rachel Carter¹, Steven A. Zinn¹, Kristen E. Govoni¹, Joe Emenheiser², Tara L. Felix³, Sarah A. Reed¹

¹Dept. of Animal Science, University of Connecticut, ²Dept. of Extension, University of Connecticut, ³Dept. of Dairy and Animal Sciences, Pennsylvania State University

9:45 a.m. PSIII-27 **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-Espinosa¹, Gabriel O. Ribeiro², David Christensen², Yongfeng Ai¹, Rex N. Newkirk², Peiqiang Yu²

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan

9:45 a.m. PSIII-21 **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. Schulmeister¹, Federico Tarnonsky¹, Federico Podversich¹, Juan Vargas¹, Araceli B. Maderal¹, Ignacio Fernandez Marenchino¹, Wilmer Cuervo¹, Camila Gomez Lopez¹, Angela M. Gonella¹, Jose C. B. Dubeux¹, Nicolas DiLorenzo²

¹University of Florida, ²Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

9:45 a.m. PSIII-13 **Effects of weather, body weight, and feed intake on total and liquid water intake in beef bulls**

Madison Kovarna¹, Michael Gonda¹, Gemechis Djira¹, Zachary K. Smith¹, Cody Wright¹

¹South Dakota State University

9:45 a.m. PSIII-8 **Extra-label bisphosphonate effects on intra-articular inflammation in juvenile horses challenged with intra-articular lipopolysaccharide**

James M. George¹, Jessica Leatherwood², Carolyn Arnold³, Kati G. Glass¹, Brittany L. Paris¹, Matthew B. Conrad⁴, Rafael Martinez⁵, Fernando Vergara Hernandez⁶, Brian D. Nielsen⁶, Aimee Colbath⁷, Thomas H. Welsh⁸, Amanda N. Bradbery⁴

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 Pessoni¹, Jhones O. Sarturi¹, Kaliu G. Silva¹, Bradley J. Johnson¹, Barbara Rodrigues¹, Beatriz Dos Reis¹

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 Idowu¹, Deborah Ologunagba¹, Godstime A. Taiwo¹, Taylor S. Sidney¹, Emily Treon¹, Yara Leal¹, Francisca Eichie¹, Lanre Morenikeji², Andres A. Pech-Cervantes³, Ibukun M. Ogunade¹

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. Crowell¹, Grace Handlos¹, Erin B. Perry², Dakota R. Discepolo¹

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 Brown¹, Rui Zheng¹, Sheila K. Jacobi¹

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 Devant¹, Lourdes Llonch¹, Sonia Marti¹, Gerard Verge², Joan Riera³, Carles Medinya⁴, Jordi Cucurull⁵, Anna Perez², Belen Fernandez⁶

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 Mackey¹, Reinaldo F. Cooke¹, Logan W. Rahmel², Eduardo Colombo¹, Autumn Pickett¹, Kelsey M. M. Harvey², Brandi B. Karisch², Bruno I. Cappellozza³

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 Landskroener¹, Emily G. Hayes¹, Richard Browning¹

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 Kolikapongu¹, Sharath Chandra Namani¹, Arshad Shaik¹, Ayesha Neha¹, Sai Chandan Chelkapally¹, Courtney Perry¹, Joshua Woodard¹, Miller Schauston¹, Niki C. Whitley¹, Brou Kouakou¹, Adel R. R. Moawad¹

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. Tegeler¹, Jean Fiallo-Diez¹, Tainara Michelotti¹, Lauryn Flores¹, Dale R. Woerner¹, Oscar J. Benitez¹, Clarissa Strieder-Barboza¹
¹Texas Tech University

9:45 a.m. PSIII-15 **Use of ultrasound technology to estimate final carcass composition in harvested Beefmaster steers**
Ainslea E. Price¹
¹West 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-Springer¹
¹Texas A&M University

11:30 a.m. 247 **In vitro characterization of equine fore- and midgut digestion**
Cara L. Cargo-Froom¹, Matthew Nosworthy², Priska Darani³, Scott Cieslar³, Jen L. Ellis¹
¹University of Guelph, ²Agriculture and Agri-Food Canada, ³Mad Barn

11:45 a.m. 432 **Fluctuations in equine cutaneous pH and trans-epidermal water loss associated with anatomical location, time, and weather**
Dakota Discepolo¹, Erin B. Perry², Elizabeth Gaare¹
¹Southern Illinois University, ²School 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 Perea¹, Lara Macon², Sajidur Rahman³, Huiying Chen³, Andrew Cox¹, Shelemia Nyamuryekung'e¹, Sara Campa Madrid¹, Huiping Cao³, Andrés Cibils⁴, Rick Estell², Glenn C. Duff³, Santiago Utsumi¹
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-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. Snider¹, Lea A. Rempel², Robert Cushman³, Jeremy R. Miles³
¹USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit, ²USDA ARS U.S. Meat Animal Research Center, ³USDA, ARS, U.S. Meat Animal Research Center

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 Duhatschek¹, Jourdan M. Bell¹, Diego Druetto², Luis F. Ferraretto³, Katie Raver⁴, John Goeser⁴, Jason K. Smith⁵, Sushil Paudyal⁶, Juan M. Piñeiro⁵

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 McKnight¹, W Isaac Jumper¹, Juan C. Cordero¹, Kelsey M. Harvey¹, Jason R. Russell², David R. Smith¹

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 Perea¹, Lara Macon², Sajjidur Rahman³, Huiying Chen³, Andrew Cox¹, Shelemia Nyamuryekung'e¹, Huiping Cao³, Andrés Cibils⁴, Rick Estell², Glenn C. Duff³, Santiago Utsumi¹

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 Brody¹, Arturo Macias Franco², Aghata Silva³, Graham Holton¹, Pedro Mazza⁴, Mozart A. Fonseca¹

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 Zoca¹, Julie Walker², Patricia Villamediana², Joseph Dalton³

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 Odom¹, Davia Brown¹, Chelsea Pulsifer¹, Thomas H. Terrill¹, Niki C. Whitley¹, Zaira M. Estrada-Reyes², Ibukun M. Ogunade³, Godstime A. Taiwo³, Modoluwamu Idowu³

¹Fort Valley State University, ²North Carolina A & T University, ³West Virginia University

12:00 p.m. PSIV-27 **Effect of different ratios of phytogetic feed additives in weaned pigs challenged with a pathogenic Escherichia coli**

Seyeon Chang¹, Jaewoo An¹, Dongcheol Song¹, Hyunah Cho¹, Sehyun Park¹, Kyeongho Jeon¹, Hyuck Kim¹, Jinho Cho¹

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 Hirsch¹, Brittany Scott², Saulo Menegatti Zoca³, Jerica JJ Rich¹

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 Nagy¹, David Christensen², Herbert A. Lardner², Victor H. Guevara-Oquendo¹, Peiqiang Yu²

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. Corona¹, Sarina A. Garza¹, Robin C. Anderson², Mozart A. Fonseca³, Jackie Kotzur², Natasha L. Mast⁴

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. Redifer¹, Abigail R. Rathert-Williams¹, Lindsey G. Wichman¹, Allison M. Meyer¹

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 Bosco¹, Nicole M. Tillquist¹, Mia Y. Kawaida¹, Amanda S. Reiter¹, Alexandra Bettencourt², Ryan J. Gifford³, Terry E. Engle³, Sarah A. Reed⁴, Steven A. Zinn⁴, Kristen E. Govoni⁴

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 Segó¹, Zachary C. Crump¹, Bailee Brown¹, Lillian Okamoto¹, Bryce W. Roholt¹, Sanjeewa Ranathunga², Rob Harding², Brady Blackett², Kara J. Thornton¹

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 Pande¹, SreeNavya Inupala¹, Sowmya Jagana¹, MD Rasel Uzzaman¹, Mulumebet Worku¹

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. Wiltbank 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 ³, 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. Griffin¹, Jarret A. Proctor², Nathan S. Long², Jason K. Smith³, Vinicius N. Gouvea⁴, Tommy L. Perkins⁵, Matthew R. Beck¹

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 Lamsal¹, Uma Karki¹, Santoshi Chaudhary¹, Durga Dhakal¹

¹Tuskegee University

12:00 p.m. PSIV-17 **Postnatal obesity amplifies GnRH-induced LH release in prenatal testosterone-treated female sheep**

Jessica F. Sustaita-Monroe¹, Sara C. Gurule¹, Leslie King¹, Sarah West¹, Viviana Garza¹, Audrey L. Earnhardt-San², Thomas H. Welsh², Vasantha Padmanabhan³, Rodolfo C. Cardoso¹

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 Duhatschek¹, Jourdan M. Bell¹, Kristie Keys², Diego Druetto³, Luis F. Ferraretto⁴, Katie Raver⁵, Filipe Mendonca⁶, Matheus C. Garcia⁶, Vinicius N. Gouvea⁷, Juan M. Piñeiro²

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. Crump¹, Kara J. Thornton¹, Lillian Okamoto¹, Anthony F. Alberto¹, Mia Segó¹, Brady Blackett², Sanjeewa Ranathunga², Rob Harding², Robert Ward¹, Bryce W. Roholt¹, Bailee Brown¹

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 Long¹, Scott Pratt¹, Keelee J. McCarty¹, Dean Pringle²

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. Vorndran¹, Stefan M. Huber¹, Heinz Bernhardt¹, Markus Peschel¹, Florian Riepl¹, Julia Steinhoff-Wagner¹

¹TUM School of Life Science

1:30 p.m. PSV-23 **Characterization of Katahdin Lamb Carcasses in a Traditional Lamb Marketing Context**

McKensie Phillips¹, Cody Gifford¹, Tom W. Murphy², Bradley A. Freking², Courtney Newman¹, Clara Ritchie¹, Whit C. Stewart¹

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 Loh¹, Olivia Renn², Martin G. Maquivar², Nancy Irlbeck², Terry E. Engle¹

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 Hossain¹, Yao Gao¹, Michael J. Hatfield¹, Jeanene M. de Avila¹, Matthew C. McClure², Min Du¹

¹Washington State University, ²ABS Global

1:30 p.m. PSV-1 **Colostrum quality differs by breed and photoperiod exposure in dairy cows**

Kayla J. Alward¹, Rebecca Cockrum¹, Alison Duncan¹

¹Virginia Tech

1:30 p.m. PSV-2 **Difference in sire PTA evaluated by Taiwan DHI and the original countries**

Yu-Xiang Lan¹, Yu-Shen Lin¹, Kai-Hsiang Lin¹, Chan-Liang Su¹, Po-An Tu¹, En-Chung Lin¹

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-Avilés¹, Dulce C. Valles-Ibarra¹, Milagros G. González-Valdéz¹, Marcela I. Morales-Pablos¹, José C. Leyva-Corona¹, Miguel A. Sánchez-Castro²

¹Instituto Tecnológico de Sonora, ²Zoetis

1:30 p.m. PSV-25 **Effect of Garlic on Galectin 3 in goats**

Sowmya Jagana¹, SreeNavya Inupala¹, Priyanka Pande¹, MD Rasel Uzzaman¹, Mulumebet Worku¹

