



Sunday, July 19, 2026

**Genomics for Animal Science Workshop - Sponsored by NRSP8-RNC and NIFA-AFRI and
McNamara Research in Agriculture Firm**

Chair: Wellison Diniz, Auburn University

8:00 AM - 5:00 PM

H-I

8:00 a.m. **Registration and Morning Coffee / Check-in**

9:00 a.m. **Welcome and Workshop Overview**

10:00 a.m. **Track 1: Introductory Genetics/Genomics (Foundations) - Room K-L**

Fiona McCarthy ¹, Yanghua He ², Wellison J.S. Diniz ³

¹University of Arizona, ²University of Maryland, ³Auburn University

10:00 a.m. **Track 2: Advanced Functional Genomic Applications of Livestock Regulatory
Elements - Room H-I**

James E. Koltes ¹, Byeonghwi Lim ¹

¹Iowa State University

10:00 a.m. **Track 3: Advanced Quantitative Genomics (GWAS and Genomic Prediction) -
Room J**

Nanye Long ¹, Molly McCue ², Wen Huang ¹, Nicole Tate ³, Hayden Hamsher ³

¹Michigan State University, ²University of Minnesota, College of Veterinary Medicine,

³University of Minnesota

12:00 p.m. **Networking Lunch**

1:30 p.m. **Concurrent Workshop Tracks cont'd**

3:00 p.m. **Full-Group Roundtable Discussion**

4:00 p.m. **Networking**

ASAS-NANP Symposium: Mathematical Modeling Nutrition

- Sponsored by National Animal Nutrition Program

Chair: Luis Tedeschi, Texas A&M University

8:30 AM - 5:30 PM

E-F

8:30 a.m. **ASAS-NANP Symposium Introduction**

8:40 a.m. **Lecture 1: Quantum Computing Applied to Animal Nutrition and Agriculture:
Emerging Opportunities and Practical Perspectives**

Bill Wisotsky ¹

¹SAS

9:20 a.m. **Lecture 2: Leveraging Ai-derived Digital Phenotypes for Precision Monitoring of
Dairy Cattle Production, Health, and Behavior**

Haipeng Yu ¹

¹University of Florida

10:00 a.m. **ASAS-NANP Symposium Break 1**

10:20 a.m. **Hands-on 1: Unlock Computer Vision with AI: Low-code Solutions for Real-
world Precision Live Stock Farming Tasks**

Ziteng Xu ¹

¹Texas A&M University

11:50 a.m. **Round Table Discussions and Updates 1**

Hector M. Menendez ¹

¹South Dakota State University

12:10 p.m. **ASAS-NANP Symposium Networking Lunch**

1:00 p.m. **Hands-on 2: Fine-tuning Embedding Models for RAG and Text Analysis in
Agricultural Applications**

Joao R. R. Dorea ¹

¹University of Wisconsin-Madison

2:50 p.m. **ASAS-NANP Symposium Break 2**

3:10 p.m. **Hands-on 3: Applications of Optimization in AI Frameworks to Animal Science Modeling**

Reid Hensen ¹

¹Celium Group

5:00 p.m. **Round Table Discussions and Updates 2**

Luis Orlindo Tedeschi ¹

¹Texas A&M University

Opening Session

5:30 PM - 6:45 PM

Exhibit Hall B

5:30 p.m. **Opening Session Welcome**

Richard Coffey ¹

¹Oklahoma State University

5:35 p.m. **Program Committee Acknowledgement and Sponsor Thank You**

Richard Coffey ¹

¹Oklahoma State University

5:40 p.m. **International Attendee Welcome**

Angela Canovas ¹

¹Centre for Genetic Improvement of Livestock, Department of Animal Bioscience, University of Guelph, Guelph, Ontario, Canada

5:45 p.m. **Welcome to Madison and Wisconsin**

Heather M. White ¹

¹University of Wisconsin-Madison

5:55 p.m. **USDA Priorities in Research**

Lauren Stump ¹

¹USDA

6:15 p.m. **Morrison Award - Dr. Mike Tokach**

6:20 p.m. **President's International Award - Dr. Frank Dunshea**

6:25 p.m. **FASS-AFIA Award - Dr. Kelly Swanson**

6:30 p.m. **ASAS Publications - Upcoming incentive program**

Richard Coffey ¹

¹Oklahoma State University

6:35 p.m. **Foundation Folly**

Richard Coffey ¹

¹Oklahoma State University

6:40 p.m. **President's Listening Session and 2027 Meetings**

Richard Coffey ¹

¹Oklahoma State University

Monday, July 20, 2026

Poster Session 1

7:00 AM - 8:00 AM

Grand Terrace

7:00 a.m. PS1-18 **A preliminary analysis of the relationship between surface area-to-mass ratio and thermoregulatory response in gilts exposed to variable heat loads during early and late gestation**

Juan F. Castillo ¹, Lilian Bombeck ², Carley R. Hopkins ², Caitlyn R. Sullivan ², Amy L. Petry ³, Derek W. Brake ², Jared E. Decker ³, Guilherme DeSouza ⁴, Jeremy J. Cottrell ⁵, Jay S. Johnson ³

¹Departement of Animal Sciences, University of Missouri, ²Department of Animal Sciences, University of Missouri, ³University of Missouri, ⁴Electrical Engineering and Computer Science Department, University of Missouri, ⁵University of Melbourne

7:00 a.m. PS1-13 **Changes in serum immunological markers in beef × dairy steers in response to a liver abscess challenge and pre-weaning plane of nutrition**

Nicole C. Burdick Sanchez ¹, Blake S. Sitka ², Kristin E. Hales ³, Ty E. Lawrence ⁴, T. G. G. Nagaraja ⁵, Olivia N. Genther-Schroeder ⁶, Paul R. Broadway ¹

¹USDA-LIRU, ²Texas Tech University, ³USDA, ARS, US Meat Animal Research Center, ⁴West Texas A&M University, ⁵Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, ⁶Land O'Lakes Inc.

7:00 a.m. PS1-3 **Comparison of Genomic Predictions from Single- and Multi-trait GBLUP Including Additive and Dominance Effects for of Body Weights in Brangus Population**

Kadir Kizilkaya ¹, Ayşe Nur Karakoç ², Mahlako L. Makgahlela ³, Sunday O. Peters ⁴

¹Adnan Menderes University, ²Department of Animal Science, Faculty of Agriculture, Aydın Adnan Menderes University, ³University of the Free State, ⁴Berry College

7:00 a.m. PS1-4 **Comparison of Single- and Multi-trait Models Including Additive and Dominance Effects for Cattle Carcass Quality Traits in Brangus Population**

Sunday O. Peters ¹, Hayat Eril ², Mahlako L. Makgahlela ³, Kadir Kizilkaya ⁴

¹Berry College, ²Department of Animal Science, Faculty of Agriculture, Aydın Adnan Menderes University, Aydın, Turkey, ³University of the Free State, ⁴Adnan Menderes University,

7:00 a.m. PS1-7 **Contemporary Parent Substitution: A Simple Approach for Constructing Numerator Relationship Matrix with Unknown Parents**

Che Hsuan Huang ¹

¹Hokkaido Agricultural Research Center, NARO

7:00 a.m. PS1-10 **Early Transcriptomic Signature of Hypoxia-induced Metabolic Shifts in Myositis and Wooden Breast**

Alexandra G. Cooper ¹, Shamdeed Kabir ², Hailey S. Hoffman ², Behnam Abasht ²

¹University of Delaware Avian Biology & Bioinformatics Lab, ²University of Delaware

7:00 a.m. PS1-20 **Effects of 5-HTP supplementation on follicular dynamics and Corpus luteum area and blood perfusion in beef cattle**

Alexandra P N Ewing ¹, Alexis P N Stewart ¹, Gretta P N Larson ¹, Jessica Nora Drum ¹, Rebecca M. M. Swanson ²

¹South Dakota State University, ²Department of Animal Sciences and Center for Nutrition and Pregnancy, North Dakota State University

7:00 a.m. PS1-19 **Effects of CIDR-induced vaginitis and/or estrus expression on ex vivo semen performance when exposed to vaginal fluid**

Nicholas Wege Dias ¹, Samuel Hermogenes Costa ¹, Danielle M. Ellinghuysen ¹, Ana Clara Rocha ¹, Saulo Zoca ²

¹Kansas State University, ²University of Tennessee

7:00 a.m. PS1-27 **Effects of Dried Distillers Grains and Whole Cottonseed Supplementation on Growth, Rumen Fermentation, and Immune-inflammatory Responses of Brangus Steers**

Joao L. S Abreu ¹, Matheus L. Ferreira ², Hiam Marcon ³, Anuzhia P. Moreira ³, Mateus JI Abreu ⁴, Kelsey M. Harvey ⁵, Madeline G. McKnight ⁵, Barbara Roqueto dos Reis ⁶, Marcelo Vedovatto ²

¹Dean Lee Research and Extension Center, Louisiana State University. Universidade Federal do Norte do Tocantins, ²Louisiana State University, ³Dean Lee Research and Extension Center, Louisiana State University, ⁴Department of Animal Science, Sao Paulo State University Júlio de Mesquita Filho, ⁵Prairie Research Unit, Mississippi State University, ⁶Mississippi State University

7:00 a.m. PS1-9 **Effects of Intravaginal Progesterone Device Size and Dose on Reproductive Performance and Growth of Bos Indicus Heifers**

Larissa Mardones ¹, José Carvalho ², Izabelle Lacerda ³

¹UW-Madison, ²UFES, ³Faculdade Anhanguera

7:00 a.m. PS1-25 **Impacts of Exogenous Enzymes on in Vitro Digestion of Cereal Grains**

Elizabeth R. Kiselewski ¹, Ludmilla S. Monteiro ¹, James S. Drouillard ¹

¹Kansas State University

7:00 a.m. PS1-2 **Inclusion of Dominance Effect in the Single- and Multi-trait GBLUP Models for Saturated, Mono and Polyunsaturated Milk Fatty Acids from Canadian Dairy Cows**

İrem Acer ¹, Kadir Kizilkaya ², Sunday O. Peters ³, Eveline M. Ibeagha-Awemu ⁴, Xin Zhao ⁵

¹Garduate School of Natural and Applied Sciences, Department of Animal Science, Aydın Adnan Menderes University, Aydın Turkey, ²Adnan Menderes University, ³Berry College, ⁴Agriculture and Agri-Food Canada, ⁵McGill University

7:00 a.m. PS1-12 **Influence of early gestational maternal mineral supplementation on miRNA-mediated gene expression in fetal liver of beef cattle**

Amanda Matioli de Oliveira Chaves ¹, Thais Ribeiro da Silva ¹, Alison K. K. Ward ², Muhammad Anas ³, Kacie L. McCarthy ⁴, Lawrence P. P. Reynolds ⁵, Pawel P. P. Borowicz ⁵, Kevin K. Sedivec ⁶, Joel S. Caton ⁷, Carl Robertson R. Dahlen ⁷, Wellison J.S. Diniz ⁸

¹Auburn University, ²University of Saskatchewan, ³Department of Animal Sciences and Center for Nutrition and Pregnancy, North Dakota State University, ⁴University of Nebraska Lincoln, ⁵North Dakota State University, ⁶Central Grasslands Research Extension Center, North Dakota State University, Streeter, ND, USA, ⁷Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁸Auburn University, Auburn, USA

7:00 a.m. PS1-1 **Introducing gene-editing semen for the slick mutation to mitigate fescue toxicosis in Angus cattle**

Lucas C. S. Branco ¹, Juliet E. Henning ², Raquel F. Oliveira ³, Gabriela L. Dasqueve ³, Louisi Manica ³, Jonathan R. Bostrom ⁴, Tad S. Sonstegard ⁵, Cecilia C. Rocha ²

¹Division of Animal Sciences, Southwest Research, Extension, and Education Center, University of Missouri, ²Division of Animal Sciences, Southwest Research Extension and Education Center, University of Missouri, ³Department of Animal Reproduction, School of Veterinary Medicine and Animal Science, University of São Paulo, ⁴Acceligen, ⁵Acceligen Inc

7:00 a.m. PS1-5 **Linking Microbial Profiles in Milk Somatic Cells to Feed Efficiency in Dairy Cattle**

Ángela Cánovas ¹, Guilherme Henrique Gebim Polizel ², Leluo Guan ³, Victoria Asselstine ⁴, Miguel H.A Santana ⁵, Christine F. Baes ², Filippo Miglior ⁶, Ricarda E. Jahnel ², Flavio S. Schenkel ²

¹University of Guelph, Guelph, Canada, ²Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, Ontario, Canada., ³Faculty of Land and Food Systems, University of British Columbia, Vancouver, British Columbia, Canada., ⁴Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, Ontario, Canada, ⁵University of São Paulo, Pirassununga, Brazil, ⁶Lactanet, University of Guelph

7:00 a.m. PS1-22 **Monensin, Narasin, and Their Alternation in High-concentrate Diets Do Not Accelerate Puberty in F1 (Angus × Nelore) Heifers**

Larissa Peroti Bello ¹, Bismarck Soares Alexandrino ¹, Mariana Jeronymo ¹, Pedro Henrique de Lima Salmaso ¹, Mirela B. Balistrieri Dias ², Bárbara Martins Brixner ³, Daniel Montanher Montanher Polizel ⁴, Diogo Fleury Azevedo Costa ², Flávio Augusto Portela Santos ², Alexandre Vaz Vaz Pires ⁵

¹Department of Animal Nutrition and Production, School of Veterinary Medicine and Animal Science, ²“Luiz de Queiroz” College of Agriculture, ³Escola Superior de Agricultura “Luiz de Queiroz” (ESALQ) - University of São Paulo (USP), ⁴Department of Biology and Animal Science, Sao Paulo State University, Ilha Solteira, SP, Brazil., ⁵Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

7:00 a.m. PS1-6 **Observational Assessment of Preconception Energy Status on Daughters’ Lactation Traits in Canadian Holsteins**

Olubunmi Duduyemi ¹, Edith Charbonneau ², Marc-Andre A. Sirard ², Roger Cue ¹

¹McGill University, ²Laval University

7:00 a.m. PS1-26 **Optimizing Corn-sorghum Blends: Impact on Rumen Fermentation, Volatile Fatty Acid Profiles, and Digestibility**

Mindy King ¹, Haley Smith ¹, Emma A. Briggs ¹, Adam King ¹, Keith R. Harmony ¹

¹Kansas State University

7:00 a.m. PS1-21 **Organic Minerals Modulate Hepatic Mitochondrial Metabolism and Inflammatory Signaling in Feedlot Cattle**

Jéssica G. Ferracini ¹, Alexandre Perdigão ¹, Victor Valério Carvalho ¹, Maria Bethania Niehues ², Daniel Gouvea ², Mirele Poletti ³, Heidge Fukumasu ⁴, Ivanor Nunes Prado ⁵, Mario De Beni Arrigoni ⁶, Cyntia Ludovico Martins ⁶

¹DSM-Firmenich, ²School of Veterinary Medicine and Animal Science (FMVZ), São Paulo State University – UNESP, ³College of Animal Science and Food Engineering (FZEA), University of São Paulo, ⁴University of São Paulo, Pirassununga, Brazil, ⁵State University of Maringá (UEM), ⁶School of Veterinary Medicine and Animal Science (FMVZ), São Paulo State University

7:00 a.m. PS1-23 **Performance and Carcass Responses to Monensin, Narasin, and Their Alternation in Feedlot Heifers Fed High-concentrate Diets**

Larissa Peroti Bello ¹, Bismarck Soares Alexandrino ¹, Mariana Jeronymo ¹, Pedro Henrique de Lima Salmaso ¹, BÁRBARA MARTINS BRIXNER ², Daniel Montanher Montanher Polizel ³, Diogo Fleury Azevedo Costa ⁴, Flávio Augusto Portela Santos ⁴, Alexandre Vaz Vaz Pires ⁵

¹Department of Animal Nutrition and Production, School of Veterinary Medicine and Animal Science, ²Escola Superior de Agricultura “Luiz de Queiroz” (ESALQ) - University of São Paulo (USP), ³Department of Biology and Animal Science, Sao Paulo State University, Ilha Solteira, SP, Brazil., ⁴“Luiz de Queiroz” College of Agriculture, ⁵Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

7:00 a.m. PS1-17 **Reproductive tract score outperforms anogenital distance for predicting pregnancy in beef heifers**

Ana Clara Rocha ¹, Allen G. Schwartz ¹, Danielle M. Ellinghuysen ¹, Sydney Flax ¹, Saulo Zoca ², Emma A. Briggs ¹, Sandy Johnson ¹, Nicholas Wege Dias ¹

¹Kansas State University, ²University of Tennessee

7:00 a.m. PS1-11 **Resolution Outcomes and Predictive Capacity of Pregnancy-Associated Glycoprotein (PAG) Concentrations in Lactating Dairy Cows with an Initial**

Ornella Messi ¹, Thaina Minela ², Rajesh Neupane ¹, Rafael R. Paiva ¹, G. Cliff C. Lamb ², Ky G. G. Pohler ¹