¹NC A&T State University

1:30 p.m. PSV-4 **Effects of asprosin on nuclear sirtuins expression in bovine granulosa cells**

Isadora Maria Batalha¹, Camilo Andres P. Peña-Bello¹, Luis Fernando F. Schütz¹

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 Chen¹, Jingdu li², Zhili Qi², Minmin Zhou¹, Dong Ruan¹, Yanan Zhang¹, Weiguang Xia¹, Shuang Wang¹, Chenglong Jin¹, Xuebing Huang¹, Kaichao Li¹, Khaled F. M. Abouelezz¹, Chuntian Zheng¹

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 toxinogenic 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

1:30 p.m. PSV-8 **Maternal live yeast supplementation improved gut health in suckling and weaned piglets**

Yuechi Fu¹, Enkai Li¹, Theresa M. Casey¹, Timothy A. Johnson¹, Olayiwola Adeola¹, Kolapo M. Ajuwon¹

¹Purdue University

1:30 p.m. PSV-29 **Plasma citrulline is strongly correlated with jejunum and ileum citrulline concentrations in pigs at weaning**

Marko Rudar¹, Alexandra M. Gachman¹, Alex Outlaw¹, Julia Bartosh¹, Haejin Kim¹

¹Auburn University

1:30 p.m. PSV-17 **Prevalence, etiology, and risk factors of subclinical mastitis in meat-breed ewes**

Gretchen Peckler¹, Maria Jose Fuenzalida², Nicole Aulik³, Sarah J.J. Adcock¹

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

1:30 p.m. PSV-22 **Productivity at weaning of F1 Dorper x Pelibuey ewes carrying the FecGE allele of the ovine GDF9 gene**

Claudia I. Miranda-Carrasco¹, José A. Martínez-Quintana¹, Agustín Corral-Luna¹, Felipe A. Rodríguez-Almeida¹

¹Universidad Autónoma de Chihuahua

1:30 p.m. PSV-27 **Serum mineral and vitamin concentrations in central performance tested Rambouillet rams with and without angular limb deformities**

Dylan Laverell¹, Tom W. Murphy², Jacob Smylie¹, Aaron Kersh¹, Terry E. Engle³, Whit C. Stewart¹

¹University of Wyoming, ²USDA ARS U.S. Meat Animal Research Center, ³Colorado State University

1:30 p.m. PSV-19 **Supplementation of a multi-strain probiotic increases the expression of biomarkers of immunity in Savannah x Spanish goat blood**

Emmanuel K. Asiamah¹, Maxwell Mkunga¹, Jayant Lohakare²

¹University of Arkansas at Pine Bluff, ²Prairie View A&M University

1:30 p.m. PSV-5 **The effect of a prenatal immune challenge on offspring skeletal muscle characteristics in the longissimus dorsi of weaned pigs**

Thomas W. Dobbins¹, Jerrad F. Legako¹, Luke K. Fuerniss², Kaitlyn R. Wesley², Bradley J. Johnson², Ty M. Mitchell¹, Amy L. Petry³, Paul R. Broadway⁴, Nicole C. Burdick Sanchez⁴

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

1:30 p.m. PSV-20 **The effect of Bacillus spp. supplementation on performance and immune function of heifers grazing tall fescue pastures**

Eric Bailey¹, Anita Ellis¹, Bruno I. Cappellozza², Andy McCorkill¹, Emily A. Petzel¹, Derek W. Brake¹

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. Koulicoff¹, Logan Kilburn-Kappeler¹, Kadri Koppel¹, Charles G. G. Aldrich¹
¹Kansas State University

1:30 p.m. PSV-6 **The impacts of heat stress on litter traits of Landrace population in Taiwan**

Kai-Hsiang Lin¹, En-Chung Lin¹
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. Andrews¹, Robert Cushman², Alexandria P. Snider³, George A. Perry⁴, Shad H. Cox⁵, Richard L. Dunlap⁵, Collin Anderson¹, Maria K. Chavez¹, Kristie L. Gallacher¹, Emily A. Melchior-Tiffany¹, Alexis Selman¹, Eric J. Scholljegerdes¹, Adam F. Summers¹
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 Loh¹, Rafael Mezzomo², Daiany I. Gomes², Briana V. Tangredi¹, Octavio Guimaraes¹, Ryan J. Gifford¹, Alexandra C. Miller¹, Jonah R. Levenson¹, meghan P. Thorndyke¹, Jerry W. Spears³, Terry E. Engle¹
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 Inupala¹, Sowmya Jagana¹, Priyanka Pande¹, MD Rasel Uzzaman¹, Mulumebet Worku¹
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 Kayondo¹, Hayder Al-Shanoon², Yolande Seddon², Dylan Carette², Carmen Cole², David Janz², Frederic Fortin³, John Harding⁴, Michael Dyck⁵, Graham Plastow⁵, Jack C.M. Dekkers⁶

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 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. Proctor¹, Matthew R. Beck², Zachery A. Kasuske², Ryan C. Foster¹, Nathan S. Long¹, Tryon A. Wickersham¹, Vinicius N. Gouvea³, Jason K. Smith⁴
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'Reilly¹, Gordon E. Carstens¹, Seidu Adams², Samodha C. Fernando², Jocelyn R. Johnson³, Nader Deeb³
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 Rueda¹, Carter Kruse², Benoit St-Pierre¹
¹South Dakota State University, ²Turner Institute of Ecoagriculture

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 Justice¹, Kimberly Mullenix¹, S. Leanne Dillard¹, Soren P. Rodning¹, Manuel Chamorro¹, Alex Tigue², Brandon B. Smith¹, Peyton Zessin¹, Madison L. Boone¹, Mason Henson¹, Micayla H. West³, Michael A. Agar¹
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 Izquierdo¹, Joao Silva², Elizabeth Palmer², Juliana Ranches³, Joao Bittar², Autumn Pickett⁴, Reinaldo F. Cooke⁴, Joao Vendramini⁵, Philippe Moriel²
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 Pickett¹, Reinaldo F. Cooke¹, Lucas Gonçalves², Samir Burato², Mark Holton², Nicholas Wege Dias³, Stefania Pancini⁴, Tracey Redifer⁴, Sherrie Clark-Deener⁴, John Currin⁴, Jamie L. Stewart⁴, Pedro L.P. Fontes², Vitor R G Mercadante⁵
¹Texas A&M University, ²University of Georgia, ³Kansas State University, ⁴Virginia Tech, ⁵Virginia Tech - Animal and Poultry Sciences

2:45 p.m. 172 **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

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. 78 **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. 80 **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. 77 **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. 79 **Functional amino acids in dogs and cats: implications for overall health**

Julia Guazzelli Pezzali ¹
¹Iowa State University

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

Anna Dilger ¹
¹University of Illinois at Urbana-Champaign

2:30 p.m. 248 **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. Udoka¹, Joshua L. Jacobs¹, Susan K. Duckett¹
¹Clemson University

3:00 p.m. 250 **The impact of altering fatty acid combinations in vitro on bovine preadipocyte hyperplasia**

Aliute-Nkoyo S. Udoka¹, Susan K. Duckett¹
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. Greene¹, Rhonda R. Powell¹, Terri Bruce¹, James L. Klotz², Celina M. Checura¹, Susan K. Duckett¹

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. DeRouchey¹, Mike D. Tokach¹, Robert Goodband¹, Jason C. Woodworth¹, Jordan T. Gebhardt²

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 Park¹, Kwangwook Kim², Adebayo O O. Sokale³, Adriana Barri⁴, Yanhong Liu¹

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 Koekoek chickens**

Morategi M.C Mojanaga¹, Morwaledi Morategi Cornelia M. Modisaojang-Mojanaga¹, Baitshoetsi G. Mokolopi¹

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. Edmonds¹

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. Gregg¹, Gerardo A. Abascal-Ponciano¹, Catarina Stefanello¹, Jessica D. Starkey¹, Charles Starkey²

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**

Animal Behavior and Well-Being

Chair: Juliana Ranches, Oregon State University; EOARC; Christopher Byrd, Department of Animal Sciences, North Dakota State University

2:00 PM - 4:45 PM

EAST UPPER: 220 Ruidoso

2:00 p.m. 107 **Awardee Talk: Improving swine heat stress resilience to optimize productivity and welfare in a changing climate**

Jay S. Johnson¹

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 Trieu¹, Derek W. Bailey¹, Huiping Cao¹, Tran Cao Son¹, Mark G. Trotter², Lauren O'Connor², Colin T. Tobin³

¹New Mexico State University, ²CQUniversity, ³North Dakota State University

2:45 p.m. 109 **Animal behavior analysis using unsupervised machine learning techniques**

Jiefei Liu¹, Derek W. Bailey², Huiping Cao², Tran Cao Son², Colin T. Tobin³

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 Mendes¹, Yalong Pi², Jian Tao², Luis O. Tedeschi²

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. Marchant¹, Charles Rikard-Bell², Ellen Jongman³

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 Wen¹, Jay S. Johnson², Leonardo S. Gloria¹, Jacob M. Maskal¹, Andre C. Araujo¹, Felipe E. de Carvalho¹, Artur Oliveira Rocha¹, Yijian Huang³, Luiz F. Brito⁴

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. Main¹

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. Reddout¹, Janeen L. Salak-Johnson¹, Lily P. Hernandez¹, Alexis R. Main¹

¹Oklahoma State University

4:30 p.m. 115 **The ramifications of tail docking ewes on mating behavior and reproductive performance**

Jocelyn M. Woods¹, Sarah J.J. Adcock¹

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. Wyle¹

¹Texas A&M University

2:45 p.m. 75 **Do Real Work**

Leah Lambrakis¹

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 Oosthuizen¹

¹ABS Global

4:20 p.m. 73 **Creating context and vision in Animal Science graduates**

Tryon A. Wickersham¹

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 Romero¹, Hilary Carrera¹, Justin Dunavant¹, Ileana Berganza¹, Gerardo A. Abascal-Ponciano¹, Jorge L. Sandoval¹, Sungeun Cho¹, Jessica D. Starkey¹, Charles Starkey²

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-Kappeler¹, Tyler Doerksen¹, Andrea Lu¹, Rachel Palinski¹, Nanyan Lu¹, Charles G. G. Aldrich¹

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. Koziol¹, Patricia Massae Oba², Katiria Soto-Diaz³, Andrew J. Steelman⁴, Jan S. Suchodolski⁵, Erik Eckhardt⁶, Kelly S. Swanson⁷

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 Oba¹, Pamela L. Utterback², Carl M. Parsons², Kelly S. Swanson²

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. Barberena¹, Hilary Carrera¹, Ileana Berganza¹, Jorge Romero¹, Justin Dunavant¹, Gerardo A. Abascal-Ponciano¹, Sungeun Cho¹, Jessica D. Starkey¹, Charles Starkey²

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 Junior¹, Maria R C de Godoy², Thaila Cristina Putarov³

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 Kayser¹, Maria R C de Godoy², Sandra L. Rodrigues-Zas¹

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 Fletcher¹, Sophie Grapentine², Alexandra Rankovic¹, Brigitte Brisson¹, Melissa Sinclair¹, Anna Kate K. Shoveller², Eric K. Altom³, Marica Bakovic², Adronie Verbrugge¹

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 Straten¹, Anna Kate K. Shoveller², L. F. Wang¹, E. Beltranena¹, T. Vasanthan¹, Ruurd T. Zijlstra¹

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 Carrera¹, Jorge Romero¹, Ileana Berganza¹, Justin Dunavant¹, Gerardo A. Abascal-Ponciano¹, Jessica D. Starkey¹, Charles Starkey², Sungeun Cho¹

¹Department of Poultry Science, Auburn University, ²North American Renderers Association

4:45 p.m. 193 **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. Geary¹, Kelly S. Swanson², James Templeman³

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. Riser¹, Eldin Leighton², Jane Russenberger², Breno O. Fragomeni¹, Caroline Moser³

¹University of Connecticut, ²International Working Dog Registry, ³Guide Dogs New South Wales

Poster Session VI

3:00 PM - 4:15 PM

140 Aztec/110 Galisteo

3:00 p.m. PSVI-25 **A phytogetic additive improves immune responses of growing beef cattle on grazing system**

Isabelle Errobidarte de Matos¹, Alexandre Perdigão², Victor Valério de Carvalho³, Tiago S. S. Acedo⁴, Yohana Clara Siqueira Santana⁵, Silvia Isabella Timóteo⁵, Cecília Ayala Ferreira¹, Aline Gomes da Silva¹, Henrique Jorge Fernandes¹

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

3:00 p.m. PSVI-24 **A phytogetic feed additive improves performance by Nellore growing bulls grazing on tropical pastures**

Isabelle Errobidarte de Matos¹, Victor Valério de Carvalho², Tiago S. S. Acedo³, Alexandre Perdigão⁴, Yohana Clara Siqueira Santana⁵, Silvia Isabella Timóteo⁵, Cecília Ayala Ferreira¹, Tyler Turner⁶, Aline Gomes da Silva¹, Henrique Jorge Fernandes¹

¹Federal University of Mato Grosso do Sul, Campo Grande, Brazil, ²dsm-firmenich, ³DSM Nutritional Products, ⁴DSM Nutritional Products Brazil, ⁵Federal University of Mato Grosso do Sul, Campo Grande, Brazil, ⁶DSM Nutritional Products Switzerland

3:00 p.m. PSVI-17 **Application of stride length to assess leg soundness for growing gilt**

Hsiao-Han Huang¹, En-Chung Lin¹, Kai-Hsiang Lin¹, Shu Han Ting¹

¹National Taiwan University

3:00 p.m. PSVI-15 **Assessment of strategies to reduce the incidence and severity of digital dermatitis related lameness in feedlot cattle**

Daniela M. Meléndez¹, Desiree Gellatly², Murray D. Jelinski³, Sonia Marti⁴, Timothy D. Schwinghamer⁵, Nicholas Wong⁶, Eugene Janzen⁷, Karen S. Schwartzkopf-Genswein¹

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

3:00 p.m. PSVI-8 **Bisphosphonate pharmacokinetics in juvenile horses**

Brittany L. Paris¹, Jessica Leatherwood², Thomas H. Welsh³, Carolyn Arnold⁴, Kati G. Glass¹, Matthew B. Conrad⁵, James M. George¹, Rafael Martinez⁶, Paige Linne¹, Travis Mays⁷, Aimee Colbath⁸, Brian D. Nielsen⁹, Amanda N. Bradbery⁵

¹Texas A&M University, ²Tarleton State University, ³Texas A&M University and AgriLife Research, Department of Animal Science, ⁴Texas Tech University, ⁵Montana State University, ⁶Sam Houston State University, ⁷Texas A&M Veterinary Medical Diagnostic Laboratory, ⁸Cornell University, ⁹Michigan State University

3:00 p.m. PSVI-12 **Comparison of a visual health scoring system with vaginal temperatures of newly received feedlot heifers**

Mackenzie M. Smithyman¹, Glenn C. Duff¹, Consuelo Sowers¹, Robert Steiner¹, Clint A. Loest¹

¹New Mexico State University

3:00 p.m. PSVI-16 **Conditioning dairy cows to a virtual fencing system is compatible with animal welfare**

Patricia Fuchs¹, Joanna Stachowicz², Manuel Schneider³, Massimiliano Probo⁴, Rupert M. Bruckmaier⁵, Christina Umstätter⁶

¹Graduate School for Cellular and Biomedical Sciences, University of Bern and Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Grazing Systems, ²Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Digital Production, ³Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Forage Production and Grassland Systems, ⁴Federal Department of Economic Affairs, Education and Research EAER, Agroscope, Grazing Systems, ⁵Veterinary Physiology, Vetsuisse Faculty, University of Bern, ⁶Thünen-Institute of Agricultural Technology

3:00 p.m. PSVI-13 **Dietary milk fat globule membrane improves neonatal piglet intestinal architecture and enhances mucosal diamine oxidase activity following lipopolysaccharide challenge**

Rui Zheng¹, Rebecca Brown¹, Rafael Jimenez-Flores¹, Sheila K. Jacobi¹

¹The Ohio State University

3:00 p.m. PSVI-2 **Dietary supplementation of Phyllanthus urinaria ameliorates fatty liver hemorrhagic syndrome in hens**

Pei-En Chang¹, Shih-Torng Ding²

¹National Taiwan University, ²Department of Animal Science and Technology, National Taiwan University, Taipei, Taiwan

3:00 p.m. PSVI-19 **Dose effect of a spice feed additive on ingestion and digestion in fattening bulls**

Cléo Omphalius¹, Jean-François Gabarrou², Guillaume Desrousseaux², Samy Julliard¹

¹Lab-To-Field, ²Laboratoires Phodé

3:00 p.m. PSVI-22 **Effect of creep-feeding on feeding behavior of Nellore calves**

Luciana Melo Sousa¹, Gustavo Henrique Maciel Bisio², Anna Lidia Francino Garcia¹, Amanda Caroliny Marques de Queiroz¹, Marco Aurélio de Felício Porcionato³, Flávio Dutra de Resende⁴, Gustavo Rezende Siqueira⁴

¹UNESP / APTA, ²UNIFEB / APTA, ³Trouw Nutrition, ⁴APTA

3:00 p.m. PSVI-6 **Effect of industrial hemp (cannabis sativa) on rumination behavior parameters of angus cattle**

Nathaniel Ogunkunle¹, Felix U. Samuel¹, Monya D. Simpson¹, Gamal Eden AbdelRahim¹, Xianyan Kuang², Judith Boateng²

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 Queiroz¹, Rodrigo S. Marques², Aline Naime Rodrigues³, Keuven Nascimento dos Santos³, Igor Machado Ferreira³, Mateus José Inácio de Abreu³, Fernando Rossi Camilo⁴, Laura Franco Prados⁵, Flávio Dutra de Resende⁵, Gustavo Rezende Siqueira⁵

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 Sousa¹, Anna Lidia Francino Garcia¹, Amanda Caroliny Marques de Queiroz¹, Gustavo Henrique Maciel Bisio², Marco Aurélio de Felício Porcionato³, Flávio Dutra de Resende⁴, Gustavo Rezende Siqueira⁴

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. Siregar¹, Jose A. Arce-Cordero², Gerald K. Salas-Solis¹, Ana C. Silva-Vicente¹, James R. Vinyard¹, Efstathios Sarmikasoglou¹, Mikayla L. Johnson¹, Richard Roberto Lobo³, Szu-Wei Ma³, Charese A. Hammond³, Kaliandra Souza S. Alves³, Sydney Marie Castillo³, Lana M. Katz¹, Antonio P. Faciola¹

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. Reiter¹, Mia Y. Kawaida¹, Nicole M. Tillquist¹, Brandon Smith¹, Kristen E. Govoni², Steven A. Zinn², Sarah A. Reed²

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 Shelby¹, Mattie Still¹, Mason A. Paladino¹, Palika Dias-Morse², Kevin Thompson², Tsungcheng Cheng Tsai¹, Yan Huang¹

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. Paladino¹, Tsungcheng Cheng Tsai¹, Sarah Shelby¹, Mattie Still¹, Charles V. Maxwell¹, Yan Huang¹

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. Crump¹, Anthony F. Alberto¹, Bailee Brown¹, Lillian Okamoto¹, Mia Segó¹, Bryce W. Roholt¹, Allissa Waddups¹, Ryan A. Spurling¹

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. Bilovesky¹, Jennifer A. Hernandez Gifford¹, Ryan L. Ashley¹

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. Macor¹, Mark G. Trotter¹

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 Holton¹, Aghata Silva², Arturo Macias Franco³, William Richardson¹, Tamzen Stringham¹, Tio Brody¹, Pedro Mazza⁴, Matthew Madsen⁵, Mozart A. Fonseca¹

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. Riser¹, Eldin Leighton², Jane Russenberger², Caroline Moser³, Breno O. Fragomeni¹

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 Park¹, Lauren L. Kovanda¹, Adebayo O O. Sokale², Adriana Barri³, Yanhong Liu¹

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 Markey¹, José Wavreille², Patrick Mayeres³, Anne-Catherine Huet⁴, Nicolas Gengler¹

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 Yang¹, Yuhui Zheng², Shengli Li²

¹China Agricultural University, ²China Agricultural University

3:00 p.m. PSVI-7 **snoRNA dysregulated expression and potential roles in bovine sub-clinical mastitis due to Staphylococcus chromogenes**

Faith A. Omonijo¹, David Gagné², Mario Laterrière², Celine Ster¹, Xin Zhao³, Eveline M. Ibeagha-Awemu¹

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. Latack¹, Pedro H. V. Carvalho², Marcos V. C. Ferraz³, Lucas G. Hollerbach³, Chilove Theusme³, Richard A. Zinn³

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 Hoffmann¹, Gordon E. Carstens¹, Scott Cummings¹, Chris Skaggs¹

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. Broussard¹, Jhones O. Sarturi¹, Kaliu G. Silva¹, Bradley J. Johnson¹, Barbara Rodrigues¹, Beatriz Dos Reis¹

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 Dressler¹, Jennifer M. Bormann¹, Robert L. Weaber¹, Megan M. Rolf¹

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. Dornbach¹, Kristin E. Hales¹, Erin R. Gubbels², James E. Wells³, Ashley A. Hoffman¹, Ashlee Noelle Hanratty¹, Dalton J. Line¹, Taylor M. Smock¹, Jeff L. Manahan¹, Zach S. McDaniel¹, Kesley B. Kohl¹, Nicole C. Burdick Sanchez⁴, Jeffery A. Carroll⁴, Warren C. Rusche², Zachary K. Smith², Paul R. Broadway⁴