¹Texas A&M University, ²Texas A&M AgriLife Research

7:00 a.m. PS1-15 **Shearing during early mid-gestation modifies placental gene expression**

Manuel Alexander Vasquez-Hidalgo ¹, Mara Johnson ¹, Blake Johnson ¹, Wellison J.S. Diniz ², Kimberly Vonnahme ³

¹South Dakota State University, ²Auburn University, ³North Dakota State University

7:00 a.m. PS1-8 **Sperm Motility Evaluation in Bulls Fresh Semen Using two Portable Computer-assisted Sperm Analysis System**

Juan j. Quintin-Nieto ¹, Daniella C. Heredia ¹, Maria Camila C. Lopez-Duarte ¹, Jose L. Infante ¹, Tomas Andres-Soto ¹, Andres Lacherre ¹, Oscar Alejandro Ojeda-Rojas ², Nicolas DiLorenzo ¹, Peter J. Hansen ¹, Angela M. Gonella ¹

¹University of Florida, ²University of Georgia

7:00 a.m. PS1-14 **The effect of maternal bovine appeasing substance at time of insemination on fertility of first service lactating dairy cows**

Iago M. Rosa Leao ¹, João Paulo N. Nascimento Martins ¹

¹University of Wisconsin-Madison

7:00 a.m. PS1-24 **Transcriptome-wide Identification of INDEL Variants with Potential Splice-site and Coding Effects in Nematode-challenged Sheep**

Krishani Sinhalage ¹, Niel Karrow ¹, Victoria Asselstine ¹, Flavio S. Schenkel ², Ángela Cánovas ³
¹Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, Ontario, Canada, ²Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, Ontario, Canada., ³University of Guelph, Guelph, Canada

7:00 a.m. PS1-16 **Umbilical blood flow and fetal development during mid gestation in singleton, twin and triplet pregnancies in Polypay ewes.**

Manuel Alexander Vasquez-Hidalgo ¹, Mara Johnson ¹, Blake Johnson ¹, Kimberly Vonnahme ²

¹South Dakota State University, ²North Dakota State University

7:00 a.m. PS1-28 **Validation of an Method to Determine Individual Grazing Dry Matter Intake at Scale in Beef Cattle**

Addison Geyer ¹, Tylor J. Yost ¹, E. K. Arunkumar ¹, Nathan Blake ¹, Ida Holaskova ¹, Matthew E. Wilson ¹

¹West Virginia University

CSAS Graduate Student Oral Competition MS

Chair: Laura Eastwood, KWS Seeds Canada

8:00 AM - 10:15 AM

Ballroom C

8:00 a.m. 44 **A Benchmark Study of Feeding and Management Practices, Feed Utilization, and Adoption of Growth-enhancing Technologies by the Canadian Feedlot Industry**

Kenneth A. Halibert ¹, Megan St. Martin ², Gregory B. Penner ¹, Kim H. Ominski ³, Stephanie A. Terry ⁴, Megan Van Schaik ⁵, Brenna Grant ⁶, Mary Lou Swift ¹, Jenilee F. Peters ¹, Tim A. McAllister ⁴, Katie M. Wood ⁷, Gabriel O. Ribeiro ¹

¹Department of Animal and Poultry Science, University of Saskatchewan, ²Department of Animal Biosciences, University of Guelph, ³Department of Animal Science, University of Manitoba, ⁴Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ⁵Ontario Ministry of Agriculture, Food and Agribusiness, ⁶Canfax Research Services, ⁷University of Guelph

8:15 a.m. 45 **Consumption, Ruminal Degradation, and Rumen Accumulation of a Novel Compostable Hay-bale Net-wrap**

Abigail K. Wall ¹, Timothy Mutsvangwa ¹, Flavia O. S. van Cleef ¹, Brenda J. Ralston ², Obioha N. Durunna ³, Andrea M. Hanson ³, Gabriel O. Ribeiro ⁴

¹Department of Animal and Poultry Science, University of Saskatchewan, ²University of Calgary, ³Lakeland College, ⁴Department of Animal and Poultry Science, University of Saskatchewan

8:30 a.m. 46 **Effects of Fermentable Carbohydrates on Boar Taint and Fecal Short-chain Fatty Acid Profiles in Intact Male Pigs**

Sunbin Kim ¹, Christine Bone ¹, E. James Squires ¹

¹University of Guelph

8:45 a.m. 47 **Effects of Mild Nutritional Restrictions During Mid-gestation on Neonatal Calf Performance and Placental Function in Extended-grazed Beef Cows**

Gayathri Dhanushka Diddeniya Diddeniyage ¹, Nilusha Malmuthuge ², Juan Hernandez-Medrano ¹

¹Faculty of Veterinary Medicine, University of Calgary, ²University of Calgary, Faculty of Veterinary Medicine

9:00 a.m. 48 **Effects of Pain Control Methods, Including a Lidocaine-impregnated Elastrator Band, on Growth Performance and Wound Healing in Lambs**

Thoreau Colucci¹, Augusto Madureira², Derek B. Haley³, Ben Lecorps⁴, Paul Luimes⁵, Charlotte Winder³, Tracy Burnett⁵

¹University of Guelph, ²Michigan State University, ³Ontario Veterinary College, University of Guelph, ⁴Bristol Veterinary School, ⁵University of Guelph, Ridgetown Campus

9:15 a.m. 49 **Estimated Greenhouse Gas Emissions of Individually Housed Beef X Holstein Steers and Holstein Steers Fed to Finish**

Ireland Kyrzyk-Smith¹, Stephanie A. Terry², Erika E. Cornand², Gregory B. Penner³, Tim A. McAllister², Deanne H. Fulawka¹, Kim H. Ominski⁴

¹University of Manitoba, National Centre for Livestock and the Environment, ²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴Department of Animal Science, University of Manitoba

9:30 a.m. 50 **Growth Performance of Finishing Feedlot Steers Fed a Diet with Continuous or Intermittent Inclusion of Ergot Alkaloids with and Without a Mycotoxin Deactivating Product During Summer Months**

Darby A. Meyer¹, Kim Stanford², Tim A. McAllister³, Gregory B. Penner¹, Karen S. Schwartzkopf-Genswein³, Gabriel O. Ribeiro¹

¹Department of Animal and Poultry Science, University of Saskatchewan, ²University of Lethbridge, ³Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

9:45 a.m. 51 **Modeling Drought-related Changes in Forage Yield and Quality and Its Impacts on Whole-farm Greenhouse Gas Emissions in Canadian Cow-calf Production Systems**

Isabell Reutter¹, Karin H. Wittenberg¹, Tim A. McAllister², Aklilu W. Alemu³, Deanne H. Fulawka¹, Marcos Cordeiro¹, Kim H. Ominski⁴

¹University of Manitoba, National Centre for Livestock and the Environment, ²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Agriculture and Agri-food Canada, University of Manitoba, ⁴Department of Animal Science, University of Manitoba

10:00 a.m. 52 **Transferability of Methane Emission SNP Effects from Dairy to Beef Cattle Populations**

Timothy T. Houghton¹, Samla M F Cunha¹, Madeline J. McLennan², Katie M. Wood³, Angela Canovas⁴, Filippo Miglior⁵, Christine F. Baes¹, Flavio S. Schenkel¹

¹Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, Ontario, Canada., ²Department of Animal Biosciences, University of Guelph, ³University of Guelph, ⁴Centre for Genetic Improvement of Livestock, Department of Animal Bioscience, University of Guelph, Guelph, Ontario, Canada, ⁵Lactanet, University of Guelph

Ruminant Nutrition 1: Enteric Methane Emissions

Chair: Kara Thornton, Utah State University

8:00 AM - 10:15 AM

Lecture Hall

8:00 a.m. 32 Cattle Preferential Intake of Seaweed Supplementation and Effects on Methane Emissions

Jocelyn Torres ¹, Aline C. Rezende dos Santos ¹, Erica Ferri de Oliveira ¹, James Fox ¹, Rory C. O'Connor ², Juliana Ranches ¹

¹Oregon State University, ²United States Department of Agriculture

8:15 a.m. 33 Effects of Frequency of Asparagopsis Taxiformis Supplementation on Methane Production and Energy and Nitrogen Balance in Beef Steers Fed a Forage-based Diet

Samuel R. Talley ¹, Eric A. Bailey ¹, Emily A. Petzel ², Harley D. Naumann ¹, Sophia C. Seibert ¹, Emma R. Bauer ¹, Derek W. Brake ³

¹University of Missouri, ²USDA, Agricultural Research Service, ³Department of Animal Sciences, University of Missouri

8:30 a.m. 34 Dose-response relationship of a blended tannin extract on ruminal fermentation dynamics, methane production, and diet digestibility using the in vitro gas production technique

Clarice Francis ¹, Jordan M. Adams ², Nathalia D. Gresham ¹, Mingyung Lee ², Marcia Helena Machado da Rocha Fernandes ¹, Luis Orlindo Tedeschi ¹

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

8:45 a.m. 35 Effect of donor adaptation to tannin extract on methane production in an in vitro rumen fermentation system

Nathalia D. Gresham ¹, Clarice Francis ¹, Mingyung Lee ², Jordan M. Adams ², Marcia Helena Machado da Rocha Fernandes ¹, Luis Orlindo Tedeschi ¹

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

9:00 a.m. Ruminant Nutrition 1: Enteric Methane Emissions Break

9:15 a.m. 36 Investigating the dose-response pattern of a blended condensed and hydrolyzable tannin extract on diet digestibility and methane production in beef cattle

Clarice Francis ¹, Jordan M. Adams ², Nathalia D. Gresham ¹, Mingyung Lee ², Marcia Helena Machado da Rocha Fernandes ¹, Luis Orlindo Tedeschi ¹

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

9:30 a.m. 37 Effects of 3-nitrooxypropanol on Methane Emissions and Lactation Performance of Dairy Cows in Early Lactation

Alexis L. Wivell ¹, Stuart Kirwan ¹, Briana Morales ², Conor J. McCabe ¹, Lindsay Westbrook ¹, Kelly Mitchell ³, Frank M. Mitloehner ⁴

¹UC Davis CLEAR Center, ²UC, ³Project scientist, ⁴Principal Investigator

9:45 a.m. 38 **Impacts of Forage Type and Energy Supplementation on Dry Matter Digestibility and Ruminal Nitrate Release**

Gavin Haines¹, Tim DelCurto¹, Sam Wyffels¹, Cooper W. Simmons¹, Tucker L. Lytton¹, Caroline W. Gatschet¹, Kylee Lewis¹, Annika Anderson¹, Sophie O'Connor¹, Abigail Zezeski¹, Wilmer Cuervo¹, Megan L. Van Emon¹

¹Montana State University

10:00 a.m. 39 **Invasive Weeds Species from South-central Montana as Potential Feed Additives to Mitigate Enteric Methane Emissions from Beef Cattle: An in Vitro Evaluation**

Wilmer Cuervo¹, Maria V. Galeano¹, Casie Flannagan¹, Elliot Hayhurst¹

¹Montana State University

Small Ruminant

Chair: Carrie Wilson, USDA-ARS-RSPER

8:00 AM - 11:30 AM

H-I

8:00 a.m. 10 **Anchor Talk: Buck and Ram Breeding Soundness Evaluation**

Darcie R. Sidelinger¹

¹Mississippi State University College of Veterinary Medicine

8:30 a.m. 11 **Association of Serum IgG Concentration and Serum Brix Values with Neonatal Lamb Mortality in a Commercial Rideau Arcott Flock**

Jasmine Fraser¹, Charlotte Winder¹, Tracy Burnett², David Renaud³, Michael A. Steele⁴, Marlene Paibomesai⁵

¹Ontario Veterinary College, University of Guelph, ²University of Guelph, Ridgetown Campus,

³University of Guelph., ⁴University of Guelph, ⁵Ontario Ministry of Agriculture, Food and Agribusiness

8:45 a.m. 12 **Building a Better Ewe: Lifetime Productivity of Polypay Sheep at the U.S. Sheep Experiment Station**

Carrie S. Wilson¹, J. Bret B. Taylor¹

¹USDA-ARS-RSPER

9:00 a.m. 13 **Quality over Quantity: The Oxygen Advantage of Bee Pollen Supplementation**

Andrea Aldape¹, Payton Kinney², Bianca V. Trochez Vargas³, Brian L. Bruner³, Cesar A. Rosales-Nieto⁴

¹Department of Agricultural Sciences at Texas State University, ²Department of Agricultural Sciences at Texas State University, ³Texas State University, ⁴Department of Agricultural Sciences, Texas State University, San Marcos

9:15 a.m. 14 **Transcriptomics Analysis of Katahdin Sheep PBMC with Divergent PFEC EBV**
Samanthia R. Johnson ¹, Kelsey L. Bentley ², Scott A. Bowdridge ¹, Ibukun M. Ogunade ¹
¹West Virginia University, ²Kansas State University

9:30 a.m. 15 **Gestational Heat Stress and the Impacts on Mammary Gland Physiology in Lactating Ewes**
Bryson C. Prather ¹, Sean W. Limesand ¹, Rodolfo Elias ¹, Jennifer Miranda ¹, Eliana Tabares ¹,
Duarte Diaz ¹
¹University of Arizona

9:45 a.m. **Small Ruminant Break**

10:00 a.m. 16 **Water Consumption of Finishing Lambs Under Heat Stress Conditions**
Reanna R. Byrnes-Schoen ¹, Zachary Smith ¹, Federico Podversich ², Warren C. Rusche ²
¹South Dakota State University, ²Department of Animal Science, South Dakota State University

10:15 a.m. 17 **Correlation Among Blood Parameters, GI Nematode EPG, and Cortisol in Pasture-raised Goats and Hair Sheep**
Uma Karki ¹, Arjun Acharya ¹, Sagar Acharya ¹, Madhav Dumre ¹
¹Tuskegee University

10:30 a.m. 18 **Mitigating Weaning Stress in Goat Kids: Effects of Bee Pollen Supplementation on Growth Performance and Mortality Rate**
Bianca V. Trochez Vargas ¹, Diego Villaseñor-Sagrero ², Reagan N. Sims ¹, Brian L. Bruner ¹, Cesar A. Rosales-Nieto ³
¹Texas State University, ²Wabash College, ³Department of Agricultural Sciences, Texas State University, San Marcos

10:45 a.m. 19 **Robust Immunity Is Linked to Fewer Gastrointestinal Parasites**
Andres E. Alvarado-Vargas ¹, Paola P. Boscollo ¹, Giovanni C. C. Ladeira ¹, Brittany N. Diehl ¹,
Castle J. Cavender ¹, Luana P. T Alvares ², Fernanda Rezende ¹
¹University of Florida, ²Colorado State University

11:00 a.m. 20 **The Gastrointestinal Parasite Resistance Screening and Breeding in Katahdin Sheep Flock**
Tumen Wuliji ¹, Mohan Acharya ¹, Joel Gutierrez ¹, Kaitlyn Adams ¹, Chao Ke ¹, Eric G. Groose ¹,
Michael Reinkemeyer ¹
¹Lincoln University

11:15 a.m. 21 **Metabolomic Profiling Reveals Distinct Breed-Specific Metabolite Signatures in Buck Sperm**

Seher Simsek ¹, Amari Jackson ², Mustafa Hitit ², Raheem D. Murray ², Mustafa Bodu ³, Keenan Hardy ⁴, Trinity Wilson ², Kamari D. King ², Andres Alfredo Pech Cervantes ⁴, Erdogan Memili ²

¹College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446. Ministry of Agriculture and Forestry, Republic of Türkiye, General Directorate of Livestock, Ankara, ²College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446., ³College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446.

Department of Reproduction and Artificial Insemination, Faculty of Veterinary Medicine, Selçuk University, Konya 42075, Türkiye, ⁴College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446

Ruminant Nutrition Symposium: Considerations for Replacement Females

Chair: Marcelo Vedovatto, Louisiana State University

8:00 AM - 11:45 AM

Ballroom B

8:00 a.m. **Ruminant Nutrition Symposium Introduction**

8:05 a.m. 6 **Nutritional Strategies and Metabolic Imprinting for Bos Indicus-influenced Beef Heifers**

Philipe Moriel ¹, Vinicius S. Izquierdo ¹, Julio Berwanger ², Frank Even ³

¹University of Florida, IFAS/Range Cattle Research and Education Center, ²University of Florida | IFAS, Range Cattle Research and Education Center, ³Virginia Tech

8:50 a.m. 7 **Nutritional Strategies for Improving Nitrogen Use Efficiency in Dairy Replacement Heifers**

Andreas Foskolos ¹, Antigoni Plomaritou ¹, Vasilis Galanis ¹, Dimitris Kantas ¹

¹University of Thessaly

9:35 a.m. **Ruminant Nutrition Symposium Break**

9:50 a.m. 8 **Long-term Impacts of Short-term Feeding Decisions on Female Ruminants**

Carl Robertson R. Dahlen ¹

¹Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States

10:35 a.m. 9 **The role of early life nutrition in the biological programming of growth and reproductive development of female ruminant livestock species**

David A. Kenny ¹, Kate Keogh ², Alan K. Kelly ³

¹Teagasc, ²University of Galway, ³University College Dublin

11:20 a.m. **Ruminant Nutrition Symposium Panel Discussion**

Genetics Symposium

Chair: Catherine Ernst, Michigan State University; Angela Canovas, Centre for Genetic Improvement of Livestock, Department of Animal Bioscience, University of Guelph, Guelph, Ontario, Canada
8:00 AM - 12:00 PM
Ballroom A

8:00 a.m. **Genetics Symposium Introduction**

8:10 a.m. 1 **What Has the past 45 Years Told Me About the Future of Animal Breeding and Genetics?**

Ronnie D. Green ¹

¹University of Nebraska-Lincoln

9:00 a.m. 2 **Swine genetics in the era of complete genomes and pangenomes**

Wen Huang ¹

¹Michigan State University

9:40 a.m. **Genetics Symposium Break**

10:00 a.m. 3 **Inter and Trans Generational Effects for Inferring Epigenetic Inheritance: Present Knowledge and Perspectives**

Nicolo PP Macciotta ¹

¹University of Sassari

10:40 a.m. 4 **Advancing in Vitro Embryo and Calf Production with the Power of Multiomics and Systems Biology**

Haja N. Kadarmideen ¹

¹Aarhus University

11:20 a.m. 5 **Genetic Resources for Improved Functional Insights and Prediction of Relevant Traits in Livestock**

Brenda M. Murdoch ¹

¹University of Idaho

Poster Session 2
8:15 AM - 9:15 AM
Grand Terrace

8:15 a.m. PS2-18 **Adoption of Multiple Mitigation Strategies to Reduce Greenhouse Gas Emissions in Beef Cattle Production Systems**

Deanne H. Fulawka ¹, Isabell Reutter ¹, Karin H. Wittenberg ¹, Tim A. McAllister ², Aklilu W. Alemu ³, Roland Kroebel ⁴, Sarah Pogue ⁴, Kim H. Ominski ⁵

¹University of Manitoba, National Centre for Livestock and the Environment, ²Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, ³Agriculture and Agri-food Canada, University of Manitoba, ⁴Agriculture and Agri-food Canada, ⁵Department of Animal Science, University of Manitoba

8:15 a.m. PS2-13 **Developing the RANGE Model to Predict Enteric Methane Emissions in Michigan Beef Grazing Systems**

Lautaro Garcia ¹, Joao Sacramento ¹, Tonya Price ¹, Jason E. Rowntree ¹

¹Michigan State University

8:15 a.m. PS2-10 **Does AI Using Relatively Few Sperm Optimize Fertilization in the Pig?**

Bradley A. Didion ¹

¹Genus plc

8:15 a.m. PS2-19 **Early Weaning Calves with Self-feeding Diets Including r-zeta® Additive**

Juan Sebastian Sebastian Vittone ¹, Maria Eugenia Munilla ¹

¹National Agricultural Technology Institute

8:15 a.m. PS2-21 **Effect of Ile, Leu, and Met and Insulinemic Energy Supplementation on Mammary Gland and Muscle Gene Expression**

Marjorie Killerby ¹, Wenli Li ², Gleiciele Mendes de Souza ³, Kathryn Ruh-Etteldorf ¹, Anna Larsen ¹, Emily Cohan ¹, August Hoppmann ¹, Marina de Arruda Camargo Danes ³, Sebastian I. Arriola Apelo ¹

¹University of Wisconsin-Madison, ²US Dairy Forage Research Center, ³Federal University of Lavras

8:15 a.m. PS2-28 **Effect of New versus Previously Used CIDR Inserts on Follicular Dynamics in Postpartum Beef Cows Synchronized with a 7-day Co-synch + CIDR Protocol for First-service Timed AI**

Samuel Narvaez-Sanchez ¹, Austin George ¹, Audrey A. Rangel ¹, Kirby Russell ¹, Hallie Dugosh ¹, Sarah Mendieta ¹, Vitoria Aparecida M. Ribeiro ², Artur Grando Pilati ², Vinicius N. N. Gouvea ³, Emilie C. Baker ¹, Thomas Lee Perkins ¹, João Paulo Nascimento Andrade ¹

¹West Texas A&M University, ²Texas A&M University Department of Animal Science, ³Texas A&M

8:15 a.m. PS2-2 **Effect of Single or Double PGF2 α Dose at Device Removal on Estrus Expression and Pregnancy Rate in Angus Cows**

Alejandro Martín Rodríguez ¹, Sonia Arias ², Sebastián Maresca ¹, Sebastian O. López-Valiente ¹, Agustín Tiberio ¹, Pedro Ezcurdia ¹, Santiago Perez-Wallace ³, Teresa Flores ⁴, Eber Rojas Canadas ⁵

¹Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria Cuenca del Salado, Argentina, ²Departamento de Producción Animal, Facultad de Agronomía, Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina, ³Syntex SA, Buenos Aires, Argentina, ⁴Department of Animal Physiology, School of Veterinary Medicine, Universidad Complutense of Madrid, Madrid, Spain, ⁵Department of Animal Sciences, Universitat de Lleida, Lleida, Spain. Animal Husbandry and reproduction group, Agrotecnio-CERCA center, Spain

8:15 a.m. PS2-25 **Effects of Dietary Guanidinoacetic Acid Supplementation on Growth Performance and Carcass Traits of Feedlot Nellore Cattle**

Ubirajara O. Bilego ¹, Jade H. P. Oliveira ², Carlos E. X. Lopes ², Izabela S. Ferreira ¹, Reginaldo N. Ferreira ², Cibelle B. Figueiredo ¹, João Restle ², Jon P. Schoonmaker ³, Vivian V. Almeida ⁴, Amoracyr J. C Nuñez ⁴

¹Cooperativa Agroindustrial dos Produtores Rurais do Sudoeste Goiano (COMIGO), ²Federal University of Goiás, ³Purdue University, ⁴Federal University of Goiás

8:15 a.m. PS2-20 **Effects of Supplementation with Distillers Grains or Total Mixed Ration on Performance and Carcass Quality of Grass-finished Beef**

Kestlyn Willert ¹, Lauren Moccio ¹, Joao Sacramento ¹, Andrea J. Garmyn ¹, Jenifer I. Fenton ¹, Jason E. Rowntree ¹

¹Michigan State University

8:15 a.m. PS2-22 **Evaluation of the Adaptive Humoral Response in Cattle Treated with the Natural Additive Fator P Against Specific Salivary Antigens Isolated from the Tick *Rhipicephalus Microplus***

Lauriston Fernandes ¹, Luis Ferreira ¹, Renan Bin ², Isabel Santos ², Rafael Paranhos ³

¹Premix Company, ²University of São Paulo, ³University of Franca

8:15 a.m. PS2-9 **Expression of Genes Associated with the Retinol Biosynthesis Pathway in Endometria of Cyclic and Pregnant Gilts**

Kyle J. Hickman ¹, Fuller Bazer ¹, Jeffrey Wiegert ¹, Rebecca K. Poole ¹

¹Texas A&M University

8:15 a.m. PS2-4 **Expression of β -defensins in Nasal Mucosal Secretions in Calves Affected with Bovine Respiratory Disease Indicated by Elevated Neutrophils or Lymphocytes**

Alaina K. Dela Rosa¹, Olivia S. Brummett¹, Vivian Barrera¹, Sami Dridi², Elizabeth S. Greene², Ariana E. Evans³, Brian L. Bruner³, Cesar A. Rosales-Nieto⁴, Michael B. Sims³, Reagan N. Sims³

¹Texas State University, ²University of Arkansas, ³Texas State University, ⁴Department of Agricultural Sciences, Texas State University, San Marcos

8:15 a.m. PS2-24 **Grazing Performance Testing of Beef Heifers and Bulls**

Tylor J. Yost¹, E. K. ArunKumar¹, Nathan Blake¹, Deborah Ologunagba¹, Ida Holaskova¹, Matthew E. Wilson¹

¹West Virginia University

8:15 a.m. PS2-5 **β -defensin, cytokine, and C-reactive Protein Expression Within Blood in Calves diagnosed with bovine Respiratory Disease Indicated by Elevated Body Temperature**

Aracely Amaro¹, Olivia S. Brummett², Ariana E. Evans¹, Alaina K. Dela Rosa², Michael B. Sims¹, Cesar A. Rosales-Nieto³, Brian L. Bruner¹, Elizabeth S. Greene⁴, Sami Dridi⁴, Reagan N. Sims¹

¹Texas State University, ²Texas State University, ³Department of Agricultural Sciences, Texas State University, San Marcos, ⁴University of Arkansas

8:15 a.m. PS2-3 **β -defensins Gene Expression in Nasal Mucosal Secretions of Calves with Bovine Respiratory Disease by Elevated Body Temperature**

Ariana E. Evans¹, Olivia S. Brummett², Vivian Barrera², Lanie Dela Rosa¹, Brian L. Bruner¹, Michael B. Sims¹, Reagan N. Sims¹, Sami Dridi³, Elizabeth S. Greene³, Cesar A. Rosales-Nieto⁴

¹Texas State University, ²Texas State University, ³University of Arkansas, ⁴Department of Agricultural Sciences, Texas State University, San Marcos

8:15 a.m. PS2-7 **Increasing Supply of omega-6 Fatty Acids to Beef Cows During the Early Embryonic Period: Effects on D 16 Pregnancies**

Izadora de Souza¹, Reinaldo F. Cooke¹, Ky G. G. Pohler¹, Camila Prado¹, Thainá Minela¹, Zachary K. Seekford¹, Ronaldo Cerri²

¹Texas A&M University, ²University of British Columbia

8:15 a.m. PS2-6 **Increasing Supply of omega-6 Fatty Acids to Beef Cows During the Early Embryonic Period: Effects on D 22 Pregnancies**

Izadora de Souza¹, Reinaldo F. Cooke¹, Camila Prado¹, Thainá Minela¹, Zachary K. Seekford¹, Brette Poliakiwski¹, Damon Smith¹, Ky G. G. Pohler¹

¹Texas A&M University

8:15 a.m. PS2-26 **Intestinal and Total Tract Organic Matter Digestion of Newly Developed Value-added Blended Fat Stimulated Feed Product in Ruminants in Comparison with Commercial Protein and Energy Feeds**

U. Ihsan¹, L.L. Prates¹, M.R. Espinosa¹, P. Yu²

¹Department of Animal and Poultry Science, College of Agricultural and Bioresources, University of Saskatchewan, ²Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan

8:15 a.m. PS2-16 **Larkspur Alkaloid Sorption by Clays to Mitigate Livestock Poisoning**

Benedict Green¹, Stephen Lee¹, Clinton Stonecipher¹, Kevin Welch¹, Matthew Fischel², Daniel Cook¹

¹Poisonous Plant Research Laboratory, USDA/ARS, ²Sustainable Agricultural Systems Laboratory, USDA/ARS

8:15 a.m. PS2-23 **Lipid Profiling of Cattle Treated with the Natural Additive Fator P and Infested with the Parasite Rhipicephalus Microplus**

Lauriston Fernandes¹, Luis Ferreira¹, Isabel Santos², Nara Regina Brandão Cônsolo³

¹Premix Company, ²University of São Paulo, ³Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

8:15 a.m. PS2-17 **Mapping the Livestock Resistome: Antimicrobial Resistance Genes Across Oklahoma Farms**

Amlan Kumar Patra¹, Ryszard Puchala¹

¹American Institute for Goat Research, Langston University, Langston, Oklahoma 73050, USA

8:15 a.m. PS2-1 **Modulatory Effects of Cannabidiol and Beta-caryophyllene on Glucose Metabolism and Barrier Integrity in Cultured Intestinal Epithelial Cells**

Jennifer J. Dare¹, Alyssa Smith¹, James L. Klotz², Coral Kent-Dennis¹

¹University of Kentucky, ²USDA-ARS

8:15 a.m. PS2-14 **Monitoring Cattle Respiration Rate Using a Wearable Accelerometer and Digital Signal Processing**

Alin Khaliduzzaman¹, Diego Batista Xavier², Juan Llor¹, Isabella C. F. S Condotta¹

¹University of Illinois at Urbana-Champaign, ²Brazilian Agricultural Research Corporation-Embrapa

8:15 a.m. PS2-15 **Multimodal Video and Audio Signal Processing for Estimating Cattle Forage Intake**

Alin Khaliduzzaman¹, Diego Batista Xavier², Isabella C. F. S Condotta¹

¹University of Illinois at Urbana-Champaign, ²Brazilian Agricultural Research Corporation-Embrapa

8:15 a.m. PS2-8 **Reproductive Microbiota Shifts Across Days Following Embryo Transfer in Beef Heifers**

Dallas R. Soffa ¹, Rebecca K. Poole ¹

¹Texas A&M University

8:15 a.m. PS2-12 **Semen Use and Fertility by Service Number in Dairy Heifers from Commercial Farms in Wisconsin**

João Felipe Ferreira Lobo ¹, Iago M. Rosa Leao ¹, João Paulo N. Nascimento Martins ¹

¹University of Wisconsin-Madison

8:15 a.m. PS2-11 **The Evaluation of Source and Level of Rumen Undegradable Protein on Sera and Histotroph Amino Acid Concentrations in Beef Heifers Grazing Native Rangelands**

Taylor N. Andrews ¹, Clayton D. Bedke ², Joyce Anne Cooper ², Katylyn J. Richardson ², Craig A. Gifford ², Richard L. Dunlap ³, Shad H. Cox ³, George A. Perry ⁴, Kendall C. Swanson ⁵, Yssi Entzie ⁵, Robert A. Cushman ⁶, Alexandria P. Snider ⁶, Eric J. Scholljegerdes ², Adam Summers ²

¹Texas A&M AgriLife Research Beeville, ²Department of Animal and Range Sciences, New Mexico State University, ³Corona Range and Livestock Research Center, New Mexico State University, ⁴Texas A&M AgriLife Research, ⁵Department of Animal Science, North Dakota State University, ⁶U.S. Meat Animal Research Center, USDA-ARS

Extension Education

Chair: Emma Briggs, Kansas State University

9:00 AM - 10:00 AM

G-J

9:00 a.m. 23 **Impact of a Virtual 3D Caprine Stomach Model on Knowledge Acquisition of Ruminant Digestive Anatomy in Extension Education**

Tessa L. Barrett ¹, W. Brandon B. Smith ², Haejin Kim ¹, S. Leanne Dillard ¹

¹Auburn University, ²Department of Animal Science, Auburn University

9:15 a.m. 24 **Market Dynamics in the U.S. Goat Meat (Chevon) Sector: Challenges and Opportunities**

Lila B. Karki ¹, Dharma Raj Katuwal ¹, Enrique N. Escobar ¹

¹University of Maryland Eastern Shore

9:30 a.m. 25 **Infrastructure Cost and Information Gaps Limit Sustainable Grazing Adoption Among Southern U.S. Cow-calf and Stocker Producers**

Katrina Turner ¹, Douglas J. Goodwin ², Jacquelyn M. Prestegard-Wilson ¹

¹Texas A&M AgriLife Extension, Department of Animal Science, ²Texas A&M University, Center for Grazinglands & Ranch Management

9:45 a.m. 26 **Assessing Priority Needs of Small-scale Livestock Producers in Utah: Implications for Extension Programming and Policies**

Joseph J. Okoh¹, Lendel Narine¹, Andree Walker-Bravo¹, Chad Page¹

¹Utah State University

Poster Session 3

9:30 AM - 10:45 AM

Grand Terrace

9:30 a.m. PS3-2 **Bovine β -defensin and Cytokine Expression in Blood of Calves Diagnosed with Bovine Respiratory Disease by Lymphocyte or Neutrophil Concentration**

Olivia S. Brummett¹, Ariana E. Evans², Alaina K. Dela Rosa¹, Vivian Barrera¹, Brian L. Bruner², Michael B. Sims², Cesar A. Rosales-Nieto³, Elizabeth S. Greene⁴, Sami Dridi⁴, Reagan N. Sims²

¹Texas State University, ²Texas State University, ³Department of Agricultural Sciences, Texas State University, San Marcos, ⁴University of Arkansas

9:30 a.m. PS3-3 **Characterization of Physical and Physiological Traits of Testicular Growth Affecting Sexual Maturity in Katahdin Ram Lambs**

Kaitlyn Adams¹, Tumen Wuliji²

¹Lincoln University, ²Lincoln university

9:30 a.m. PS3-1 **Comparative Effects of Triladyl® and Andromed® Extenders and Pre-Freezing Cooling Methods on the Quality of Cryopreserved Ram Semen**

Montana Williams¹, Abdallah M. Shahat², Niki C. C. Whitley², Mahipal Singh², Brou Kouakou², Adel R. Moawad²