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 Hanratty¹, Paul R. Broadway², Nicole C. Burdick Sanchez², Jeffery A. Carroll², Ashley A. Hoffman¹, Jeff L. Manahan¹, Zach S. McDaniel¹, Dalton J. Line¹, Colten W. Dornbach¹, Taylor M. Smock¹, Miles Theurer³, Michael Galyean⁴, Kristin E. Hales¹

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, Department 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, Chloe 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 Hollingsworth¹, Priyanka Banerjee¹, Paul W W. Dyce¹
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. Rahmel¹, Reinaldo F. Cooke², Shea Mackey², Autumn Pickett², Eduardo Colombo², Mason Drewery¹, Juan Cordero¹, Courtney L. Daigle², Kelsey M. M. Harvey¹
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. Elder¹, Rachel Dunn¹, Kiana Green¹, John F. Odhiambo¹
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. Vilela¹, Paola Quintana¹

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. Santos¹, Thais C. Costa², Walmir Silva¹, Leticia Z. Pistillo¹, Sarah E. Dean³, Dante V. Teixeira⁴, Claudia B. Sampaio⁵, Mateus P. Gionbelli⁶, Lucas L. Verardo⁷, Pedro Veiga Rodrigues Paulino⁸, Marcio S. Duarte³

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 Hay¹, Ashley Ling¹

¹USDA/ARS/LARRL

5:15 p.m. PSVII-5 **Detection and characterization of copy number variation regions in three selection lines of Nelore cattle**

Lorena F. Benfica¹, Luiz F. Brito¹, Ricardo D. do Bem², Henrique A. Mulim¹, Larissa G. Braga², Joslaine N.S.G Cyrillo³, Maria Eugenia Z. Mercadante³

¹Purdue University, ²São Paulo State University, ³Institute of Animal Science

5:15 p.m. PSVII-17 **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

5:15 p.m. PSVII-30 **Effect of mineral mixture containing HMTBa in hay-based substrate on methane production**

Cibelle Borges Figueiredo ¹, Reginaldo Nassar Ferreira ¹, Emanuely Zequim Ubeda ¹, Gabriela Vitória Pinto Nunes ¹, Matheus Alves Miranda ¹, Edson Martins Ribeiro Filho ¹
¹Universidade Federal de Goiás

5:15 p.m. PSVII-27 **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

5:15 p.m. PSVII-6 **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

5:15 p.m. PSVII-23 **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

5:15 p.m. PSVII-22 **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, Lacey Hudson ², Nuria Prieto ²
¹Agriculture and Agri Food Canada, Science and Technology Branch, ²Agriculture and Agri-Food Canada

5:15 p.m. PSVII-28 **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

5:15 p.m. PSVII-26 **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 Wong¹, Sang Beum Lee², Yong S. Kim¹

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 Ling¹, ElHamidi Hay¹

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 Wagner¹, Tayler Hays¹, Taylor Horton¹, William Kayser², Phillip Rincker², Dale R. Woerner³

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 Dressler¹, Will Shaffer¹, Cashley Ahlberg¹, Kristi Allwardt², Kelsey Bruno², Clint Krehbiel³, Michelle S. Calvo-Lorenzo⁴, Chris Richards², Sara E. Place⁵, Udaya DeSilva², Larry A. Kuehn⁶, Robert L. Weaber¹, Jennifer M. Bormann¹, Megan M. Rolf¹

¹Kansas State University, ²Oklahoma State University, ³Texas Tech University, ⁴Elanco Animal Health, ⁵AgNext, Colorado State University, ⁶U.S. Meat Animal Research Center

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 Carvalho¹, José Bento S. Ferraz², Victor B. Pedrosa¹, Joanir P. Eler², Elisangela C. de Mattos², Marcio R. Silva², José Domingos Guimaraes³, Fernando Bussiman⁴, Barbara da Conceição A. Silva², Andre C. Araujo¹, Hui Wen¹, Henrique A. Mulim⁵, Artur Oliveira Rocha¹, Luiz F. Brito⁵

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 Davoudi¹, Duy Ngoc Do¹, Bruce Rathgeber¹, Stefanie Colombo¹, Mehdi Sargolzaei², Graham Plastow³, Zhiquan Wang³, Younes Miar⁴

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 Wendorf¹, Clelie Olivier², Clarence Edward Ferguson¹

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 Sarmiento 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

7:00 a.m. PSVIII-A-6 **Effects 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. Warnasooriya¹, Greg B. Penner¹, David Christensen¹, Peiqiang Yu¹, Timothy Mutsvangwa¹

¹Department of Animal and Poultry Science, University of Saskatchewan

7:00 a.m. PSVIII-A-7 **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 Leach¹, Aaron D. Beattie², David Christensen¹, Timothy Mutsvangwa¹

¹Department of Animal and Poultry Science, University of Saskatchewan, ²Department of Plant Sciences, University of Saskatchewan

7:00 a.m. PSVIII-A-4 **Evaluation of blood parameters associated to environmental stress in grazing beef heifers with divergent residual feed intake**

Maria Camila Londono-Mendez¹, Sergio Lasso¹, Carolyn J. Fitzsimmons², Graham Plastow³, Edward Bork¹, John A. Basarab¹, Gleise da Silva¹

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-8 **Growth and physiological responses to heat stress and zilpaterol hydrochloride in Angus and Brahman steers**

Andrea P. Rios¹, Pablo Cesar C. Grijalva², Rachel R. Reith², Samuel R. Garcia¹, Chelsea Webster¹, Joselyn K. Beard¹, Jessica L. L. Peterson², Dustin T. Yates², Ty B. B. Schmidt², Duarte E. E. Diaz¹

¹University of Arizona, ²University of Nebraska-Lincoln

7:00 a.m. PSVIII-A-2 **How does the duration of low feed intake affect the ruminant gastrointestinal tract?**

Koralie Lambert¹, Anne Clair Chagas¹, Katarzyna Burakowska¹, Koryn S. Hare², Daniel H. M. Watanabe¹, Greg B. Penner³

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

7:15 a.m. PSVIII-20 **A premium dry cat food enhances digestibility and gut health in cats compared to a grocery dry cat food**

Ching-Yen Lin¹, Leighann Daristotle¹, Nolan Franz¹

¹Blue Buffalo

7:15 a.m. PSVIII-21 **A premium dry dog food elicits gut health benefits compared to a grocery dry dog food**

Ching-Yen Lin¹, Leighann Daristotle¹, Nolan Franz¹

¹Blue Buffalo

7:15 a.m. PSVIII-22 **A probiotic blend improves fecal quality and enhances gut immunity in dogs with chronic diarrhea**

Ching-Yen Lin¹, Matt Panasevich¹, Leighann Daristotle¹, Nolan Franz¹

¹Blue Buffalo

7:15 a.m. PSVIII-10 **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. Motsinger¹, Dennis E. Jewell², Leslie B. Hancock¹, Elizabeth M. Morris¹, Matthew I. Jackson¹

¹Hill's Pet Nutrition, ²Kansas State University, Department of Grain Science and Industry

7:15 a.m. PSVIII-11 **Antinutritional factors are largely mitigated by extrusion and did not negatively impact digestibility of canine grain-free and grain-inclusive foods**

Elizabeth M. Morris¹, Luis J. Montelongo¹, Kathy L. Gross², Leslie B. Hancock¹

¹Hill's Pet Nutrition, ²Department of Animal Science & Industry, Kansas State University

7:15 a.m. PSVIII-26 **Baicalin alleviates lincomycin-induced intestinal injury by regulating gut microbiota in weaned pigs**

Shunfen Zhang¹, Shanlong Tang², Ruqing Zhong³, Liang Chen³, Hongfu Zhang³

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

7:15 a.m. PSVIII-27 **Beef cattle live weight forecast monitored on pasture through artificial intelligence**

Marcos Antônio Isaac Júnior¹, Murilo Garrett Moura Ferreira dos Santos¹, Vinícius Yuji Mendes Da Silva¹, Thiago Zanetti Albertini¹, Adriele Giaretta Biase²

¹@Tech, ²Universidade Federal do Acre (UFAC)/Centro de Ciências Exatas e Tecnológicas (CCET)

7:15 a.m. PSVIII-9 **Consumer acceptance of corn fermented protein compared to traditional yeast and dried distillers' grain in extruded dog food**

Hee Seong S. Kim¹, Logan Kilburn-Kappeler¹, Gongshun Yang², Kadri Koppel¹, Charles G. G. Aldrich¹

¹Kansas State University, ²kansas state university

7:15 a.m. PSVIII-24 **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. Jewell¹, Kiran S. Panickar²

¹Kansas State University, Department of Grain Science and Industry, ²Science & Technology Ctr, Hills PNC

7:15 a.m. PSVIII-28 **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 An¹, Seyeon Chang¹, Dongcheol Song¹, Hyunah Cho¹, Sehyun Park¹, Kyeongho Jeon¹, Jinho Cho¹

¹Department of Animal Science, Chungbuk National University

7:15 a.m. PSVIII-13 **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-Hidrogo¹, Lindsey M. Rummell², Thomas N. Asquith², Kelly S. Swanson¹

¹University of Illinois at Urbana-Champaign, ²Wilbur-Ellis Nutrition

7:15 a.m. PSVIII-12 **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 McCracken¹, Jason Fowler¹, Claire Timlin¹, Lili Towa², Sarah M. Dickerson¹, Craig N. Coon¹

¹Four Rivers Kennel, LLC, ²Alph-MOS

7:15 a.m. PSVIII-30 **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. White¹, Rachel L. Gibbs¹, Pablo Cesar C. Grijalva¹, Zena M. Hicks¹, Haley N. Beer¹, Micah S. Most¹, Ty B. B. Schmidt¹, Jessica L. L. Peterson¹, Dustin T. Yates¹

¹University of Nebraska-Lincoln

7:15 a.m. PSVIII-14 **Improved palatability and digestibility in dry dog food using a porcine intestinal mucosa hydrolysate**

Sergi Segarra¹, Boguslawa Dziedzic², Mariusz Dziedzic²

¹Bioiberica SAU, ²Petfood Specialities d.o.o.