¹Fort valley State University, ²Fort Valley State University

9:30 a.m. PS3-28 **Effects of a Yeast-based Additive on Growth, Rumen Fermentation, Immunity and Inflammation of Recently Weaned Brangus Steers**

Mateus JI Abreu¹, Matheus L. Ferreira², Joao L. S Abreu³, Anuzhia P. Moreira⁴, Ashley K. Edwards⁵, Kelsey M. Harvey⁶, Madeline G. McKnight⁶, Barbara Roqueto dos Reis⁷, Isabelle Pinheiro², Marcelo Vedovatto²

¹Department of Animal Science, Sao Paulo State University Júlio de Mesquita Filho, ²Louisiana State University, ³Dean Lee Research and Extension Center, Louisiana State University. Universidade Federal do Norte do Tocantins, ⁴Dean Lee Research and Extension Center, Louisiana State University, ⁵Louisiana State University AgCenter, ⁶Prairie Research Unit, Mississippi State University, ⁷Mississippi State University

9:30 a.m. PS3-4 **Effects of Autolyzed Yeast on Growth Performance, Health, and Complete Blood Count of Newly Received High-Risk Feedlot Heifers**

Sabine M. Harmer¹, Audie Waite², John T. Richeson³, William Reis⁴, Melina A. Bonato⁴, Steve Blezinger⁵, Kendall L. Samuelson¹

¹West Texas A&M University, ²AgriResearch Center, ³West Texas A&M University, ⁴ICC Animal Nutrition, ⁵Reveille Livestock Concepts

9:30 a.m. PS3-5 **Effects of Dietary Substrate During Late Gestation on Transcriptional Changes in the Placenta of Beef Cows**

Andrea K. Brandner ¹, Megan Wehrbein ¹, Wellison J.S. Diniz ², Priyanka Banerjee ³, Ana B. Clara B. Menezes ¹

¹South Dakota State University, ²Auburn University, Auburn, USA, ³Auburn University

9:30 a.m. PS3-6 **Effects of Dietary Supplementation with Dried Seaweed, Micro-Fused Essential Oils, and Lactobacillus reuteri on Pregnancy Rates in Ewes Following Natural Breeding**

Aslam Abubakari ¹, Abdallah M. Shahat ¹, Ivory Smith ¹, Yariana Woody ¹, Ken'derrian Pate ¹, Godstime Taiwo ², Brou Kouakou ¹, Adel R. Moawad ¹

¹Fort Valley State University, ²New Mexico State University

9:30 a.m. PS3-7 **Effects of Lysozyme Supplementation on Feed Efficiency and Rumen Function in Post-weaning Beef Cattle**

Laney M. Stephens ¹, Emma A. Briggs ², Katie M. Mason ¹, Phillip R. Myer ¹

¹University of Tennessee, ²Kansas State University

9:30 a.m. PS3-8 **Effects of Oxygenated Drinking Water on Feed and Water Intake, Gas Flux, Microbial Communities, Digestibility, and Ruminal Fermentation in Beef Steers and Cows on a Forage-based Diet**

Catherine G. Wharton ¹, Eduardo M. Paula ², Leonardo Gomes Sitorski ², Bianca Costa ¹, Fidel Maureira ¹, Terry E. Engle ¹, Sara E. Place ², Juan J. Vargas ²

¹Colorado State University, ²Department of Animal Sciences, AgNext, Colorado State University

9:30 a.m. PS3-9 **Effects of Replacing Plasma Protein with Egg Protein on Growth Performance, Fecal Score, Antioxidant Status, Inflammation, and Gut Barrier Functions in Weaning Pigs**

Eva S. Safaie ¹, Chan Ho Kwon ¹, Jannell A. Torres ¹, Ji Hye Lee ¹, Jennifer Merritt ², Ingmar Middelbos ², Yi-Chi Cheng ², Young Dal Jang ¹

¹University of Georgia, ²Symrise Pet Food North America

9:30 a.m. PS3-23 **Effects of Saponins and Phenolic Compounds in Fenugreek on Ruminal Fermentation and Methane Production in vitro**

Yuxi Wang ¹, Chunli Li ¹, Hari Poudel ¹, Tim A. McAllister ²

¹Agriculture and Agri-Food Canada, ²Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB

9:30 a.m. PS3-27 **Effects of Supplementation Level and Feeding Duration on Performance of Pasture-finished Cull Cows**

Mateus JI Abreu ¹, Rafael Neiva Assunção ¹, Leandro Mendes de Paula ², Endiher Lezcano Ibarra ², Lucas Miguel Martins ³, Igor M. Ferreira ⁴, Regina Kitagawa Grizotto ⁵, Flávio D. Resende ⁶, Gustavo R. Siqueira ⁶

¹Department of Animal Science, Sao Paulo State University Júlio de Mesquita Filho, ²Unesp, Campus Jaboticabal, ³Universidade Federal de São João Del Rei, ⁴São Paulo State University, ⁵Agência Paulista de Tecnologia dos Agronegócios, Polo Alta Mogiana, ⁶Agência Paulista de Tecnologia dos Agronegócios

9:30 a.m. PS3-22 **Evaluation of Feed By-product Inclusion in Lactating Dairy Cow TMR Diets and Their Effects on DMD, Total Gas and CH₄ Production, and Ruminal Fermentation Parameters in vitro**

Paul Tamayao ¹, Emma J. McGeough ¹, Kim H. Ominski ², Hooman Derakhshani ¹, Jan Cornelis Plazier ¹

¹University of Manitoba, ²Department of Animal Science, University of Manitoba

9:30 a.m. PS3-10 **Forage Utilization and Rumen Fermentation Responses to Different Types of Biochar in Beef Steers**

Sabrina Fortunatti ¹, Emily Fowler ¹, Merritt L. Drewery ¹

¹Texas State University

9:30 a.m. PS3-12 **Gestational and Lactational Exposure to Atrazine Depletes Dopamine Neurons in the Ventral Tegmental Area of Neonatal Boars**

Martin Akandawen ¹, Amy T. Desaulniers ², Brenda M. Alexander ¹

¹University of Wyoming, ²University of Nebraska

9:30 a.m. PS3-13 **Impact of Dietary Lactobacillus Probiotics During Mid- and Late Gestation on Farrowing Performance and Colostrum Immunoglobulins**

Anna West ¹, Kyle J. Hickman ¹, Dallas R. Soffa ¹, Jillian Harnois ¹, Jeffrey Wiegert ¹, Rebecca K. Poole ¹

¹Texas A&M University

9:30 a.m. PS3-26 **Impact of Hydration Strategies During a 48-hour Feed Deprivation Period on the Performance of Newly Received Feedlot Calves**

Mateus JI Abreu ¹, Rafael Neiva Assunção ¹, Leandro Mendes de Paula ², Endiher Lezcano Ibarra ², Lucas Miguel Martins ³, Igor M. Ferreira ⁴, Regina Kitagawa Grizotto ⁵, Flávio D. Resende ⁶, Gustavo R. Siqueira ⁶

¹Department of Animal Science, Sao Paulo State University Júlio de Mesquita Filho, ²Unesp, Campus Jaboticabal, ³Universidade Federal de São João Del Rei, ⁴São Paulo State University, ⁵Agência Paulista de Tecnologia dos Agronegócios, Polo Alta Mogiana, ⁶Agência Paulista de Tecnologia dos Agronegócios

9:30 a.m. PS3-14 **Parent-specific DNA Methylation in the Developing Bovine Placenta**

Morgan D. Wagle ¹, Ashley Destin ¹, Katie A. Shira ², Victoria C. Kelson ¹, Avery K. Lyons ¹, Jocelynn R. Brown ¹, Emily L. Clark ³, Kimberly M. Davenport ¹

¹Department of Animal Sciences, Washington State University, ²Washington State University and University of Idaho, ³EMBL-EBI

9:30 a.m. PS3-24 **Performance and Carcass Characteristics of Feedlot Beef Cattle Fed Diets with or Without Roughage and Supplemented with a Technological Pack**

Alexandre Perdigão ¹, Cibeli Almeida Pedrini ², Victor Valério Carvalho ¹, Jefferson Rodrigues Gandra ³

¹DSM-Firmenich, ²Faculty of Agricultural Sciences, Federal University of Grande Dourados, ³Faculty of Veterinary Medicine, Institute of Humid Tropic Studies, Federal University of the South and Southeast of Pará

9:30 a.m. PS3-15 **Physiological Responses and Thermoregulatory Mechanisms of Beef Cows Under Heat-stress Conditions Post-breeding**

Carlos E. Lima ¹, Mady Justiniano ², Brittney Santamaria-Cortez ², Talha Ashraf ¹, Allyson McCarty ³, James Clothier ⁴, Felipe A.C.C. Silva ¹

¹Department of animal science, North Carolina State University, ²North Carolina State University, ³Department of Animal Science, North Carolina State University, ⁴Department of Entomology and Plant Pathology, NC State

9:30 a.m. PS3-16 **Ruminal Degradability Kinetics of a Highly Processed Cereal Grain Substrate Within Beef Steers Offered Live Yeast on Finisher or Grower Diets**

Ahmari D. Henry ¹, Beatriz Q. Dos Reis ¹, Jhones O. Sarturi ², Osman R.A Melgar ¹, Kip K. Karges ³, Kaliu Scaranto Silva ³, Otavio France ¹

¹Texas Tech University, ²Animal and Food Sciences, ³Lallemand Animal Nutrition

9:30 a.m. PS3-17 **Sexual Dimorphism of Supplementation with Rumen-protected Methionine in Early Gestation in Beef Cattle Systems – Postweaning Effects**

Jose L. Infante ¹, Angela M. Gonella ¹, Federico L. Tarnonsky ¹, Maria Camila C. Lopez-Duarte ¹, Daniella C. Heredia ¹, Peter J. Hansen ¹, Mauro Venturini ¹, Daniel L. Luchini ², Nicolas DiLorenzo ¹

¹University of Florida, ²Adisseo USA

9:30 a.m. PS3-18 **Sow Spleen as a Sustainable Immune- and Growth-promoting Additive for Young Broiler Chickens Revealed by Multi-omic Comparison and Starter Feeding**

Xiaoning Liu ¹, Rui Su ¹, Pedro E. Urriola ¹, Jinsu Hong ², Chi Chen ¹

¹University of Minnesota, ²Purdue University

9:30 a.m. PS3-19 **Spatial Metabolomic Investigation of Bovine Hepatic Tissue in Response to Liver Abscesses**

Macy T. Lawrence ¹, Joe D. Roder ², Trent E. Schwartz ¹, Loni W. Lucher ¹, Ty E. Lawrence ¹, Emilie C. Baker ¹

¹West Texas A&M University, ²Huvepharma

9:30 a.m. PS3-20 **Using Anogenital Distance from Birth to Weaning to Predict Puberty Attainment and Pregnancy by Artificial Insemination in Yearling Beef Heifers**

Juliet E. Henning ¹, Lucas C. S. Branco ², Enrico Padula ³, Raquel Franco ⁴, Gabriela Dasqueve ⁴, Abigail Diggs ⁵, Luisa A. Alegro ⁶, Chad Duit ⁷, Thiago Martins ⁵, Cecilia C. Rocha ¹

¹Division of Animal Sciences, Southwest Research Extension and Education Center, University of Missouri, ²Division of Animal Sciences, Southwest Research, Extension, and Education Center, University of Missouri, ³Division of Animal Sciences, University of Missouri, ⁴School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, SP, Brazil, ⁵University of Missouri, ⁶Department of Animal Science, North Carolina State University, ⁷Southwest Research Extension and Education Center, University of Missouri

9:30 a.m. PS3-25 **Visceral Organ Mass and Gastrointestinal Development of Cattle from Different Production Systems**

Tathiane R. R.S Gionbelli ¹, Gabriel R. Neiva ², Felipe C. Maciel ³, Miguel F. Dias ³, Mateus P. Gionbelli ³

¹Federal University of Lavras, ²University of Lavras, ³University of Lavras, Brazil

9:30 a.m. PS3-21 **What's at Steak: Effects of Linoleic Acid and Its Trans-10 Biohydrogenation Intermediates on Lipid Metabolism in Intramuscular Bovine Adipocytes**

Maykal Tsonov ¹, Perri Gish ¹, Payam Vahmani ¹

¹UC Davis

Production, Management and Environment 1

Chair: Zachary Carlson, IFF

10:30 AM - 12:15 PM

Lecture Hall

10:30 a.m. 66 **Innovation in the U.S. Beef Value Chain: A Sustainable Beef Research Roadmap**

Samantha J. Werth ¹, Grace D. Vehige ¹, Sara E. Place ², Logan R. Thompson ³, Troy N. Rowan ⁴, Douglas J. Goodwin ⁵, Jason E. Rowntree ⁶, Paige L. Stanley ⁷, Susan T. Metzger ³, Kevin L. Wagner ⁸

¹U.S. Roundtable for Sustainable Beef, ²Department of Animal Sciences, AgNext, Colorado State University, ³Kansas State University, ⁴University of Tennessee, ⁵Texas A&M University, Center for Grazinglands & Ranch Management, ⁶Michigan State University, ⁷Colorado State University, ⁸Oklahoma State University

10:45 a.m. 67 **Bridging the Climate-corporate Gap: Utilizing GWP* with GWP100 for Livestock Companies' Greenhouse Gas Inventories**

Sarah C. Klopatek ¹, Logan R. Thompson ², Matthew R. Beck ³, Sara E. Place ⁴

¹University of Wisconsin/ JBS, ²Kansas State University, ³Texas A&M University, ⁴Department of Animal Sciences, AgNext, Colorado State University

11:00 a.m. 68 **Impact of Transitioning to Adaptive Multi-paddock Grazing on Soil Carbon and Ruminant Greenhouse Gas Footprint in the Southeastern US**

Lautaro Garcia ¹, Vrinda B. Ambike ¹, Joao Sacramento ¹, Bruno Basso ¹, Jason E. Rowntree ¹

¹Michigan State University

11:15 a.m. 72 **Whole-farm System Comparisons of Intensification Practices in a Beef Farm in the Amazon**

Luana Molossi ¹, Aaron Hoshide ¹, Wininton Silva ², André Oliveira ³, Daniel Abreu ⁴

¹AgriSciences, Universidade Federal de Mato Grosso, ²Empresa Mato-Grossense de Pesquisa, Assistência e Extensão Rural, ³Universidade Federal de Mato Grosso, ⁴AgriSciences, ICAA, Universidade Federal de Mato Grosso

11:30 a.m. 70 **Understanding the Emissions of Feedlot Beef Cattle with Divergent Residual Methane Emissions**

Musah Muntari ¹, Zachary K. Seekford ¹, Thainá Minela ¹, Matthew R. Beck ¹, Mahlatsana Ramaesela Ledwaba ², Gordon E. E. Carstens ¹, Ky G. G. Pohler ¹, G. Cliff C. Lamb ³

¹Texas A&M University, ²Agricultural Research Council, Animal Production, Germplasm Conservation and Reproductive Biotechnologies, ³Texas A&M AgriLife Research

11:45 a.m. 71 **Physiological and Performance Responses of Beef Steers Divergently Classified for Residual Water Intake**

Musah Muntari ¹, Matthew R. Beck ¹, Ky G. G. Pohler ¹, G. Cliff C. Lamb ²

¹Texas A&M University, ²Texas A&M AgriLife Research

12:00 p.m. 69 **Evaluating Methane Mitigation Strategies in U.S Beef Systems Using Multi Criteria Decision Making**

Serinmary Pulikkottil Rejimon ¹, Sreekar Veeranki ¹, Karun Kaniyamattam ², Ashley wang ¹

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

Teaching/Undergraduate and Graduate Education

Chair: Ty Schmidt, University of Nebraska - Lincoln

10:45 AM - 11:45 AM

G-J

10:45 a.m. 28 **Award Talk: Training the Next Generation of Applied Swine Nutritionists**

Jason C. Woodworth ¹

¹Kansas State University

11:15 a.m. 29 Introducing Data Science Concepts to Animal Science Graduate Students Through Application-based Learning

Serinmary Pulikkottil Rejimon ¹, Sreekar Veeranki ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

11:30 a.m. 30 Undergraduates Studying Cadaveric Prosections in Class Exhibited More Effective Learning of Fundamental Gross Anatomy Than Those Performing Cadaveric Dissections

Elizabeth E. Rodgers ¹, Ty B. Schmidt ¹, Melanie R. White ¹, Brooke L. Parrish ¹, Shelley A. Curry ¹, Ashley A. Hahn ¹, Dustin T. Yates ¹

¹University of Nebraska-Lincoln

CSAS Graduate Student Oral Competition PHD

Chair: Robert Gruninger, AAFC Lethbridge

10:45 AM - 12:00 PM

Ballroom C

10:45 a.m. 53 A Soluble Yeast Cell Wall Preparation Alters Fermentation Products Without Affecting Microbial Diversity in the Feline Gut

Paloma Ricardo ¹, Stephanie S. Theodoro ², Patricia E. Ishii ³, Carolina C. Oliveira ⁴, Thaís S. Ávida ⁴, Ana Paula G. Gonçalves ⁴, Ticiane B. G. Freire ⁴, Maria Eduarda G. Tozato ⁴, Thaila C. Putarov ⁵, Jan S. Suchodolski ⁶, Aulus C. Carciofi ⁴

¹São Paulo State University and University of Guelph, ²University of São Paulo, ³Stonewell Gastrointestinal Vet, ⁴São Paulo State University, ⁵Biorigin, ⁶Gastrointestinal Laboratory Texas A&M University

11:00 a.m. 54 Fermentation and Aerobic Stability of Ensiled Food Waste

Janine Hansen ¹, Kim H. Ominski ², Tim A. McAllister ³, Kim Stanford ⁴, Hooman Derakhshani ¹, Stephanie A. Terry ³

¹University of Manitoba, ²Department of Animal Science, University of Manitoba, ³Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ⁴University of Lethbridge

11:15 a.m. 55 Genome-wide Association Studies of Resilience Traits in Canadian Duroc Pigs

Belle Kim ¹, Duy Ngoc Do ¹, Mohsen Jafarikia ², Dan Tulpan ³, Deborah I. Adewole ⁴, Ghader Manafiazar ¹, Graham S. Plastow ⁵, Brian Sullivan ², Justin W. Holl ⁶, Younes Miar ¹

¹Dalhousie University, ²Canadian Centre for Swine Improvement, ³University of Guelph,

⁴University of Saskatchewan, ⁵University of Alberta, ⁶Genus PIC

11:30 a.m. 56 **Lying Behavior in Meat Goats: Associations with Hoof Overgrowth and Animal-level Factors**

Madison Penney¹, Gosia Zobel², Derek B. Haley¹, Charlotte Winder¹, Tracy Burnett³

¹Ontario Veterinary College, University of Guelph, ²EthicoNZ, ³University of Guelph, Ridgetown Campus

11:45 a.m. 57 **Mitigating the Zoonotic Risk of Shiga-toxigenic Escherichia coli (STEC) O157:H7 in Cattle: Evaluation of Limosilactobacillus Reuteri as a Direct-fed Microbial**

Yiran Ding¹, Eric Chevaux², Frederique Chaucheyras-Durand², Eduardo Cobo³, Leluo Guan⁴, Tim A. McAllister⁵, Dongyan Niu¹

¹University of Calgary, ²Lallemand Animal Nutrition, Blagnac, France, ³University of Calgary, Faculty of Veterinary Medicine, Calgary, AB, Canada, ⁴Faculty of Land and Food Systems, University of British Columbia, Vancouver, British Columbia, Canada., ⁵Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

Poster Session 4

11:00 AM - 12:15 PM

Grand Terrace

11:00 a.m. PS4-4 **Association Between Number of Permanent Incisors, Bone Ossification, and Days of Age in Dairy Cows**

Kade E. Lawrence¹, Trent E. Schwartz¹, Ty E. Lawrence¹

¹West Texas A&M University

11:00 a.m. PS4-23 **Associations Between Gps-derived Grazing Behavior and Feed and Water Efficiency in Grazing Beef Heifers**

Deborah Ologunagba¹, Tylor J. Yost¹, E. K. ArunKumar¹, Nathan Blake¹, Ida Holaskova¹, Matthew E. Wilson¹

¹West Virginia University

11:00 a.m. PS4-1 **Changes in Steer Gait and Joint Phytitis During the Finishing Phase**

Gracie Kristufek¹, Annette M. McCoy¹, Joshua C. McCann¹

¹University of Illinois

11:00 a.m. PS4-3 **Development of a Targeted TYRP1 Exon Sequencing Approach to Investigate Moorit and Muddy Moorit Wool Color in Wensleydale Sheep**

Jocelynn R. Brown¹, Avery K. Lyons¹, Kimberly Zapata¹, Anais Atilano¹, Chad Knox¹, Elisa Macbean¹, Nancy Irlbeck¹, Kimberly M. Davenport¹

¹Department of Animal Sciences, Washington State University

11:00 a.m. PS4-24 **Eating Behavior and Particle Sorting of Feedlot Nellore Cattle Fed Diets Varying in Physically Effective Neutral Detergent Fiber and Starch**

Murillo C S Pereira ¹, Robson CN Dinardi ², Gabriela M. Fogaça ¹, Emily S. Nascimento ¹, Júlia G. Ferreira ¹, Pedro Trevisan Tonelli ³, Dayara V. Alvares ¹, Julia S. Ivo ¹, Maria Eduarda M. Santos ¹, Danilo D. Millen ⁴, Zachary KF Smith ⁵, Gregory B. Penner ⁶

¹São Paulo State University (UNESP), College of Technology and Agricultural Sciences, Dracena Campus, ²São Paulo State University (UNESP), College of Agricultural and Technological Sciences, Dracena, SP 17915-899, Brazil., ³UNESP, ⁴São Paulo State University (UNESP), School of Agricultural and Veterinary Sciences, Jaboticabal, SP 14884-900, Brazil., ⁵Department of Animal Science, South Dakota State University, Brookings, SD 57007, USA., ⁶Department of Animal and Poultry Science, University of Saskatchewan

11:00 a.m. PS4-28 **Effects of Blanching Process and Supplementation Level of Undaria Pinnatifida Sporophyll on Nutrient Digestibility, Rumen Fermentation Characteristic, Methane Emission, and Rumen Microbiota in vitro**

Bu-Gil Choi ¹, Chang-Hyun Baeg ¹, Ji-Yoon Kim ¹, Arrynda R. D. Wardani ¹, Jong-jin Park ¹, Jun-Hee Lee ², Kwangcheol C. Jeong ³, Hye-Seong KIM ⁴, Yong-Hyun Do ⁴, Sam-Churl Kim ¹

¹Division of Applied Life Science (BK21Four, Institute of Agriculture and Life Science), Gyeongsang National University, Jinju 52828, Republic of Korea, ²Konkuk university, ³University of Florida, ⁴Aquaculture Research Division, National Institute of Fisheries Science, Busan 46083, Republic of Korea

11:00 a.m. PS4-10 **Effects of Different Dietary Dried Corn Distillers Grains Plus Solubles Inclusion Levels on Postprandial Glycemic and Insulinemic Responses in Horses**

Beatriz F. Benicio ¹, Lorena Expedita M. Cruz ¹, Quezia C. Camelo ¹, Ana Clara M. Nunes ¹, Julia T. Seidner ¹, Raquel P. Buroxid ¹, Rebeca A. Weigel ¹, Alexandre O. Gobesso ¹, Ana Caroline C M Vasco ²

¹School of Veterinary Medicine and Animal Science, University of São Paulo (FMVZ/USP),

²Department of Animal & Range Sciences, Montana State University

11:00 a.m. PS4-8 **Efficient DNA-free Genome Editing in Chicken Cells by Delivering mRNA and Protein Form of cas9**

Sydney G. Bingham ¹, Jin Lee Kim ¹, Kiho Lee ¹, Kyung Min Jung ¹

¹University of Missouri-Columbia

11:00 a.m. PS4-17 **Evaluating Expression Patterns of Uterine ISG15 Post-embryo Transfer in Beef Heifers**

Jillian Harnois ¹, Dallas R. Soffa ¹, Kyle J. Hickman ¹, Rebecca K. Poole ¹

¹Texas A&M University

11:00 a.m. PS4-16 **Examining the Effects of Sire and Dam Breed on Offspring Production and Carcass Characteristics**

Conor P. Clay ¹, Tim DelCurto ¹, Darrin L. Boss ², Hannah Speer ², Julia Dafoe ², Sam Wyffels ¹

¹Montana State University, ²Northern Ag Research Center - Montana State University

11:00 a.m. PS4-9 Hempseed Products Modulate Immune and Metabolic Responses in Sheep Monocyte-derived Macrophages

Naomi Moss¹, Lizette Garcia¹, Nathaniel Ogunkunle¹, Felix Samuel¹, Miriam Garcia¹

¹Alabama A&M University

11:00 a.m. PS4-20 High Inclusion of Fiber-separated DDGS Impairs Finishing Performance and Carcass Weight of Feedlot Nellore Bulls

Augusto Marques Nardi¹, Bárbara Martins Brixner², Luiz Guilherme Santos de Oliveira¹, Pedro Souto Lamas¹, Lucas S. C. de Santos Campos de Carvalho³, Maria Paula Pereira³, Murilo Lima⁴, João Eduardo S. W. Santos Wagner Duarte¹, Maria Bassani⁴, Maria Prado⁴, Maria Eduarda Batista Guedes¹, Cassiano Locatelli², Guilherme Arnandes⁴, Diogo Fleury Azevedo Costa¹, Flávio Augusto Portela Santos¹

¹“Luiz de Queiroz” College of Agriculture, ²Escola Superior de Agricultura “Luiz de Queiroz” (ESALQ) - University of São Paulo (USP), ³Escola Superior de Agricultura Luiz de Queiroz,

⁴University of São Paulo (USP) – Luiz de Queiroz College of Agriculture (ESALQ)

11:00 a.m. PS4-7 Hindgut Fermentative Responses of Horses Fed Increasing Levels of Dried Corn Distillers Grains Plus Solubles

Lorena Expedita M. Cruz¹, Beatriz F. Benicio¹, Quezia C. Camelo¹, Raquel P. Buroxid¹, Rebeca A. Weigel¹, Ana Clara M. Nunes¹, Julia T. Seidner¹, Alexandre O. Gobesso¹, Ana Caroline C M Vasco²

¹School of Veterinary Medicine and Animal Science, University of São Paulo (FMVZ/USP),

²Department of Animal & Range Sciences, Montana State University

11:00 a.m. PS4-6 Impact of LYSOFORTE® Extend on Feedlot Cattle Performance and Carcass Characteristics

Zachary Araujo-Lovato¹, Luan De Oliveira Moura Silva², Austin Couch¹, Huey Yi Loh¹, Julia Baroni Alves¹, Jerilyn Hergenreder³, Terry E. Engle¹

¹Colorado State University, ²New Mexico State University, ³Kemin Industries

11:00 a.m. PS4-14 Influence of Additional Organic-complexed Zinc in Supplements for Beef Cows During Gestation: Effects on Preweaning Health of Offspring

Robin A. Cheek¹, Naija Sharpley¹, Elizabeth B. Kegley², Jana L. Reynolds², Alexis J. Harness², Craig M. Looney², Bernard W. Krumpelman¹, Jacy L. Riddle¹, Jeremy G. G Powell³

¹University of Arkansas, ²University of Arkansas Division of Agriculture, ³Department of Animal Science, University of Arkansas

11:00 a.m. PS4-11 **Influence of Arginine Supplementation on Follicular Activation and Energy Metabolites in Serum and Histotroph**

Aria R. Christianson¹, Clayton D. Bedke¹, Taylor N. Andrews², Joyce Anne Cooper¹, Kristie L. Gallacher¹, Katylyn J. Richardson¹, Shad H. Cox³, Richard L. Dunlap³, Adam Summers¹, Eric J. Scholljegerdes¹

¹Department of Animal and Range Sciences, New Mexico State University, ²Texas A&M AgriLife Research Beeville, ³Corona Range and Livestock Research Center, New Mexico State University

11:00 a.m. PS4-22 **Metabolomic Profiling of Serum in Nellore Bulls Supplemented with Guanidinoacetic Acid During the Finishing Phase**

Leticia Carolina Bortolanza Soares¹, Leticia K. Kim Huang², Germán D. Ramírez-Zamudio³, Maria Eduarda Ramos⁴, Fabiana Ayumi A. Shiozaki⁴, Valéria Oliveira Valente Araújo⁴, Erly Sofia Castañeda Jiménez⁴, Brenda Santos Oliveira⁴, Eduardo Solano Pina Santos⁴, Carl Robertson R. Dahlen⁵, Nara Regina Brandão Cônsolo⁶, Saulo da Luz Silva⁴, Paulo Roberto Leme⁴

¹Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND, ²Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Department of Animal Science, Texas A&M University, College Station, TX, ³University of São Paulo, Pirassununga, Brazil, ⁴Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil, ⁵Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁶Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

11:00 a.m. PS4-27 **N-carbamylglutamate Alters Plasma Amino Acids in Beef Cattle Fed High- or Low-forage Diets**

Erick D. Batista¹, Giancarlo Pereira Silva², Rayane Aparecida A. Lino¹, Ana Claudia Degli Exposti¹, Marina Ricardo Junqueira¹, Jesús Daniel Diaz Meza¹, Felipe Martins Favero¹

¹Universidade Federal de Lavras, ²Louisiana State University

11:00 a.m. PS4-12 **Not Your Traditional Lecture: A Collaborative, Media-driven Animal Science Classroom**

Sofia Henderson¹, Aridany Suarez-Trujillo¹, Madeline Rivera¹

¹Berry College

11:00 a.m. PS4-13 **Pedigree and Genomic Analysis in Caspian Horses in the United States**

Victoria Filz¹, Thorton Larson¹, Jamie A. Boyd¹

¹Sul Ross State University

11:00 a.m. PS4-26 **Prevalence, Antimicrobial Resistance Profiles, and Genomic Determinants of Enterobacter Hormaechei and Escherichia coli Isolated from Communally Grazed Cattle in South Africa**

Baitshoetsi Gloria Mokolopi¹, Mpina E. Tshipamba¹

¹University of South Africa

11:00 a.m. PS4-18 **Proof-of-concept Evaluation of Multi-frequency Bioelectrical Impedance Analysis for Non-invasive Detection of Caseous Lymphadenitis in Meat Goats**

Eryn Boyce-Martin¹, Phaneendra Batchu¹, Aftab Siddique¹, David Shapiro-Ilan², Cristina Pisani², Thomas H. Terrill¹

¹Fort Valley State University, ²USDA, Byron

11:00 a.m. PS4-21 **Serum Metabolomic Changes Induced by Guanidinoacetic Acid Supplementation in Growing Nellore Cattle**

Leticia Carolina Bortolanza Soares¹, Leticia K. Kim Huang², Germán D. Ramírez-Zamudio³, Maria Eduarda Ramos⁴, Fabiana Ayumi A. Shiozaki⁴, Valéria Oliveira Valente Araújo⁴, Erly Sofia Castañeda Jiménez⁴, Brenda Santos Oliveira⁴, Eduardo Solano Pina Santos⁴, Carl Robertson R. Dahlen⁵, Nara Regina Brandão Cônsolo⁶, Saulo da Luz Silva⁴, Paulo Roberto Leme⁴

¹Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND, ²Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Department of Animal Science, Texas A&M University, College Station, TX, ³University of São Paulo, Pirassununga, Brazil, ⁴Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil, ⁵Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁶Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

11:00 a.m. PS4-25 **Spent Hemp Biomass (SHB) as a Potential Protein Supplement for Goats**

Negusse F. Kidane¹, Aruna N. Weerasooriya¹, Selamawit N. Woldesenbet¹, Crystal Roberts²

¹Prairie View A&M University, ²College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446

11:00 a.m. PS4-5 **The Impact of Poor Maternal Nutrition on Mitochondrial Regulatory Factors of Sheep Offspring**

Alana B. Wolfson¹, Manda S. Reiter², Nicole M. Tillquist¹, Mia Y. Kawaida¹, Steven A. Zinn¹, Kristen E. Govoni¹, Sarah A. Reed¹

¹University of Connecticut, ²Tarleton State University

11:00 a.m. PS4-15 The Impact of Water Additives on the Growth Performance and Water Disappearance of Newly Weaned Pigs

Olivia Keefe ¹, Sarah L. Phelps ¹, Nathan Vander Werff ¹, Ezequiel M. Guzman ², Denny M. McKilligan ², David S. Rosero ¹

¹Iowa State University, ²TechMix Global

11:00 a.m. PS4-2 Triticale Silage Used as Ruminant In Situ Substrate to Assess the Effects of *Saccharomyces Cerevisiae* in Beef Cattle Grower and Finisher Diets

Fernanda Berumen ¹, Jhones O. Sarturi ², Ahmari D. Henry ¹, Brooke A. McCrumb ¹, Kaliu Scaranto Silva ³, Kip K. Karges ³, Beatriz Q. Dos Reis ¹, Osman R.A Melgar ¹, Otavio France ¹

¹Texas Tech University, ²Animal and Food Sciences, ³Lallemand Animal Nutrition

11:00 a.m. PS4-19 Yearling-ewe Insulin Sensitivity After Mid-gestation Maternal Heat Stress

Jennifer Miranda ¹, Andrea Rios ¹, Sean W. Limesand ¹, Rodolfo Elias ¹, Bryson Prather ¹, Duarte E. Diaz ¹

¹University of Arizona

Poster Session 5

1:30 PM - 2:45 PM

Grand Terrace

1:30 p.m. PS5-5 Comparison of Melengestrol Acetate versus CIDR in Follicular Dynamics of Angus Heifers Using a Modified ReBreed21 Resynchronization Program