7:15 a.m. PSVIII-17 **In-home validation of a canine supplement containing a *saccharomyces cerevisiae* fermentation product**

Julie Gasper¹, Sharon A. Norton², S. Ali Naqvi³, Maria I. Sardi⁴

¹Cargill, Incorporated, ²Cargill Biotechnology Research and Development Center, ³Cargill Engineering & Data Sciences, ⁴Cargill Biotechnology Research and Development Center-Biology

7:15 a.m. PSVIII-25 **Investigating the effects of poor maternal nutrition on F2 offspring growth, residual feed intake, and glucose tolerance**

Nicole M. Tillquist¹, Mia Y. Kawaida¹, Amanda S. Reiter¹, Sarah A. Reed², Steven A. Zinn², Kristen E. Govoni²

¹University of Connecticut, ²Dept. of Animal Science, University of Connecticut

7:15 a.m. PSVIII-29 **Nutritional epigenetic modifications in beef cattle**

Mumuni Gibril¹, Amir Behrouzi², Carolyn J. Fitzsimmons³

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

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. Belchik¹, Patricia Massae Oba², Ching-Yen Lin³, Jan S. Suchodolski⁴, Kelly S. Swanson⁵

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. Tavener¹, Rachel A. Eichman¹, Kiran S. Panickar¹

¹Science & Technology Ctr, Hills PNC

8:30 a.m. PSIX-19 **Association of the rumen microbiota with carcass merit and beef quality**

Devin B. Holman¹, Katherine E. Gzyl¹, Haley Scott², Nuria Prieto², Oscar Lopez-Campos³

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. Tavener¹, Dayakar V. Badri¹, Kiran S. Panickar¹

¹Science & Technology Ctr, Hills PNC

8:30 a.m. PSIX-12 **Development of a feed supplement for cats**

Hyun-Jun Jang¹, Jung-Ae Kim¹, Dae-Hyuk Kim¹, Yangseon Kim¹

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 Banerjee¹, Wellison Jarles j. Da Silva Diniz¹, Paul W W. Dyce¹

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 Oba¹, Vanessa M. De La Guardia-Hidrogo², Janelle Kelly³, Jennifer L. Saunders-Blades³, Kelly S. Swanson²

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. Koulicoff¹, Yunyi Zhang¹, Sajid Alavi¹, Yong-Cheng Shi¹, Hee Seong S. Kim¹, Charles G. G. Aldrich¹

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. Place¹, Maya Swenson¹, Edward J. Raynor², Kim R. Stackhouse-Lawson¹, Scott E. Speidel³, R. Mark Enns³, Pedro H. V. Carvalho³

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 Gonçalves¹, Mauricio Igarasi¹, Thiago Da Silva², Milton Cardoso³, Thiago Bernardes⁴

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. Wagner¹, Jessica Suagee-Bedore², Haz Othman³, Stephanie Cottee¹

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. Herrick¹, J. Shannon Neibergs¹, Joseph Dalton², Amber Adams Progar¹, Holly L. Neibergs¹

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 Craun¹, Scott P. Greiner¹, Vitor R.G. G. Mercadante¹, Trinity Vidlund¹

¹Virginia Tech

8:30 a.m. PSIX-8 **Increased expression of ST6GAL1 and VEGFA mediate the inflammatory signaling pathway in feline hyperthyroidism**

Selena K. Tavener¹, Regina L. Hollar¹, Kiran S. Panickar¹

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 Chen¹, Charles G. G. Aldrich¹

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 Martin¹

¹Colorado State University

8:30 a.m. PSIX-13 **Intake differences in small dogs suggest a need for size-specific energy considerations**

Allison P. McGrath¹, Leslie B. Hancock¹, Elizabeth M. Morris¹

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. Herrick¹, Holly L. Neibergs¹

¹Washington State University

8:30 a.m. PSIX-16 **Observational Canine Aging Study: a diet enriched in antioxidants reduces cognitive and physical decline.**

Morgan Key¹, Jodi Vondran¹, Leslie B. Hancock¹, John Brejda²

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. Perry¹

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 Opetz¹, Patricia Massae Oba¹, Darcia Kostiuk², Janelle Kelly³, Kelly S. Swanson⁴

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 Hsu¹, Fabio Marx², Ryan Guldenpfennig², Negin Valizadegan³, Maria R C de Godoy¹

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 Amundson¹, Brent Kirn¹, Allison Millican¹, Taryn Matti²

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. Domer¹, Jorge Romero¹, Ileana Berganza¹, Hilary Carrera¹, Justin Dunavant¹, Sungeun Cho¹, Jessica D. Starkey¹, Charles Starkey²

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. Wilson¹, Kelly S. Swanson¹

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. Finet¹, Krystal A. Vargas¹, Chance Riggins¹, Maria R C de Godoy¹

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 Campbell¹, Carmen Rodriguez¹, Javier Polo¹

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. Luttmann ¹, Janice M. Siegford 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, Abigail R. Hines ¹, Courtney Heaton ¹, Brandon B. Smith ¹

¹Auburn University

9:45 a.m. PSX-20 **Effects of a phytogetic 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 Baiao 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**

Débora Siniscalchi ¹, Karine Dalla Vecchia Camargo ¹, Natalia Vilas Boas Fonseca ¹, Marcelo Augusto Oliveira Castro ¹, Isadora Alves Dornellas 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

¹Universidade Estadual Paulista - Unesp, ²Cargill, ³Corporación Colombiana de Investigación Agropecuaria - AGROSAVIA, ⁴Sao Paulo State University (UNESP)

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 Alerrandro Alerrandro 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 Vicosa / NDSU, ²Universidade Federal de Viçosa, ³Universidade Federal de Viçosa / North Dakota State University, ⁴Universidade Federal de Vicosa, 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 **LidoBands™ for use in lambs**

Brenda Ralston¹, Merle Olson², Nick Allan³, Andrea Hanson¹, Joe Ross³, Kendall Beaugrand³, Crystal Schatz³, Denis Nagel⁴, Ann Hammad⁵

¹Lakeland College, ²Alberta Veterinary Laboratories, ³Chinook Contract Research Inc., ⁴Solvvet, 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. Carnagey¹, R. J. Thompson¹, S. M. Wernimont¹

¹Hill's Pet Nutrition

9:45 a.m. PSX-15 **Precision beef dry matter intake estimation on extensive rangelands**

Ira L. Parsons¹, Hector M. Menendez², Jameson R. Brennan³, Krista Ehler²

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. Sullivan¹, Melissa Davis¹, Mahesh Nair¹, Ann Hess², Daniel Mooney³, Lily N. Edwards-Callaway¹

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 Olson¹, Nick Allan², Kendall Beaugrand², Crystal Schatz², Denis Nagel³, Ann Hammad⁴, Larry Frichske³, Joe Ross², Frederic Sauve⁵, Dan April⁴, Brenda Ralston⁶, Andrea Hanson⁶

¹Alberta Veterinary Laboratories, ²Chinook Contract Research Inc., ³Solvvet, 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 Ropp¹, Emily A. Melchior-Tiffany¹, Eric J. Scholljegerdes¹

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. Malheiros¹, Matheus Henrique Vargas de Oliveira², Pollyana Ferreira da Silva³, Luiz Alberto Colnago⁴, Josineudson Augusto Il Vasconcelos Silva⁵

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

9:45 a.m. PSX-27 **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 Viçosa / NDSU, ⁴North Dakota State University

Poster Session XI

11:00 AM - 12:00 PM

140 Aztec/110 Galisteo

11:00 a.m. PSXI-1 **A case study of the environmental footprint of dairy-beef production in Catalonia: A tool to improve sustainability**

Maria Devant ¹, Marta 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

11:00 a.m. PSXI-19 **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

11:00 a.m. PSXI-10 **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

11:00 a.m. PSXI-8 **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

11:00 a.m. PSXI-22 **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

11:00 a.m. PSXI-14 **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 Kim¹, Seung Yun Lee², Jong Hyuk Kim³

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 Johnson¹, Cody Shelton², Cyle C. Jones², Daniel Rivera³

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 Tsukahara¹, Hajime Kumagai¹, Keisuke Nishida², Shozo Tomonaga¹, Hiroyuki Hirooka¹, Kenji Matsuura¹

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 OH¹, Yu-Jeong Jung¹, Mun Hye Kang¹, Jae-Cheol Jang¹, Jin-Hyun Park¹

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. Niblett¹, Kimberly A. Williams¹, Marguerite B. Cross¹, Alexis L. Clapp¹, Mark J. Estienne¹

¹Virginia Tech

11:00 a.m. PSXI-5 **Impact of different vaccine formulations in reducing methane production in beef cattle**

Musah Muntari¹, Brette Poliakiwski¹, Mario Vilches¹, Odile Polanco¹, Damon Smith¹, Ryon Walker¹, Ky G. Pohler¹, Cliff C. Lamb¹

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 Parent¹, Christine Bone¹, E. James Squires¹

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 Pinotti¹, Michele Manoni¹, Alice Luciano¹, Sharon Mazzoleni¹, Matteo Ottoboni¹, Marco Tretola¹

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

11:00 a.m. PSXI-16 **Nitrogen excretion and urine pH in growing pigs decreased by lowering dietary protein concentrations**

Beob G. Kim¹, Jeonghyeon Son¹
¹Konkuk University

11:00 a.m. PSXI-28 **Nitrogen footprint assessment of Korean native beef cattle farms: Uncertainty analysis and mitigation scenarios**

Jun Suk Byun¹, Tae Hoon Kim¹, Ridha Ibdhi², Rajaraman Bharanidharan¹, Yookyung Lee³, Kyoung Hoon Kim¹
¹Seoul National University, ²INRAE, Institute Agro Dijon, ³National Institute of Animal Science

11:00 a.m. PSXI-17 **Prediction models for phosphorus excretion of pigs**

Jeonghyeon Son¹, Beob G. Kim¹
¹Konkuk University

11:00 a.m. PSXI-18 **Prediction of fecal and urinary nitrogen excretion in growing pigs based on the ingredient composition**

Hansol Kim¹, Seung B. Yoo¹, Beob G. Kim¹
¹Konkuk University

11:00 a.m. PSXI-2 **Preliminary investigations into developmental origins of pulmonary arterial pressure in beef cattle**

Scott E. Speidel¹, R. Mark Enns¹, Caitlin N. Cadaret¹
¹Colorado State University

11:00 a.m. PSXI-30 **Ruminal bacterial diversity indexes of grazing beef cattle receiving different supplements plus phytogetic additives**

Karine Dalla Vecchia Camargo¹, Débora Siniscalchi¹, Natalia Vilas Boas Fonseca¹, Willian Aparecido De Souza¹, Marcelo Augusto Oliveira Castro¹, Barbara Carolina Afonso¹, Isadora Alves Dornellas¹, Fiorella Viquez Umaña², Laura Franco Prados³, Pedro Veiga Rodrigues Paulino³, Yury Tatiana Granja-Salcedo⁴, Hilário Cuquetto Mantovani², Ricardo Reis⁵
¹Universidade Estadual Paulista - Unesp, ²University of Wisconsin - Madison, ³Cargill, ⁴Corporación Colombiana de Investigación Agropecuaria - AGROSAVIA, ⁵Sao Paulo State University (UNESP)

11:00 a.m. PSXI-7 **Sensing of defecation and urination events through carbon dioxide monitoring**

Ryan Wright¹, Alyssa Ganino¹, Robin R. White¹
¹Virginia Tech School of Animal Sciences

11:00 a.m. PSXI-4 **Study on semantic segmentation technology for efficient manure treatment in pig barn by intelligent cleaning machine**

Sangho Lee¹, Jin-ho Won¹, Jintack Jeon¹, Changju Yang¹, Gookhwan Kim¹
¹Department of Agricultural Engineering, The National Institute of Agricultural Sciences