Audrey A. Rangel ¹, Samuel Narvaez-Sanchez ¹, Austin George ¹, Kirby Russell ¹, Hallie Dugosh ¹, Sarah Mendieta ¹, Emilie C. Baker ¹, Thomas Lee Perkins ¹, João Paulo Nascimento Andrade ¹

¹West Texas A&M University

1:30 p.m. PS5-9 Dietary Ginger Root Extract Modulates Intestinal Antimicrobial Peptides and Redox Proteins in Salmonella Infected Broiler Chicks

Samuel Quarmyne ¹, Oluteru E. Orimaye ¹, Deji Abiodun Ekunseitan ¹, Yewande Fasina ¹

¹North Carolina A&T State University

1:30 p.m. PS5-25 Dosage Effect of Adding Plant Extracted Saponin (PES) on Protein Degradable and Undegradable Fraction Profiles and Their Total Supply of Blend Pelleted Products in Ruminant Systems

Taufiq Hidayat ¹, M.R. Espinosa ¹, P. Yu ²

¹Department of Animal and Poultry Science, College of Agricultural and Bioresources, University of Saskatchewan, ²Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan

1:30 p.m. PS5-2 **Effect of Lactobacillus Reuteri Supplementation on the Plasma Metabolome of Ewes**

Ivory Smith¹, Ken'derrian Pate¹, Yariana Woody¹, Oluwatobi E. Fijabi², Brou Kouakou¹, Adel R. Moawad¹, Ibukun M. Ogunade³, Godstime Taiwo²

¹Fort Valley State University, ²New Mexico State University, ³West Virginia University

1:30 p.m. PS5-28 **Effects of Ground Pecan Shell Supplementation on in vitro Gas Production Kinetics and Ruminal Fermentation**

Delila D. Dominguez¹, Bianca D. Birkenstock¹, Lauren K. Cruz¹, Lucas G. Mota¹, Clint A. Loest¹

¹New Mexico State University

1:30 p.m. PS5-10 **Effects of Lycopene Supplementation to Semen Extender on the Quality of Cooled and Frozen-thawed Ram Spermatozoa**

Joshua Woodard¹, Taeja Brisby¹, Abdallah M. Shahat¹, Lauren Wartley¹, Mahipal Singh¹, Brou Kouakou¹, Adel R. Moawad¹

¹Fort Valley State University

1:30 p.m. PS5-24 **Effects of Peripartum Supplementation of Chromium, Rumen Protected Choline, or Both on Feed Efficiency Postpartum and Post Supplementation in Holstein Dairy Cows**

Gabriel Ferreira De Lima Cruz¹, Abigail Bowers¹, Bárbara M. Nascimento¹, Liam Leuwerke¹, Sophia Green¹, Sophia Kendall¹, Victor Malacco², Irene Brown-Crowder², Jerilyn Hergenreder², Francisco Peñagaricano¹, Heather M. White¹

¹University of Wisconsin-Madison, ²Kemin Industries

1:30 p.m. PS5-17 **Effects of Protein Supplementation on Weight, Intake, and SUN in Rangeland Ewes**

Alexis J. Jackson¹, Ryan A. Spurling¹, Lillian Okamoto¹, Zachary C. Crump¹, Preston Papa¹, Morgan K. Christensen², Chad Page¹, Kara J. Thornton¹

¹Utah State University, ²Southern Utah University

1:30 p.m. PS5-12 **Evaluating the Effects of Dietary Fat Source on Growth Performance, Carcass Characteristics, and Gas Flux in Finishing Steers**

Erin N. Burke¹, Leonardo Gomes Sitorski², Marco T. Genelhu Carreira¹, Irene Reis³, Sydney M. Bowman-Schnug¹, Ashley K. Schilling-Hazlett¹, Cesar A. Velasquez Rios¹, Kim R. Stackhouse-Lawson¹, Sara E. Place²

¹Colorado State University - AgNext, ²Department of Animal Sciences, AgNext, Colorado State University, ³Colorado State University

1:30 p.m. PS5-26 Evaluation of Maternal Supplementation of Choline on Progeny Growth Performance During the Finishing Period and Carcass Characteristics

Federico Podversich ¹, Eric Mousel ², Clay A. Zimmerman ³, Kari Estes ³, Warren C. Rusche ¹, Bradley J. Johnson ⁴, Heather M. White ⁵, Zachary KF Smith ⁶

¹Department of Animal Science, South Dakota State University, ²University of Minnesota, ³Balchem Corporation, ⁴Texas Tech University, ⁵University of Wisconsin-Madison, ⁶Department of Animal Science, South Dakota State University, Brookings, SD 57007, USA

1:30 p.m. PS5-20 Experiential Learning Influences Impressions and Reflections of the Beef Industry in College Students

Victoria Garcia ¹, Alice P. Brandao ², Tryon A. Wickersham ², Merritt L. Drewery ¹

¹Texas State University, ²Texas A&M University

1:30 p.m. PS5-18 Exploratory Assessment of Dopamine Infusion Effects on Endogenous Equine Insulin Secretion During Oral Sugar and Tissue Sensitivity Testing

Jordyn R. Isgrigg ¹, Sophia Marchio ¹, Lauren T. Wesolowski ¹, Alana Boone ¹, Yatta Boakari ¹, Shannon E. Pratt-Phillips ², Erica Macon ¹

¹Texas A&M University, ²North Carolina State University

1:30 p.m. PS5-19 Gas Densitometry for Determination of Methane Concentration in Mixed Samples of in-vitro Technique

Maria V. Galeano ¹, Ligia J. Jaimes ², Jose E. Escobar ³, Hector J. Correa ⁴, Wilmer Cuervo ¹

¹Montana State University, ²Institución Universitaria Visión de las Americas, ³Institucion Universitaria Visión de las Americas, ⁴Universidad Nacional de Colombia

1:30 p.m. PS5-1 Impact of residual feed intake classification on performance, carcass ultrasound traits, feed intake, efficiency and feeding behavior patterns in growing seedstock bulls

Brooke E. Baker ¹, Gordon E. E. Carstens ¹, Keara O'Reilly ², Ross Havens ³

¹Texas A&M University, ²University of Nebraska-Lincoln, ³Nichols Farms Ltd.

1:30 p.m. PS5-3 In Vitro Digestibility of Sorghum Sudangrass Baleage and Dried Distillers Grains Using Rumen Inoculum from Cattle

Karlie Klingner ¹

¹University of Tennessee

1:30 p.m. PS5-7 In-situ Evaluation of Forage Grown in Soil Amended with Manure from Cattle Fed Different Types of Biochar

Lauren Orlando ¹, Kim Boardman ¹, Samira Islas Valdez ¹, Nicole Wagner ¹, Merritt L. Drewery ¹

¹Texas State University

1:30 p.m. PS5-21 **Investigating Rumen Microbiome Dynamics During Immune Challenge in Beef Cattle**

Castle J. Cavender¹, Andres E. Alvarado-Vargas¹, Paola P. Boscollo¹, Andres Fernandez-Lehmann¹, Giovanni C. C. Ladeira¹, Luana P. T. Alvares², Milerky Perdomo¹, Nicolas DiLorenzo¹, Kwangcheol C. Jeong¹, Corwin Nelson³, Fernanda Rezende¹

¹University of Florida, ²Colorado State University, ³RP Nutrients

1:30 p.m. PS5-23 **Mitigation of Enteric Methane Emissions Using a Bromoform-based Feed Additive in Finishing Nellore Cattle**

Thaynara Paolla da Silva Freitas¹, Luiz Guilherme Santos de Oliveira², BÁRBARA MARTINS BRIXNER³, Eduardo Fonseca¹, Augusto Marques Nardi², Pedro Souto Lamas², Igor Fávero¹, Ana Claudia D. Exposti¹, André Garcia¹, Maria Bassani¹, Natalia Fernandes¹, Felipe Varella¹, Maria Prado¹, Luiz Oliveira¹, Guilherme Arnandes¹, Murilo Lima¹, Gerson Barreto Mourão⁴, Diogo Fleury Azevedo Costa²

¹University of São Paulo (USP) – Luiz de Queiroz College of Agriculture (ESALQ), ²“Luiz de Queiroz” College of Agriculture, ³Escola Superior de Agricultura “Luiz de Queiroz” (ESALQ) - University of São Paulo (USP), ⁴University of São Paulo

1:30 p.m. PS5-14 **Rapid Resynchronization of the Bovine Estrous Cycle to Facilitate Multiple Services with Artificial Insemination**

Enrico T. Padula¹, Morgan Brown¹, Abigail Diggs¹, Thiago Martins¹

¹University of Missouri

1:30 p.m. PS5-6 **Saccharomyces Cerevisiae and Its Effects on Ruminal Degradability Kinetics of a Low-quality Crop Residue on Beef Steers Offered Grower and Finisher Diets**

Brooke A. McCrumb¹, Jhones O. Sarturi², Ahmari D. Henry¹, Kaliu Scaranto Silva³, Otavio France¹, Beatriz Q. Dos Reis¹, Kip K. Karges³, Osman R.A. Melgar¹, Fernanda Berumen¹, Crystal N. Martinez¹

¹Texas Tech University, ²Animal and Food Sciences, ³Lallemand Animal Nutrition

1:30 p.m. PS5-16 **Single Cell Analysis of Endometrial Remodeling After Pregnancy Loss in Beef Cattle**

Lilly Machart¹, Kimberly M. Davenport¹

¹Department of Animal Sciences, Washington State University

1:30 p.m. PS5-15 **The Antiviral Potential of Lactococcus Lactis A1-2 In-vitro**

Justin S. Yien¹

¹University of Guelph

1:30 p.m. PS5-4 **The Effect of Oxytocin Use on Luteal and Follicular Dynamics in a Modified ReBreed21 Protocol for Postpartum Angus Cows After Timed-AI**

Austin George ¹, Audrey A. Rangel ¹, Samuel Narvaez-Sanchez ¹, Kirby Russell ¹, Hallie Dugosh ¹, Sarah Mendieta ¹, Vitoria Aparecida M. Ribeiro ², Artur Grando Pilati ², Rafael R. Paiva ³, Vinicius N. N. Gouvea ³, Emilie C. Baker ¹, Thomas Lee Perkins ¹, João Paulo Nascimento Andrade ¹

¹West Texas A&M University, ²Texas A&M University Department of Animal Science, ³Texas A&M University

1:30 p.m. PS5-13 **The Effects of the Inclusion of Soybean Oil in Beef Heifer Diets on Reproductive Performance and Economic Viability**

Isabella R. Becerra ¹, Kirsten A. Midkiff ¹, Elizabeth B. Kegley ¹, Robin A. Cheek ², Jacy L. Riddle ², Doug L. Galloway ¹, Jana L. Reynolds ¹, Alexis J. Harness ¹, Charles R. Looney ¹, Brittni P. Littlejohn ¹, Jeremy G. G. Powell ³

¹University of Arkansas Division of Agriculture, ²University of Arkansas, ³Department of Animal Science, University of Arkansas

1:30 p.m. PS5-8 **The Effects of Transportation and Submaximal Exercise on Stress Responses in Mature Horses**

Sylvia C. Nelson ¹, Jessica L. Leatherwood ¹, Teghan A. Brooks ¹, Heidi Lykins ¹, Ally Jones ¹, Jesus A. Cortes-Mercado ¹, Rafael E. Martinez ¹, Amanda N. Bradbery ², Manda S. Reiter ¹

¹Tarleton State University, ²Montana State University

1:30 p.m. PS5-27 **Transformer-based Forecasting of Livestock Body Weight for Precision Feed Delivery**

E. K. ArunKumar ¹, Nathan Blake ¹, Tylor J. Yost ¹, Ida Holaskova ¹, Deborah Ologunagba ¹, Matthew E. Wilson ¹

¹West Virginia University

1:30 p.m. PS5-22 **Using an Ex-situ Model to Assess the Effects *Saccharomyces Cerevisiae* on Beef Cattle Ruminant Fermentation Gas Profile**

Pedro Trevisan Tonelli ¹, Jhones O. Sarturi ², Kaliu Scaranto Silva ³, Kip K. Karges ³, Beatriz Q. Dos Reis ⁴

¹UNESP, ²Animal and Food Sciences, ³Lallemand Animal Nutrition, ⁴Texas Tech University

1:30 p.m. PS5-11 **Utilization Rates and Implementation Barriers of Assisted Reproductive Technologies Within Beef Cow-calf Operations**

Mamie-Cate Haydon ¹, Riley D. Messman ¹, Quisto Settle ¹

¹Oklahoma State University

**CSAS Symposium 1: Advances in Sustainable Ruminant and Non-Ruminant Animal Production
- Sponsored by Canadian Society of Animal Science**

Chair: Gabriel Ribeiro, Department of Animal and Poultry Science, University of Saskatchewan

1:30 PM - 4:30 PM

Ballroom C

1:30 p.m. **CSAS Symposium 1 Introduction**

1:35 p.m. 58 **Building Blocks: Nutrition, Critical Thinking and Training the Next Generation of Animal Nutritionists**

Stephanie Collins ¹

¹Dalhousie University

2:10 p.m. 59 **Leveraging Functional Ingredients to Improve Gut Health and Resilience in Monogastric Systems**

Deborah I. Adewole ¹

¹University of Saskatchewan

2:45 p.m. **CSAS Symposium 1 Break**

3:15 p.m. 60 **Forage and Grazing Strategies to Enhance Efficiency and Sustainability in Canadian Livestock Systems**

Erick Santos ¹

¹University of Alberta

3:50 p.m. 61 **Enriching Early Life to Promote the Co-development of Microbiome and Immune System in Neonatal Calves**

Nilusha Malmuthuge ¹

¹University of Calgary, Faculty of Veterinary Medicine

Beef and Dairy Symposium: New Concepts to Mitigate Stress and Optimize Productivity in Beef and Dairy Systems - Sponsored by FERA Diagnostics

Chair: Reinaldo Cooke, Texas A&M University

1:30 PM - 5:15 PM

Ballroom D

1:30 p.m. **Beef and Dairy Symposium Introduction**

1:35 p.m. 62 **The Effects of Stress in Dairy Cattle and the Role of Maternal Bovine Appeasing Substance**

Thomas Smith ¹

¹Finger Lakes Farm Vets and consulting vet for FERA Diagnostics and Biologicals

2:20 p.m. 63 **Research-based Solutions to Minimize Stress and Improve Production Efficiency in Dairy Operations**

José Eduardo E. P. Santos ¹

¹University of Florida

3:05 p.m. **Beef and Dairy Symposium Break**

3:20 p.m. 64 **Adoption of Research-based Stockmanship Practices to Reduce Stress and Improve Welfare, Health, and Productivity in Beef Production Systems**

Tom Noffsinger ¹

¹Production Animal Consultation

4:05 p.m. 65 **Research-based Strategies to Minimize Stress and Improve Production Efficiency in Beef Cattle: The Maternal Bovine Appeasing Substance**

Reinaldo F. Cooke ¹

¹Texas A&M University

4:50 p.m. **Beef and Dairy Symposium Closing**

Rodrigo Bicalho ¹

¹FERA Diagnostics and Biologicals

Ruminant Nutrition 2: Reproduction and Lactation

Chair: Juan Loor, University of Illinois Urbana Champaign

2:00 PM - 3:00 PM

Ballroom B

2:00 p.m. 40 **Strategic Protein Supplementation with Gestating Beef Cows Grazing Winter Foothill Rangelands Across Four Years**

Diva N. Rigney ¹, Noah G. Davis ¹, Sam Wyffels ¹, Tim DelCurto ¹

¹Montana State University

2:15 p.m. 41 **Comparison of Mineral Tub Supplementation Containing Either Organic-complexed or Inorganic Trace Mineral Sources on Heifer Development and Reproductive Performance**

Jacy L. Riddle ¹, Jeremy G. G Powell ², Charles R. Looney ³, Elizabeth Backes-Belew ⁴, Chris Ashworth ⁵, Jason Sewell ⁴, Jana L. Reynolds ⁶, Alexis J. Harness ⁶, Robin A. Cheek ¹, Craig M. Looney ⁶, Elizabeth B. Kegley ⁶

¹University of Arkansas, ²Department of Animal Science, University of Arkansas, ³Bovine Reproductive Services, ⁴Land O'Lakes, ⁵Zinpro, ⁶University of Arkansas Division of Agriculture

2:30 p.m. 42 **Effects of Limit-feeding Beef Cows with Either High-forage or High-concentrate Diets Pre- and Post-calving on Colostrum and Milk Yield and Composition, Nutrient Utilization, and Calf Performance**

Andrea K. Brandner ¹, Federico Podversich ², Megan Wehrbein ¹, Ana B. Clara B. Menezes ¹

¹South Dakota State University, ²Department of Animal Science, South Dakota State University

2:45 p.m. 43 **Effects of Chromium Propionate Supplementation on Performance, Ovarian Follicle Diameter, and Puberty Attainment in Replacement Angus Heifers**

Fernando Cidrini ¹, Rodrigo Marques ¹, Erollykens F. Santos ¹, Arnaldo Limede ¹, Frank Even ¹, Abigayle Pollock ¹, Camila Ezepha ¹, Gustavo Begalli ¹, Vitor Mercadante ², Fernando Biase ¹

¹Virginia Tech, ²The University of Queensland

Animal Breeding and Genetics 1

Chair: Sunday Peters, Berry College

2:00 PM - 3:30 PM

Ballroom A

2:00 p.m. 89 **Award Talk: Transforming Animal Breeding with Functional and Regulatory Genomics**

Huaijun Zhou ¹

¹University of California, Davis

2:30 p.m. 90 **Genetic Evaluation of Feed Efficiency Traits in Brazilian Angus Cattle**

Yufeng Shang ¹, Henrique A. Mulim-McCarthy ¹, Milena A. Campos ¹, Gabriel Campos ², Fernando F. Cardoso ³, Hinayah Rojas de Oliveria ¹

¹Purdue University, ²Interbull Centre, ³Embrapa Southern Livestock

2:45 p.m. 91 **Selection for low residual feed intake is only justified in long-fed cattle**

Wayne S. Pitchford ¹

¹Davies Livestock Research Centre, School of Animal and Veterinary Sciences, Adelaide University

3:00 p.m. 93 **Smartbreeder: A Data-driven Virtual Assistant to Support Nellore Sire Selection Accounting for Genotype-by-environment-by-management Interactions**

Talita E. Z. Santana ¹, Renata Veroneze ², Gilberto Romeiro de Oliveira Menezes ³, Guilherme J. M. Rosa ⁴

¹University of Wisconsin-Madison, ²Universidade Federal de Viçosa, ³Embrapa Beef Cattle,

⁴Department of Animal and Dairy Sciences, University of Wisconsin-Madison

3:15 p.m. 94 **A Deep Learning Framework to Measure Eyelid Pigmentation Using Two-dimensional Eye Images of Hereford Crossbred Cattle: From Pixels to Patterns**

Imtiaz Ali ¹, Haipeng Yu ², Jin Wang ³, Trent Smith ⁴, Rhonda C. C Vann ⁴, Jeremy G. G Powell ⁵, Jacob W. W Thorne ⁶, Este van Marle-Köster ⁷, Lance W. Bauer ⁸, Francis M. Rouquette ⁹, David G. G Riley ¹⁰, Lauren L. Hulsman Hanna ¹

¹Department of Animal Sciences, North Dakota State University, ²University of Florida, ³Department of Animal Sciences, University of Florida, ⁴Department of Animal and Dairy Sciences, Mississippi State University, ⁵Department of Animal Science, University of Arkansas, ⁶Texas A&M AgriLife Research, Texas A&M University, ⁷Department of Animal Science, University of Pretoria, ⁸Beefmaster Breeder's United, ⁹Texas A&M AgriLife Research and Extension Center, Texas A&M University, ¹⁰Department of Animal Science, Texas A&M University

Emerging Issue: New World Screw Worm Crisis in Animal Agriculture

Chair: Clint Krehbiel, Texas Tech University

2:00 PM - 3:30 PM

Lecture Hall

2:00 p.m. **Emerging Issue: New World Screw Worm Crisis in Animal Agriculture**

Paul Kunde ¹, Robert Hogden ², John Hutcheson ³, Phillip Kaufman ⁴, Sarah C. Klopatek ⁵

¹USDA-APHIS-VS-Field Operations, ²King Ranch, ³Merck Animal Health, ⁴Texas A&M University, ⁵JBS

Production, Management and Environment 2

Chair: Zachary Carlson, IFF

2:00 PM - 4:45 PM

E-F

2:00 p.m. 73 **Award Talk: Machine Learning for Economic Decision Making in Texas Stocker Cattle Operations**

Vishnudas Kulangara Veettil ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

2:30 p.m. 77 **Automated Behavior Classification for Modeling Dry Matter Intake in Cattle**

Serinmary Pulikkottil Rejimon ¹, Adam Bryan ¹, Robin Ede ¹, Daniel wen ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

2:45 p.m. 75 **Automated Computer Vision Quantification of Chute-exit Behavior and Associations with Performance and Carcass Outcomes in Nellore Cattle**

Joao R. R. Dorea ¹, Pedro Souto Lamas ², Ana Claudia D. Exposti ³, Igor Fávero ³, Guilherme L. Menezes ⁴, Flávio Augusto Portela Santos ²

¹University of Wisconsin-Madison, ²“Luiz de Queiroz” College of Agriculture, ³University of São Paulo (USP) – Luiz de Queiroz College of Agriculture (ESALQ), ⁴Department of Animal and Dairy Sciences, University of Wisconsin–Madison

3:00 p.m. 76 **Predicting Body Weight and Dry Matter Intake in Lactating Dairy Cows Using Depth Cameras**

Raphael R. Mantovani ¹, Guilherme L. Menezes ¹, Rafael Ferreira ², Luca Cattaneo ³, Alessio Cecchinato ⁴, Erminio Trevisi ³, Joao R. R. Dorea ⁵

¹Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI, USA, ²Data Science Institute, University of Wisconsin-Madison, ³Department of Animal Science, Food and Nutrition (DIANA) and the Romeo and Enrica Invernizzi Research Center for Sustainable Dairy Production (CREI), Faculty of Agricultural, Food and Environmental Sciences, Università Cattolica del Sacro Cuore, ⁴Department of Agronomy, Food, Natural Resources, Animals and Environment (DAFNAE), University of Padova, ⁵University of Wisconsin-Madison

3:15 p.m. **Production, Management and Environment 2 Break**

3:30 p.m. 74 **An Artificial Intelligence-driven Blockchain Platform for Data-enabled Valuation and Tokenization of United States Beef Cattle Systems**

Karun Kaniyamattam ¹, Megha Poyyara-Saiju ², Hiya Sharma ³, Ananya Adiki ³, Brandon Shim ³, Dylan Marintzer ³, Siddhi Mittal ³, Surada Suwansathit ³, Gregg Barfield ⁴, Shreyas Kumar ³

¹Department of Animal Science, Texas A&M University, ²Texas A&M University, ³Department of Computer Science & Engineering, Texas A&M University, ⁴Blocktrust Inc.

3:45 p.m. 78 **Monitoring Dairy Cow Respiration via Lateral Expansion from Dorsal Videos Using Automated Segmentation and Geometric Analysis**

Maria Elisa Montes ¹, Guilherme L. Menezes ¹, Alexander Koops ¹, Pedro Souto Lamas ², Erica Schultz ³, Caio Alves da Costa ³, Joao R. R. Dorea ⁴

¹Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI, USA, ²“Luiz de Queiroz” College of Agriculture, ³Department of Animal Science, Universidade Federal de Viçosa, Viçosa, MG, Brazil, ⁴University of Wisconsin-Madison

4:00 p.m. 79 **Detection of Sow Feeding- and Drinking-related Behaviors in Farrowing Crates Using Oriented Bounding Boxes**

Mamunur Rahman ¹, Isabella C. F. S Condotta ²

¹Department of Animal Sciences, University of Illinois Urbana-Champaign, ²University of Illinois Urbana-Champaign

4:15 p.m. 80 **Non-destructive Prediction of Egg Yolk Content Using Hyperspectral Imaging and Machine Learning**

Alin Khaliduzzaman ¹, Isabella C. F. S Condotta ¹

¹University of Illinois Urbana-Champaign

Production, Management and Environment 3

Chair: Jacquelyn Prestegaard-Wilson, Texas A&M AgriLife Extension

2:30 PM - 4:45 PM

G-J

2:30 p.m. 372 **Award Talk: Impact of Improvements in the Livestock Sector for Human Health in Developing Countries**

Geoffrey E. Dahl ¹

¹Department of Animal Sciences and Innovation Lab for Livestock Systems, University of Florida

3:00 p.m. 82 **Fifty Years of Progress for Beef Cattle Production in the United States**

C. Alan Rotz ¹, Jose Castano-Sanchez ¹, Daniel Kniffen ², Matt Buyers ³, Samantha J. Werth ⁴

¹USDA-ARS, ²The Pennsylvania State University, ³Agri Beef, ⁴U.S. Roundtable for Sustainable Beef

3:15 p.m. 83 **Mapping the Feedback Architecture of U.S. Cow-calf Profitability Using Causal Loop Diagrams**

Vishnudas Kulangara Veetil ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

3:30 p.m. 84 **Impacts of Trait Selection Pressures in Angus Cows on Female Productivity**

Alli Jobe ¹, Tara L. Felix ², Chad Dechow ¹

¹Penn State University, ²Pennsylvania State University

3:45 p.m. 85 **Interaction Between Breed and Optaflexx Supplementation and Implant Strategy on Intake and Carcass**

Emalee J. Friend ¹, Larry A. Kuehn ², Steven D. Shackelford ³, Kristin E. Hales ⁴, Tommy L. Wheeler ³, Andy Andy King ³, Stacey A. Gunter ¹, Bailey N. Engle ⁵

¹USDA, Agricultural Research Service, ²USDA-ARS, U.S. Meat Animal Research Center, ³USDA-ARS, ⁴USDA, ARS, US Meat Animal Research Center, ⁵USDA-ARS U.S. Meat Animal Research Center

4:00 p.m. 86 **The Use of Virtual Fencing to Manage Yearling Heifers on Montane Riparian Pastures**

Tucker L. Lytton ¹, Kaylen Stearns ¹, Caroline W. Gatschet ¹, Cooper W. Simmons ¹, Gavin Haines ¹, Kylee Lewis ¹, Annika Anderson ¹, Sophie O'Connor ¹, Olivia Kroll ¹, Noah G. Davis ¹, Tim DelCurto ¹, Sam Wyffels ¹

¹Montana State University

4:15 p.m. 87 **Effect of Alternative Beef Heifer Grazing Management on Synchronized Fixed-time AI and Delayed Feedlot Entry of Non-pregnant Heifers**

Douglas G. Landblom¹, Songül ŞENTÜRKÜ², Lauren L. Hulsman Hanna³, Byron Parman⁴, George A. Perry⁵

¹NDSU--Dickinson Research Ext., ²Canakkale Onsekiz Mart University, ³Department of Animal Sciences, North Dakota State University, ⁴North Dakota State University, ⁵Texas A&M AgriLife Research

Poster Session 6

3:00 PM - 4:15 PM

Grand Terrace

3:00 p.m. PS6-27 **An Increased Immune and Antioxidant Response Indicates Elevated Oxidative Stress In canines with Dermatological Conditions**

Selena K. Tavener¹, Dayakar L. Badri¹, Kiran S. Panickar¹

¹Science and Technology Center, Hill's Pet Nutrition

3:00 p.m. PS6-17 **Association Between Estrous Expression Behavior Detected by an Ear-tag Activity Sensor and Fertility Outcomes in Angus Beef Cows**

Ariane Tabari Bardassi¹, Daniel D. Buskirk¹, Augusto Madureira¹

¹Michigan State University

3:00 p.m. PS6-20 **Cat Blastocyst Production Using Two Methods of Epididymal Sperm Cool-storage**

Valentina Schaefer¹, Sierra Gainey¹, Saige Summersett¹, Anniah Banks¹, Staci Kehir², Laura Managan², Celina M. Checura¹

¹Clemson University, ²Greenville County Animal Care

3:00 p.m. PS6-21 **Characterization of Canine Colon Organoids**

Regina L. Hollar¹, Selena K. Tavener², Kiran S. Panickar²

¹Hill's Pet Nutrition, ²Science and Technology Center, Hill's Pet Nutrition

3:00 p.m. PS6-14 **Comparison of Sampling Methods for Characterization of the Equine Uterine Microbiome During Postpartum Involution**

Matthew B. Conrad¹, Rafael E. Martinez², Mckenzie J. Mork¹, Sarah McCoski¹, Amanda N. Bradbery¹

¹Montana State University, ²Tarleton State University

3:00 p.m. PS6-2 **Dietary Flaxseed Oil Influences Intestinal Health and Growth of Broiler Chickens During Necrotic Enteritis**

Safiu Suberu¹, Tunde Ogundare¹, Odinaka Iwuzo¹, Oluteru E. Orimaye¹, Oluwabunmi Apalowo¹, Samuel Quarmyne¹, Lekan Elegbede¹, Olanrewaju Binuyo¹, Deji Abiodun Ekunseitan¹, Yewande Fasina¹

¹North Carolina A&T State University

3:00 p.m. PS6-22 **Dietary Modulation of Metabolism, Microbiome, and Stool Odor in Small Breed Dogs**

Matthew I. Jackson ¹

¹Hill's Pet Nutrition

3:00 p.m. PS6-25 **Dogs' Daily Activity Patterns Change with Age**

Makenzie C. Melby ¹, Claire Timlin ², Craig M. Coon ¹

¹Four Rivers Kennel, ²Four Rivers Kennel, LLC

3:00 p.m. PS6-5 **Effect of Dietary Aid on Stress and Markers of Intestinal Barrier Integrity in Young, Exercising Horses Undergoing Prophylactic Antibiotic Therapy**

Alex M. Trauner ¹, Jessica L. Leatherwood ², Manda S. Reiter ², Heidi Lykins ², Teghan A. Brooks ², Carolyn E. Arnold ³, Kati G. Glass ⁴, Cecilia R. Gualandri ², Lauren R. Pavel ², Sylvia C. Nelson ², Brittany L. Paris ⁵, Abby Pritchard ⁶, Anirikh Chakrabarti ⁷, Holly S. Spooner ⁸, Rafael E. Martinez ², Amanda N. Bradbery ¹

¹Montana State University, ²Tarleton State University, ³Texas Tech University School of Veterinary Medicine, ⁴Texas A&M University College of Veterinary Medicine, ⁵Sam Houston State University, ⁶Cargill Animal Nutrition, ⁷Cargill, ⁸Unbeetable Feeds

3:00 p.m. PS6-26 **Effects of a Mushroom-based Beta Glucan Blend on the Gastrointestinal Health and Immune Function of Healthy Adult Dogs**

Tsai-Ling Wang ¹, Patricia M. Massae Oba ², Laura Bauer ², Samantha Koziol ³, Chinmayee Panda ³, Ryan N. Dilger ², Brett R. Loman ², Kelly Scott Swanson ²

¹University of Illinois Urbana-Champaign, Dr. Kelly Swanson Lab, ²University of Illinois Urbana-Champaign, ³Standard Process

3:00 p.m. PS6-28 **Effects of Algal Docosahexaenoic Acid in Dog Diets on Fecal Characteristics, Apparent Total Tract Digestibility of Macronutrients**

Christina I. Ferraro ¹, Confidence C. John ¹, Julio Mito ², Alison L. Tibbs ¹, Christine Wu ², Maria R.C. de Godoy ¹

¹University of Illinois Urbana-Champaign, ²Corbion, Bangkok

3:00 p.m. PS6-6 **Effects of Blanching Process and Supplementation Level of Fermented Codium Fragile on Rumen Fermentation and Greenhouse Gas Emission in vitro**

Arrynda R. D. Wardani ¹, Chang-Hyun Baeg ¹, Ji-Yoon Kim ¹, Bu-Gil Choi ¹, Jong-jin Park ¹, Jun-Hee Lee ², Seong-shin Lee ³, Sam-Churl Kim ¹

¹Division of Applied Life Science (BK21Four, Institute of Agriculture and Life Science), Gyeongsang National University, Jinju 52828, Republic of Korea, ²Konkuk university, ³Precision Animal Nutrition Division, National Institute of Animal Science, RDA, Wanju 55356, South Korea

3:00 p.m. PS6-1 **Effects of Dietary Ginger Root Extract on Fecal Indicator Microorganisms and Growth of Broiler Chickens**

Oluteru E. Orimaye ¹, Odinaka Iwuzo ¹, Safiu Suberu ¹, Oluwabunmi Apalowo ¹, Olanrewaju Binuyo ¹, Lekan Elegbede ¹, Samuel Quarmyne ¹, Teyah Swett ¹, Deji Abiodun Ekunseitan ¹, Yewande Fasina ¹

¹North Carolina A&T State University

3:00 p.m. PS6-18 **Effects of DMI and ADG Following an Abrupt Dietary Shift to High- and Low-quality Forage in Beef Cattle**

Hunter G. Perez ¹, Andrea M. Osorio Doblado ¹, Carmen Burner ¹, Jeferson M. Lourenco ², Francis L. Fluharty ¹, Todd R. R. Callaway ¹

¹Department of Animal and Dairy Science, University of Georgia, ²University of Georgia

3:00 p.m. PS6-10 **Effects of Heat Stress Mitigation During Late Gestation on Post-weaning Growth, Immunity, and Carcass Characteristics of Bos Indicus-influenced Steer Offspring**

Vinicius S. Izquierdo ¹, Conner A. Crawford ¹, Kauani B. Cardoso ¹, Gabriel R. Neiva ², Joao M. B. Vendramini ³, Matthew H. Poore ⁴, Reinaldo F. Cooke ⁵, Philipe Moriel ¹