11:00 a.m. PSXI-6 **The effects cattle breed (Holstein vs Angus × Holstein) on growth performance, energetic efficiency, and carcass characteristics of calf-fed steers**

Pedro H. V. Carvalho¹, Brooke C. Latack², Marcos V. C. Ferraz³, Lester J. R. P. Nolasco³, Willi R. Meireles³, Heitor O. M. Oliveira³, Richard A. Zinn³
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. Uriarte¹, Hector R. Gomez², Javier Romo², Juan M. Romo²

¹Universidad Autónoma de Sinaloa, ²Universidad Autónoma 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 Pickett¹, Reinaldo F. Cooke¹, Rodrigo Bicalho², Vinicius N. Gouvea³

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 Dantas¹, Murilo Garrett Moura Ferreira dos Santos¹, Mateus Modesto², Vinicius Yuji Mendes Da Silva¹, Thiago Zanetti Albertini¹

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. Hare¹, Koralie Lambert², Anne Clair Chagas², Daniel H. M. Watanabe², Greg B. Penner³

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 Davoudi¹, Duy Ngoc Do¹, Stefanie Colombo¹, Bruce Rathgeber¹, Mehdi Sargolzaei², Graham Plastow³, Zhiqun Wang³, Younes Miar⁴

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, ⁴Department 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 Jin¹

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 Do¹, Karim Karimi¹, Mehdi Sargolzaei², Graham Plastow³, Zhiqun Wang³, Younes Miar⁴

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, ⁴Department 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 phytogetic additives on ruminal bacterial community of grazing beef cattle**

Karine 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**

Emanuel 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. Nicholls¹, Bethany J. Funnell², Ron Lemenager¹, Kara R. Stewart¹
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-Campos¹, Nuria Prieto², Marcel Marcoux², Catherine Thibault², Sophie Zawadski², Haley Scott²
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 Acton¹, Marcio S. Duarte¹, Kendall C. Swanson², Jen L. Ellis¹, Katharine M. Wood¹
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 Acton¹, Marcio S. Duarte¹, Kendall C. Swanson², Jen L. Ellis¹, Katharine M. Wood¹
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 Shaffer¹, Jorge A. Hidalgo², Nora Bello³, Rylie Noland⁴, Jennifer M. Bormann¹, Robert L. Weaver¹, Clint Krehbiel⁵, Michelle S. Calvo-Lorenzo⁶, Chris Richards⁷, Sara E. Place⁸, Udaya DeSilva⁷, Larry A. Kuehn⁹, Megan M. Rolf¹
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. Herrick¹, Jennifer N. Kiser¹, Holly L. Neibergs¹
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 Ampofo¹, Julian Kobayashi¹, Clara Miller¹, Shauneen O'Neil¹, Arun Dhar², Breno O. Fragomeni¹
¹University of Connecticut, ²University of Arizona

12:15 p.m. PSXII-9 **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, Zhiquan 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

12:15 p.m. PSXII-3 **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

12:15 p.m. PSXII-2 **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 Medellin, ³University of Wisconsin-Madison

12:15 p.m. PSXII-12 **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

12:15 p.m. PSXII-23 **Performance of Nelore 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

12:15 p.m. PSXII-21 **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

12:15 p.m. PSXII-13 **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

12:15 p.m. PSXII-17 **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

12:15 p.m. PSXII-18 **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

Poster Session XIII

1:30 PM - 2:30 PM

140 Aztec/110 Galisteo

1:30 p.m. PSXIII-28 **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

1:30 p.m. PSXIII-7 **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

1:30 p.m. PSXIII-11 **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

1:30 p.m. PSXIII-24 **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

1:30 p.m. PSXIII-23 **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

1:30 p.m. PSXIII-13 **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. Ominski 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 Silva¹, Jhones O. Sarturi¹, Bradley J. Johnson¹, Barbara Rodrigues¹, Beatriz Dos Reis¹

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 Kang¹, Hyunjin Kyoung¹, Kyeong Il Park¹, Yonghee Kim¹, Jinmu Ahn¹, Jae In Lee¹, Sewon Ha¹, Jinwook Nam¹, Kimoon Kim¹, Youngmin Park¹, Ikcheol Shin¹, Minho Song¹

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 Ha¹, Hyunjin Kyoung¹, Kyeong Il Park¹, Yonghee Kim¹, Jinmu Ahn¹, Jae In Lee¹, Jinwook Nam¹, Kimoon Kim¹, Yonggu Kang¹, Youngmin Park¹, Ikcheol Shin¹, Minho Song¹

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 Nam¹, Kyeong Il Park¹, Hyunjin Kyoung¹, Yonghee Kim¹, Jinmu Ahn¹, Jae In Lee¹, Sewon Ha¹, Kimoon Kim¹, Yonggu Kang¹, Youngmin Park¹, Ikcheol Shin¹, Minho Song¹

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 Shin¹, Kyeong Il Park¹, Hyunjin Kyoung¹, Yonghee Kim¹, Jinmu Ahn¹, Jae In Lee¹, Sewon Ha¹, Jinwook Nam¹, Kimoon Kim¹, Yonggu Kang¹, Youngmin Park¹, Minho Song¹

¹Chungnam National University

1:30 p.m. PSXIII-6 **Effects of high humidity under high-temperature conditions on growing pigs**

Yonghee Kim¹, Hyunjin Kyoung¹, Kyeong Il Park¹, Jinmu Ahn¹, Jae In Lee¹, Sewon Ha¹, Jinwook Nam¹, Kimoon Kim¹, Yonggu Kang¹, Youngmin Park¹, Ikcheol Shin¹, Minho Song¹

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. Mota¹, Ithalo Freitas², Mark E. Branine³, Glenn C. Duff¹

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 Kim¹, Hyunjin Kyoung¹, Kyeong Il Park¹, Yonghee Kim¹, Jinmu Ahn¹, Jae In Lee¹, Sewon Ha¹, Jinwook Nam¹, Yonggu Kang¹, Youngmin Park¹, Ikcheol Shin¹, Minho Song¹

¹Chungnam National University

1:30 p.m. PSXIII-4 **Effects of probiotic *Lactobacillus rhamnosus* on intestinal morphology, blood profiles, immune responses, and ileal gene expression of weaned pigs**

Hyunjin Kyoung¹, Kyeong Il Park¹, Yonghee Kim¹, Jinmu Ahn¹, Jae In Lee¹, Sewon Ha¹, Jinwook Nam¹, Kimoon Kim¹, Yonggu Kang¹, Youngmin Park¹, Ikcheol Shin¹, Minho Song¹
¹Chungnam National University

1:30 p.m. PSXIII-27 **Evaluation of protein quality of select chicken-based protein sources using the precision-fed cecectomized rooster assay**

Julio Mioto¹, Patricia Massae Oba², Pamela L. Utterback³, Carl M. Parsons³, Leah K. Lambrakis⁴, Harry Chu⁴, Brannon Daniels⁴, Maria R C de Godoy³
¹University of Illinois, ²University of Illinois Urbana-Champaign, ³University of Illinois at Urbana-Champaign, ⁴Simmons Pet Food, Inc.

1:30 p.m. PSXIII-19 **Feeding one-year storage sorghum silage base diets: effects of grain processing on performance of backgrounding beef cattle**

Leandro O. Abdelhadi¹, Guillermo Mattioli², Nicolas DiLorenzo³
¹FCV-UNLP, UF-NFREC, ²Universidad Nacional de La Plata, ³Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

1:30 p.m. PSXIII-18 **Feeding one-year stored sorghum silage: effects of grain processing on intake and apparent total tract digestibility of backgrounding beef heifers**

Leandro O. Abdelhadi¹, Guillermo Mattioli², Nicolas DiLorenzo³
¹FCV-UNLP, UF-NFREC, ²Universidad Nacional de La Plata, ³Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

1:30 p.m. PSXIII-17 **Feeding sorghum silage: effects of grain processing on intake and apparent total tract digestibility of backgrounding beef heifers**

Leandro O. Abdelhadi¹, Guillermo Mattioli², Nicolas DiLorenzo³
¹FCV-UNLP, UF-NFREC, ²Universidad Nacional de La Plata, ³Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

1:30 p.m. PSXIII-26 **Investigating the genetic background of juniper consumption in goats**

Henrique A. Mulim¹, John Walker², Daniel F. Waldron², Danilo Quadros³, Lorena F. Benfica¹, Felipe Egute de Carvalho¹, Luiz F. Brito¹
¹Purdue University, ²Texas A&M AgriLife Research and Extension Center, ³University of Arkansas System Division of Agriculture

1:30 p.m. PSXIII-29 **Nutraceutical effects of fertilized and unfertilized sericea lespedeza hay on gastrointestinal parasitism and whole-plasma metabolome of naturally infected goats**

Yuri Smith¹, Godstime A. Taiwo², Ibukun M. Ogunade², Andres A. Pech-Cervantes¹, Modoluwamu Idowu², Zaira M. Estrada-Reyes³, Thomas H. Terrill¹
¹Fort Valley State University, ²West Virginia University, ³North Carolina A & T University

1:30 p.m. PSXIII-1 **Proof of concept of feeding non-protein nitrogen based special liquid product (StimGain) improve the performance and production in swine and poultry**

Abdullah A. Mahfuz¹, Kevin Doppenberg¹, Mohan Dasari¹
¹Feed 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 Neumann¹, André Martins de Souza¹, Victor Valério de Carvalho², Tiago S. S. Acedo³, Fabiano Marafon⁴, Rogerio Semchechem⁴, Bruno José Venancio¹, Luísa da Costa¹, Ellen Baldissera¹

¹Universidade Estadual do Centro-Oeste, ²dsm-firmenich, ³DSM Nutritional Products, ⁴DSM Nutritional Products Brazil

1:30 p.m. PSXIII-14 **Supplementation of a phytogetic feed additive on growth performance, feed intake and carcass traits of growing and finishing beef steers**

Wenzhu Yang¹, Paulo de Mello Tavares Lima Lima², Shelby M. Ramirez³, Erin F. Schwandt⁴, Tim A. McAllister¹

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 Aryee¹, Sarah M. Luecke¹, Carl R. Dahlen¹, Samat Amat²

¹North Dakota State University, ²North Dakota State University, Department of Microbiological Sciences

1:30 p.m. PSXIII-25 **The effect of adding Rumalato on enteric methane production in goats**

Manuel Romero-Huelva¹, Pedro Romero¹, Laura Martinez², Juan Jose Mallo², Monica Puyalto², David Yañez¹

¹EEZ-CSIC, ²Norel S.A.

1:30 p.m. PSXIII-20 **The effect of hemp varieties and cannabidiol levels on the in vitro ruminal microbiome**

Aghata Silva¹, Arturo Macias Franco², Tio Brody³, Steven Frese², Mozart A. Fonseca³

¹Auburn University, ²University of Nevada Reno, ³University of Nevada, Reno

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 Camargo¹, Chelsie K. Foran¹, Ashley Provin², Deana Hancock³

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. Chibisa¹

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-Espinosa¹, David Christensen², Rex N. Newkirk², Yongfeng Ai¹, Peiqiang Yu²

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan

**Production, Management and Environment II:
Application of New Technologies to Production and Management**

Chair: Zachary Carlson, North Dakota State University

1:30 PM - 3:15 PM

EAST MAIN: 120 Dona Ana

1:30 p.m. 300 **PrimeOne Sire Comparison on Jersey Dairy Cows**

Kara Belt¹, Ty E. Lawrence¹, Travis C. Tennant¹, Loni W. Lucher¹, David G. Lust¹, Katylyn J. Richardson¹, Tommy L. Perkins¹

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 Lopez¹, Fredy Ramirez-Agudelo², Emilia Ribeira-Ferreiro¹, Mohammed Ben Aouda¹

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 Blake¹, Matthew Walker¹, Ida Holaskova¹, Domingo Mata-Padrino¹, Matthew E. Wilson¹

¹West Virginia University

2:15 p.m. 303 **Accuracy of the SmartScale in-pen weighing system**

Meredith A. Harrison¹, Scott Zimmerman¹

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. Parsons¹, Hector M. Menendez², Logan R. Vandermark³, Lily J. McFadden³, Anna Dagele⁴, Krista Ehlert², Jameson R. Brennan⁴

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, 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 Wang¹, Lirong Xiang², Gota Morota³, Carissa Wickens¹, Emily Cushon¹, Samantha Brooks¹, Haipeng Yu¹

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. Johnson¹, Angela R. Green-Miller², Betty McConn³, Lindsey Robbins⁴, Brianna N. Gaskill⁴, Donald C. Lay¹, Allan P. Schinckel⁴

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. Huntington¹

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. Cunningham¹

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 Corbitt¹, Karen A. Hiltbrand¹, Madison Coursen¹, Soren P. Rodning¹, Brandon B. Smith¹, Donald Mulvaney¹

¹Auburn University

2:30 p.m. 392 **Evaluation of assessment strategy on student retention of knowledge in sequential animal science courses**

Alison M. Kuderka¹, Allison N. Vautier¹, Scott E. Speidel¹, R. Mark Enns¹, Caitlin N. Cadaret¹

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. Hartman¹, Karol E. Fike¹, David M. Grieger¹

¹Kansas State University

3:00 p.m. 394 **Transformative animal science fellows program for a sustainable, efficient, profitable beef production future**

Donald Mulvaney¹, Paul W. W. Dyce¹, Kimberly Mullenix¹, S. Leanne Dillard¹, Wellison Jarles j. Da Silva Diniz¹, Terry D. Brandebourg¹, Russell B. Muntifering¹, Werner G. Bergen¹, Soren P. Rodning¹, Lawrence Hamberlin¹, Brandon B. Smith¹

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

¹AgNext, Colorado State University

2:05 p.m. 434 **Creating Market Opportunities with Climate-Smart Agricultural Practices**

Kristi M. Cammack ¹

¹South 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

¹USDA-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

¹World Wildlife Fund

3:30 p.m. 437 **Incentivizing and Aligning U.S. Industry to Drive Change**

Leah Wilkinson ¹

¹American 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. Dassanayake 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 Blaske¹, Kaitlin M. Epperson¹, Lacey K. Quail¹, Jaclyn N. Ketchum¹, Chloey P. Guy², Charles R. Long³, George A. Perry²

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.**

Baitsholets G. Mokolopi¹, James W. Oguttu¹

¹University of South Africa

2:45 p.m. 157 **Enhancing animal protection: Topical RNAi with innovative nanotechnology for sustainable animal health**

Yunjia Yang¹, Gordon Xu², Timothy Mahony¹, Bing Zhang³, Neena Mitter¹, Karishma Mody¹

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. Deters¹, Mina Abbasi¹, Xiaorong Shi¹, Jacques Mathieu², T.G. Nagaraja³

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 Kaniyamattam¹, Vishnudas Veetil¹, Madeline E. Rivera¹, Luiz Diaz Batista¹, Luis O. Tedeschi¹

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. Midkiff¹, Beth B. Kegley², Robin A. Cheek¹, Doug L. Galloway¹, Jana L. Reynolds¹, Benjamin P. Shoulders¹, Jeremy G. Powell¹

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-Moolan¹, Karun Kaniyamattam¹, Luis O. Tedeschi¹

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; EOARC, 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. Vorndran 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 Mullenix¹, Shane Gadberry², Justin D. Rhinehart³, S. Leanne Dillard¹, Jennifer J. J. Tucker⁴, Robert Lawton Stewart⁴, Joao Vendramini⁵, Daniel H. Poole⁶, Nicole C. Burdick Sanchez⁷, Vitor R G Mercadante⁸, Christy L. Bratcher⁹, Thomas H. Welsh¹⁰, John Arthington¹¹, Matthew H. Poore⁶, Audrey L. Earnhardt-San¹⁰, Russell C. Carrell¹², S. Maggie Justice¹, Dallas R. Soffa¹³

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. Duncan¹, Alan J. Tajchman¹, Jack Lemmon¹, William R. Hollenbeck¹, Dale A. Blasi¹, KC Olson¹

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. Kluth¹, Noah Davis¹, Sam Wyffels², Clayton Marlow¹, Lance Vermeire³, Megan L. Van Emon³, Makae Nack¹, Taylre Sitz¹, Thomas Hamilton¹, Jeremiah Peterson¹, Timothy DelCurto¹

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. Smith¹, Jarret A. Proctor², Nathan S. Long²

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. Foote¹, Carlee M. Salisbury¹, Hunter L. McConnell², Mindy E. King¹

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-Perry¹

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 Segó 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

3:45 p.m. 362 **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

4:00 p.m. 363 **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

4:15 p.m. 364 **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

4:30 p.m. 365 **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

2:00 p.m. 402 **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, Kubra Z. Cilkiz ³, Brittini P. Littlejohn ⁴, Rodolfo C. Cardoso ³, Noushin Ghaffari ⁵, Charles R. Long ⁶, 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, ⁵Prairie View A&M University, ⁶School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, ⁷Department of Animal Science, Texas A&M University, and Texas A&M AgriLife Research, ⁸Texas A&M AgriLife Research, Overton, TX

2:30 p.m. 140 **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

2:45 p.m. PSXIV-7 **Comparison of detection of Fasciola in naturally infected slaughter (dairy) cattle by postmortem examination, sedimentation, antibody ELISA and real-time PCR**

Ishmael F. Jaja ¹, Zuko Mpisana ², Charles Byaruhanga ³, Christopher Marufu ³

¹University of Fort Hare, ²University of fort Hare, ³University of Pretoria

2:45 p.m. PSXIV-8 **Comparison of the effects of hydroxy-selenomethionine and selenium-enriched yeast against hydrogen peroxide-induced oxidative stress in rat intestinal epithelial cells**

Saheed O. osho ¹, Berta Higgins ¹, Angela R. Boyer ², kari saddoris-clemons ¹, Brooke Humphrey ¹, Miriam Garcia ¹

¹Phibro Animal Health Corporations, ²Phibro Animal Health

2:45 p.m. PSXIV-9 **Effects of dietary restriction and one-carbon metabolite supplementation during early gestation on the maternal gut and vaginal microbiota in cattle**

Sarah M. Luecke ¹, Godson Aryee ¹, Devin B. Holman ², Kaycie N. Schmidt ¹, Matthew S. Crouse ³, Alison Ward ⁴, Carl R. Dahlen ¹, Joel S. Caton ¹, Samat Amat ⁵

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

2:45 p.m. PSXIV-30 **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. Hurlbert ¹, Kerri A. Bochantin ¹, Friederike Baumgaertner ¹, Ana Clara Baiao Menezes ², James D. Kirsch ¹, Kevin K. Sedivec ³, Carl R. Dahlen ¹

¹North Dakota State University, ²South Dakota State University, ³North Dakota State University - Central Grasslands Research Extension Center

2:45 p.m. PSXIV-10 **Estimation of genetic parameters of traits associated with water efficiency, feed efficiency and growth in beef cattle**

Dinesh M. Thekkoot ¹, Nathan Blake ², Domingo Mata-Padrino ², Kevin C. Garossino ¹, Matthew E. Wilson ²

¹Vytelle, ²West Virginia University

2:45 p.m. PSXIV-11 **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. Messman ¹, Rebecca M. Swanson ¹, Shankar Ganapathi Shanmugam ¹, Caleb O. Lemley ¹

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, ²CQUniversity

2:45 p.m. PSXIV-14 **Evaluation of short-chain fatty acids in cattle treated with the natural additive Fator P®**

Luis 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®**

Luis 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, Brazi, 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 Okamoto¹, Morgan R. stegemiller², Caleb Reichhardt³, Anthony F. Alberto¹, Laura A. Motsinger⁴, Sarah A. Bayles¹, Bryce W. Roholt¹, Matthew D. Garcia¹, Brenda M. Murdoch⁵, Kara J. Thornton¹

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 Ling¹, ElHamidi Hay¹, Emily G. Hayes², Richard Browning², Harvey D. Blackburn³

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 Daneshi¹, Jessica Syring¹, Yssi Entzie¹, Layla King¹, Muhammad Anas¹, Mara Hirchert¹, Matthew S. Crouse², Alison Ward³, Carl R. Dahlen¹, Pawel P. Borowicz¹, Joel S. Caton¹

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. Gionbelli¹, Diana Devia¹, Karolina B. Nascimento¹, Thais Correia Costa¹, Luana Santos¹, German Ramirez-Zamudio¹, Marcio S. Duarte²

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. Bible¹, Pernille Rasmussen¹, Simone H. Rasmussen¹, Alfred Blanch¹, Jessika van Leeuwen¹, Helle N. Lærke², Mette S. Hedemann²

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 Damasio¹, Karolina B. Nascimento¹, Thais Correia Costa¹, Luana Santos¹, Lusiane Pinto¹, Andrey Miranda¹, German Ramirez-Zamudio¹, Marcio S. Duarte², Mateus P. Gionbelli¹

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 F2 α administration after long-term progestin presynchronization**

Genevieve VanWye¹, Emily G. Smith¹, Christine Spinka¹, Michael F. Smith¹, Matthew Lucy¹, Jordan M. Thomas¹

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**

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. Sidelinger 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. Irvin¹, Negusse F. Kidane², Gordon E. Carstens¹, William B. Foxworth³, Keara O'Reilly¹, Scott Horner³

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. Spurling¹, Dillon Petty², Chad Gasser², Randall Violet³, Morgan Christensen², Andrew Heaton², Eric Thacker¹, Alexis Sweat¹, Kerry Rood¹, Kara J. Thornton¹, Chad Page¹

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. Kidane¹, Merrick E. Irvin², William B. Foxworth³, Gordon E. Carstens², Scott Horner³, Keara O'Reilly²

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 Hess¹, Tom W. Murphy², Jim E. Miller³, Joan M. Burke⁴

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 Namani¹, Ramya Sri Kolikapongu¹, Sai Chandan Chelkapally¹, Rania Heikal¹, Ayesha Neha¹, Arshad Shaik¹, Andres A. Pech Cervantes¹, Niki C. Whitley¹, Brou Kouakou¹, Thomas H. Terrill¹, Adel R. R. Moawad¹

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. Joubert¹, Esté Van Marle-Köster¹, H F. Strydom¹

¹University of Pretoria

4:00 p.m. 317 **Characterizing Foot and Leg Scores for Montana Registered Angus Cattle**

Taylre Sitz¹, Timothy DelCurto¹, Hannah DelCurto-Wyffels¹, Megan L. Van Emon², Sam Wyffels³, Jeremiah Peterson¹, Thomas Hamilton¹, Kelli J. Retallick⁴, Esther Tarpoff⁵, Andre Garcia⁵, Kurt Kangas⁵

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 Crouch¹, Travis Mulliniks², Jacki A. Musgrave¹, Kathy Hanford¹, Kacie L. McCarthy²

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. Landblom¹, Songul Senturklu², Lauren L. Hanna³, Bryon Parman³, George A. Perry⁴, Steve Paisley⁵

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. Harrison¹, James W. Oltjen²

¹C-Lock Inc., ²University of California, Davis

5:00 p.m. 321 **Rancher motivations for joining sustainability programs**

Sarah C. Klopatek¹, James W. Oltjen², Leslie Roche², Kim R. Stackhouse-Lawson³, Allison Cantwell⁴

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 acidotic diet challenge and oral bacterial inoculation**

Zach S. McDaniel¹, Kristin E. Hales¹, T.G. Nagaraja², Raghavendra G. Amachawadi², Ty E. Lawrence³, Travis C. Tennant³, Jeff A. Carroll⁴, Nicole C. Burdick Sanchez⁵, Michael Galyean⁶, Taylor M. Smock¹, Michael A. Ballou¹, Vinicius Machado¹, Emily M. Davis⁷, Rand Broadway⁴

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. 105 **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. McDaniel¹, Michael Galyean², Rand Broadway³, Nicole C. Burdick Sanchez⁴, Jeff A. Carroll³, Ashlee Noelle Hanratty¹, Ashley A. Hoffman¹, Colten W. Dornbach¹, Dalton J. Line¹, Taylor M. Smock¹, Kristin E. Hales¹

¹Texas Tech University, ²Texas Tech University Department of Veterinary Medicine, ³USDA, ⁴USDA-ARS, Livestock Issues Research Unit

8:35 a.m. 106 **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. Hoffman¹, Samodha C. Fernando², James E. Wells³, Dale R. Woerner¹, Jeff L. Manahan¹, Nathan S. Long⁴, Zach S. McDaniel¹, Taylor M. Smock¹, Dalton J. Line¹, Paul R. Broadway⁵, Jeffery A. Carroll⁵, Nicole C. Burdick Sanchez⁵, Kristin E. Hales¹

¹Texas Tech University, ²University of Nebraska-Lincoln, ³USDA-ARS, ⁴Texas A&M University, ⁵USDA-ARS, Livestock Issues Research Unit

8:50 a.m. 101 **Fusobacteria, Bacteroidetes, and more! Linking the microbial communities in bovine liver abscesses to the gut**

Lee Pinnell¹, J. Daniel Young², Tyler Thompson³, Cory Wolfe¹, Tony C. Bryant⁴, Mahesh Nair³, John T. Richeson², Paul Morley¹

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. 102 **Development of a bacteriophage-based feed additive to prevent bovine liver abscesses**

Jacques Mathieu¹, Jenny Laverde², Cory Schwarz¹, Marina Tikhonova², Megan Miller¹, Nicole C. Burdick Sanchez³, Jeffery A. Carroll³, Paul R. Broadway³, Pedro Alvarez¹

¹Rice University, ²Sentinel Environmental, ³USDA-ARS, Livestock Issues Research Unit

10:50 a.m. 103 **Development of a novel, experimental, minimally invasive model to investigate the genesis and etiology of liver abscesses in cattle**

Paul R. Broadway¹, T.G. Nagaraja², Ty E. Lawrence³, Raghavendra G. Amachawadi², Jeffery A. Carroll¹, Nicole C. Burdick Sanchez¹, Michael Galyean⁴, Kristin E. Hales⁵

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**

Animal Breeding and Genetics V: Advances in Animal Breeding Systems

Chair: Breno Fragomeni, University of Connecticut

8:30 AM - 10:15 AM

WEST LOWER: 32 Tesuque, Zuni, Acoma

8:30 a.m. 147 Determining status of five genetic conditions in U.S. sheep with a medium-density ovine bead array

Ronald M. Lewis¹, Bradley A. Freking², Michael P. Heaton², Klint Gore³, Joan M. Burke⁴, Benjamin G. Pejsar⁵, Russell L. Burgett⁶, Daniel J. Brown³

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 Williams¹, Saeid Naderi², Donagh P. Berry¹

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 Leite¹, Matias Bermann², Shogo Tsuruta², Ignacy Misztal², Daniela Lourenco²

¹Topigs Norsvin, ²University of Georgia

9:15 a.m. 150 Repeatability of rangeland behavioral and social traits derived from GPS collars

John H. Bergeron¹, Scott Huber¹, Tracy Shane¹, Jason Karl², Melanie Hess³, Robert Washington-Allen¹, Mike Cox⁴, Andrew Hess⁵

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 Bi¹, Leticia Campos¹, Jin Wang², Haipeng Yu², Mark Hanigan¹, Gota Morota³

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 Alves¹, Arthur F. Araujo Fernandes², Vivian Breen², Rachel Hawken², Guilherme J. M. Rosa³

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 Alves¹, Arthur F. Araujo Fernandes², Vivian Breen², Rachel Hawken²

¹Department of Animal and Dairy Sciences, University of Wisconsin - Madison, ²Cobb-Vantress, Inc.

Animal Health II

Chair: Stacie Crowder, Purina Animal Nutrition; Fernanda Rosa, Texas Tech University

8:30 AM - 10:15 AM

EAST UPPER: 220 Ruidoso

8:30 a.m. 162 **Evaluating the potential of a thermal imaging system to identify subclinical mastitis in dairy cattle**

Bhuwan Shrestha¹, Juan M. Piñeiro², Sushil Paudyal³

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. Luecke¹, Gerald Stokka¹, Kaycie N. Schmidt¹, Garrett Havelka¹, Samat Amat²

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 Amat¹, Trevor Alexander²

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 Sanchez¹, Ty M. Mitchell², Paul R. Broadway¹, Brooke M. Bowen², Emily M. Davis³, Thomas W. Dobbins², Samantha N. Barker², Jerrad F. Legako², Amy L. Petry⁴, Jeffery A. Carroll¹

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 Ranches¹, Gracia M. P. Hernandez², Aline R. Santos², Matheus Ferreira², Jenifer Cruickshank²

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 Holliman¹, Priyanka Banerjee¹, Paul W W. Dyce¹

¹Auburn University

10:00 a.m. 163 **Colostrum pasteurization improves health status and blood immunity in dairy calves through manipulating intestinal microbial community**

Tianyu Chen¹, Shuyuan Zhang¹, Haotong Song¹, Jiaying Ma¹, Muhammad Zahoor Khan¹, Jingjun Wang¹, Shuai Liu¹, Zhijun Cao¹

¹State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University

Forages and Pastures II

Chair: Flint Harrelson, Morehead State University

8:30 AM - 10:15 AM

WEST LOWER: 18 Cochiti, Taos

8:30 a.m. 425 **Invited Talk: Improving efficiency of grazing livestock production systems with novel sensors**

Travis Mulliniks¹, Yijie Xiong¹, Isabella C. F. S. Condotta², Dalton Anderson¹, Kacie L. McCarthy¹, Mitchell Stephenson¹

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 Rambau¹, Felix Fushai¹, Joseph J. Baloyi¹

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. Christensen¹, Jonathan Halvorson¹, Jennifer W. MacAdam², Scott L. Kronberg¹, John R. Hendrickson¹

¹USDA-ARS, ²Utah State University

9:30 a.m. 233 **Fermentation characteristics of brassica and wheat mixed silages**

Flint W. Harrelson¹, Patricia L. Harrelson¹, Caroline R. Roush¹, Amanda R. Skidmore¹, Amy S. Collick¹

¹Morehead State University

9:45 a.m. 234 **Can we use moderate quality round bale bermudagrass silage to stretch wheat pasture?**

Paul A. Beck¹, Matthew R. Beck², Don Hubbell³, Tom Hess⁴, Andrew P. Foote¹, Shane Gadberry⁵, Beth B. Kegley⁴

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 Ayala¹, Marta Lima², Raphaella Alexandra De Castro¹, Ana Paula Jimenez¹, Marcus Cardoso¹, Colt W. Knight¹, Juan Jose J. Romero¹

¹University of Maine, ²Virginia Tech

Ruminant Nutrition V: Supplementation of Ruminant Diets II

Chair: Brandon Smith, Auburn University

8:30 AM - 10:15 AM

WEST LOWER: 31 Santa Ana, Sandia, Picuris

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 Batista¹, Madeline E. Rivera¹, Luis O. Tedeschi¹

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 Jin¹, DongQiao Peng², WangYong Jeong¹, JunHee Lee¹, Ghassemi Nejad Jalil¹, JaeSung Lee¹, HongGu Lee³

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. Grant¹, Dale A. Blasi¹, Evan C. Titgemeyer¹

¹Kansas State University

9:15 a.m. 369 **Effects of supplementing sources of zinc on digestibility parameters of beef steers**

Arminda S. James¹, Brian Rude¹, Trent Smith¹, Angela R. Boyer²

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 Keele¹, Brian Rude¹, Trent Smith¹, Brandi B. Karisch¹, Malori Masaitis¹

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 Francis¹, Forest L. Francis¹, Erin R. Gubbels¹, Thomas Norman¹, Thiago Maia Ribeiro¹, Santana Hanson¹, Cassidy Ross¹, Devan Paulus Compart², Warren C. Rusche¹, Zachary K. Smith¹

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. Alberto¹, Caleb Reichhardt², Bailee Brown¹, Laura A. Motsinger³, Kerry Rood¹, Brett Bowman¹, Bryce W. Roholt¹, Matthew D. Garcia¹, Kara J. Thornton¹

¹Utah State University, ²University of Hawai'i at Mānoa, ³Hill's Pet Nutrition

Animal Breeding and Genetics Symposium III
Chair: Zihua 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 ¹, 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 ¹, Timothy Sullivan ¹, Christian Tobias ¹

¹USDA-National Institute of Food and Agriculture

10:50 a.m. 100 **The central dogma of phenomics: $P = G + R + E + G \times R \times E$?**

Zihua Jiang ¹

¹Washington State University

11:20 a.m. **Animal Breeding and Genetics Symposium III Discussion**