¹University of Florida, IFAS/Range Cattle Research and Education Center, ²University of Lavras,

³Texas A&M AgriLife Research, ⁴North Carolina State University, ⁵Texas A&M University

3:00 p.m. PS6-11 **Effects of Rumen-inert Fatty Acids and Choline Supplementation on Ovarian Dynamics and Luteal Blood Perfusion in Angus Cows**

Talha Ashraf ¹, Carlos E. Lima ¹, Allyson Mccarty ², James Clothier ³, Joaquin Armendano ¹, Felipe A.C.C. Silva ¹

¹Department of animal science, North Carolina State University, ²Department of Animal Science, North Carolina State University, ³Department of Entomology and Plant Pathology, NC State

3:00 p.m. PS6-3 **Enhancing Methane Emissions Modeling Through Feature Engineering and Machine Learning**

Serinmary Pulikkottil Rejimon ¹, Sreekar Veeranki ¹, Aushmeet Singh ¹, Keshav Vidjeabaskaran ¹, Jay Yan ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

3:00 p.m. PS6-12 **Evaluation of Grazing Behavior and Performance of Beef Heifers under Different Shade Locations Relative to Water Access**

Diego F. Aviles ¹, Whitney L. Crossland ¹, Caitlyn Norris ¹, Aaron B. Norris ¹

¹Texas Tech University

3:00 p.m. PS6-19 **Evaluation of Microbiome Composition Combined with Fecal Untargeted Metabolomics Profiling in Healthy Adult Dogs Consuming Diets with Increasing Levels of Red Sorghum Bran Inclusion**

Nayara Mota Miranda Soares ¹, Cody Robertson ¹, Patrícia M. Massae Oba ², Kelly Scott Swanson ², Yonghui Li ¹, Júlia Guazzelli Pezzali ¹

¹Kansas State University, ²University of Illinois Urbana-Champaign

3:00 p.m. PS6-6 **Fraction-specific Changes in Protein-bound Carbonyl Concentrations Following Retort Canning of a Commercial Raw Canine Diet**

Isaac White ¹, Katelyn Bailey-Wisnieski ², Júlia Guazzelli Pezzali ², Steven M. Lonergan ¹, Elisabeth Huff Huff-Lonergan ¹

¹Iowa State University, ²Kansas State University

3:00 p.m. PS6-8 **High Fat Milk Replacers Promote Early Marbling Development in Angus X Holstein Calf Ribeyes**

Perri Gish ¹, Logan Rosenberg ¹, Lucas Smith ¹, Payam Vahmani ¹

¹UC Davis

3:00 p.m. PS6-16 **HPAI H5N1 Host-cell Interactions and Antiviral Innate Immunity in Bovine Uterine Epithelial Cells**

Kashif Gulam Mohammad ¹, Kendyl-Rae Bartz ¹, Dana Mewhinney ¹, Khursheed Iqbal ¹

¹Oklahoma State University

3:00 p.m. PS6-23 **Impact of Spray Dried Red Blood Cells in Pet Food on Product Color and Quality**

Joy Campbell ¹, Carmen Rodriguez ¹, Paola Oller ¹, Javier Polo ¹

¹APC LLC

3:00 p.m. PS6-24 **Incorporating Spray Dried Plasma into Non-wheat Biscuits**

Joy Campbell ¹, Angela Smith ¹, Lindsey Bouska ¹

¹APC LLC

3:00 p.m. PS6-4 **Localization of Toll-like Receptor 4 in the Reproductive Tract of Boars Prior to and Post Puberty Attainment**

Kyle J. Hickman ¹, Olivia J. Ognibene ¹, Brooke McAnally ¹, Lacey Luense ¹, Jeffrey Wiegert ¹, Rebecca K. Poole ¹

¹Texas A&M University

3:00 p.m. PS6-15 **Modulation of Intestinal Salmonella Enteritidis Colonization by Dietary Onion Peels in Broiler Chickens**

Odinaka Iwuozo ¹, Oluwabunmi Apalowo ¹, Oluteru E. Orimaye ¹, Safiu Suberu ¹, Samuel Quarmyne ¹, Lekan Elegbede ¹, Olanrewaju Binuyo ¹, Deji Abiodun Ekunseitan ¹, Yewande Fasina ¹

¹North Carolina A&T State University

3:00 p.m. PS6-7 **Postmortem Examinations in Food Animal Production: Assessing Perceptions and Experience, Prior Training, and Perceived Barriers**

Nathaly b. Vargas Arroyo ¹, Michael J. J. Cruz Penn ¹, Clinton Roof ¹, Linda Dascanio ¹, Sarah Hooper ², Gizem Levent ³, Stephanie L. Myers ¹, Marcelo Schmidt ¹, Guy Loneragan ¹, Howard Rodriguez Mori ¹, Blaine Johnson ¹, Elpida Artemiou ¹

¹Texas Tech University School of Veterinary Medicine, ²Arkansas State University College of Veterinary Medicine, ³Texas A&M University Veterinary Integrative Sciences

3:00 p.m. PS6-9 **The Effect of L-carnitine on Growth, Feed Efficiency, Estradiol Production, and Ovarian Characteristics in Beef Heifers**

Katylyn J. Richardson ¹, Clayton D. Bedke ¹, Taylor N. Andrews ², George A. Perry ³, Pedro Levy Piza Fontes ⁴, Eric J. Scholljegerdes ¹

¹Department of Animal and Range Sciences, New Mexico State University, ²Texas A&M AgriLife Research Beeville, ³Texas A&M AgriLife Research, ⁴University of Georgia

3:00 p.m. PS6-13 **Time to Luteolysis and Conceptus Attachment Vary with Parity in Holstein Heifers and Cows Diagnosed Non-pregnant by Ultrasound 32 Days After Timed AI**

Iago M. Rosa Leao ¹, Florentino paz Jose da Silva Jr. ², Dan Ponce-Aguilar ¹, Lindsey Grace G. Wichman ¹, Josh Branen ³, Luis Javier Montiel-Olguin ⁴, João Paulo N. Nascimento Martins ¹

¹University of Wisconsin - Madison, ²The Ohio State University, ³BioTracking Inc., ⁴Facultad de Ciencias Naturales, Universidad Autónoma de Querétaro

4:30 p.m. 88 **Brahman influence in grazing behavior and water use patterns of beef cattle in south Texas**

Pablo Guarnido-Lopez ¹, Jamie Foster ¹, Mahendra Bhandari ², Ernesto Reyes ², Shishir Sapkota ³, Thanos Gentimis ⁴, Nafiul Islam ³, Bailey N. Engle ⁵, Larry A. Kuehn ⁵, Warren M. Snelling ⁵, Taylor N. Andrews ¹

¹Texas A&M AgriLife Research Beeville, ²Texas A&M AgriLife Corpus Christi, ³Department of Soil and Crop Sciences, Texas A&M University, College Station, ⁴Texas A&M University, ⁵UDSA-ARS, U.S. Meat Animal Research Center

Beef Species 1: Cow-Calf Management

Chair: Matthew Beck, Texas A&M University

3:15 PM - 4:45 PM

Ballroom B

3:15 p.m. 102 **Relationship Between Maternal Antral Follicle Count and Breeding Soundness Examination Results in Male Progeny of Beef Cattle**

Emi E. Ramirez ¹, Pedro Levy Piza Fontes ², F. Neal Schrick ³, Shelby L. Rosasco ⁴, Lacey Quail ⁵, Robert A. Cushman ⁶, Saulo Zoca ⁷

¹University of Tennessee, Knoxville, ²University of Georgia, ³Univeristy of Tennessee, Knoxville, ⁴University of Wyoming, ⁵North Dakota State University, ⁶U.S. Meat Animal Research Center, USDA-ARS, ⁷University of Tennessee

3:30 p.m. 103 **Late Gestational Nutrient Restriction and Fetal Genetic Growth Potential Interact to Affect Nutrient Partitioning Among the Dam, Fetus, and Colostrum**

Allison M. Meyer ¹, Abigail R. Rathert-Williams ¹, Colby A. Redifer ²

¹Division of Animal Sciences, University of Missouri, ²USDA-ARS, U.S. Meat Animal Research Center

3:45 p.m. 104 **Effects of Timing of Mineral Drench Administration on Performance, Acute-phase Protein, and Mineral Status of Grazing Beef Calves**

Edilane Costa Martins ¹, Aline C. Rezende dos Santos ¹, Erica Ferri de Oliveira ¹, Jocelyn Torres ¹, David W. Bohnert ¹, Juliana Ranches ¹

¹Oregon State University

4:00 p.m. 105 **Evaluation of Administering a Suckling Implant to Angus Crossbred Steer Calves Reared in a Western Rangeland Environment**

Taylor M. Banks-Norris ¹, Erin DeHaan ¹, Zachary Smith ¹, Warren C. Rusche ², Amanda Blair ¹

¹South Dakota State University, ²Department of Animal Science, South Dakota State University

4:15 p.m. 106 **Effects of Weaning Age in a Fall-calving System on Steer Growth Performance, Carcass Merit, and Economics**

Jackson B. Matthews ¹, Joshua C. McCann ¹, Greg R. Osman ¹, Daniel W. Shike ¹

¹University of Illinois

4:30 p.m. 107 **Cumulative feed intake resilience of Hays Converter, Angus, Charolais, and a composite breed heifers exposed to Canadian Winter under intensive conditions**

Arturo Macias Franco ¹, Londono-Mendez Camila Maria Camila ¹, Sergio Lasso Ramirez ¹,

Weiguang Hao ¹, Gleise Medeiros Da Silva ¹

¹University of Alberta

Animal Breeding and Genetics 2

Chair: Catherine Ernst, Michigan State University

3:45 PM - 5:00 PM

Ballroom A

3:45 p.m. 96 **Genetic Analysis of Longevity in Brazilian Santa Inês Sheep**

Jackeline Santos Alves ¹, Luis Fernando Batista Pinto ², Lucio Mota ³, Eduarda S. Oliveira ⁴, Artur O. O. Rocha ³, Taiana Cortez de Souza ⁵, Hinayah Rojas de Oliveria ¹, Victor B. Pedrosa ⁶, Luiz F. Brito ⁷

¹Purdue University, ²Federal University of Bahia, ³Department of Animal Sciences, Purdue University, ⁴Universidade Estadual de Sao Paulo, ⁵Universidade Federal da Bahia, ⁶Neogen Corporation, Biotechnology Research, ⁷Purdue University, West Lafayette, USA

4:00 p.m. 97 **Genetic Parameters for a Longitudinal Longevity Indicator Trait in U.S.**

Katahdin Ewes

Jackeline Santos Alves ¹, Luis Fernando Batista Pinto ², Artur O. O. Rocha ³, Hinayah Rojas de Oliveria ¹, Ronald M. Lewis ⁴, Luiz F. Brito ¹

¹Purdue University, ²Federal University of Bahia, ³Department of Animal Sciences, Purdue University, ⁴University of Nebraska-Lincoln

4:15 p.m. 101 **Assessment of published bovine guide RNA design practices**

Rebecca H. Finchum ¹, William M. Muir ², Maci L. Mueller ¹

¹Kansas State University, ²Purdue University and Director Genesys Bioinformatics Services, LLC.

4:45 p.m. 100 **Interpopulation Selection Signatures Between Doberman Pinschers and Labrador Retrievers Reveal Candidate Regions Associated with Breed-specific Differentiation**

Henrique A. Mulim-McCarthy ¹, Breno O. Fragomeni ², Sophie Liu ³, Hinayah Rojas de Oliveira ¹

¹Purdue University, ²University of Connecticut, ³Doberman Diversity Project

Poster Session 7

4:30 PM - 5:30 PM

Grand Terrace

4:30 p.m. PS7-16 **Advancing Livestock Feed Management Through the National Animal Nutrition Program**

Jordan M. Adams ¹, Mingyung Lee ¹, Julia Travassos da Silva ², Matthew R. Beck ³, Ellen S. Dierenfeld ⁴, Mary K. Drewnoski ⁵, Andrew P. Foote ⁶, EA A. French ⁷, Karun Kaniyamattam ¹, James C. MacDonald ⁵, Hector M. Menendez ⁸, Heidi Rossow ⁹, Gerald C. Shurson ¹⁰, Elias Uddin ¹¹, Charlotte Kirk Baer ¹², Luis Orlindo Tedeschi ³

¹Department of Animal Science, Texas A&M University, ²Colorado State University, ³Texas A&M University, ⁴World Wildlife Fund, ⁵University of Nebraska-Lincoln, ⁶Oklahoma State University, ⁷USDA-ARS, ⁸South Dakota State University, ⁹University of California Davis, ¹⁰University of Minnesota, ¹¹University of Connecticut, ¹²USDA-NRCS

4:30 p.m. PS7-19 **Age-dependent Effects of Supplemental Forage on Egg Quality Attributes of Barred Plymouth Rock Hens**

Dylan Knipker ¹, Tatijana Fisher ¹, Victoria A. Uyanga ¹

¹Lincoln University of Missouri

4:30 p.m. PS7-17 **Assessing Kentucky Beef Producers for Demographics and Extension Needs**

Ibukunoluwa S. Salako ¹, Abbigail R. Hines ¹, Jinniah Ali ¹

¹Kentucky State University

4:30 p.m. PS7-11 **Black Soldier Fly Larvae in Extruded Diets for Senior Dogs: Effects on Skin Barrier Function and Coat Quality**

McKenzie Cross ¹, Alison L. Tibbs ¹, Julio Miotto ¹, Maria R.C. de Godoy ¹

¹University of Illinois Urbana-Champaign

4:30 p.m. PS7-24 **Dietary Supplementation of a Synergistic Blend of Phytogenic and Probiotics Improved Feed Conversion Ratio and Lesion of Coccidia Challenged Broiler Chickens**

Yating Zhao ¹, Shuhan Sun ¹, Youngmin Park ¹, Supatirada Wongchanla ¹, Simone Chang ¹, Yongzhu Yuan ¹, Kelly Zhao Zhao ¹, Hsinhung John Hsu ², Chungnan Chen ², Yanhong Liu ¹

¹University of California, Davis, ²JH Biotech, Inc.

4:30 p.m. PS7-23 **Effects of Dietary L-glutamate, L-aspartate, and Their Combination on Metabolite Profiles of Weaned Piglets Challenged with Enterotoxigenic Escherichia coli F18**

Supatirada Wongchanla ¹, Youngmin Park ¹, Sangwoo Park ¹, Shuhan Sun ¹, Yanhong Liu ¹

¹University of California, Davis

4:30 p.m. PS7-25 **Egg production of Lohmann Brown hens with split and conventional feeding programs**

ELVIA LOPEZ PEREZ ¹, Cielo Angel Lopez ¹, Tomasa Perez Perez ¹, Jose Luis Zaragoza Ramírez ¹, Silvia Carrillo Dominguez ²

¹Universidad Autonoma Chapingo, ²Instituto Nacional de Nutrición Salvador Zubiran

4:30 p.m. PS7-12 **Fats and Growing Cats: The Effects of Dietary n-6:n-3 Fatty Acid Ratios on Queen Metabolism and Physiology During Gestation and Lactation**

Sarah MacDonald Murray ¹, Alexandra Rankovic ¹, Vera Petroff ¹, Sanjana Anan ¹, Sydney Banton ¹, Luciana Guimaraes Reis ¹, Nathan Samaroo ¹, Jennifer L. Saunders Blades ², Kate K. Shoveller ¹

¹University of Guelph, ²Champion Petfoods Holding Inc

4:30 p.m. PS7-13 **Impact of Educational Videos on Milk Production Knowledge Among Public Schools Students in Puerto Rico**

Abner A. Rodriguez ¹, Alexandra A. Virella ¹, John A. Fernandez ¹

¹University of Puerto Rico

4:30 p.m. PS7-28 **Impact of Sire and Donor on in vitro Embryo Production Efficiency in Small Ruminants: A Large-scale Commercial Analysis**

Santiago Saavedra ¹, Estefania Maya ¹, Celso Koetz ²

¹Progenex, ²Azores Veterinary Practice

4:30 p.m. PS7-9 **Increase in markers of systemic inflammation in canines and subsequent mortality risk**

Regina L. Hollar ¹, Kiran S. Panickar ²

¹Hill's Pet Nutrition, ²Science and Technology Center, Hill's Pet Nutrition

4:30 p.m. PS7-8 **Increase in Oncogenic Drivers of Tumor Progression and Metastasis in Canine Urothelial Carcinoma**

Rachel A. Eichman ¹, Regina L. Hollar ¹, Kiran S. Panickar ²

¹Hill's Pet Nutrition, ²Science and Technology Center, Hill's Pet Nutrition

4:30 p.m. PS7-26 **Increased Dietary DL-Methionine Supplementation Enhanced Ileal Bacterial Diversity in Diquat-Challenged Growing Pigs**

SHENGFA F. LIAO ¹, Emmanuel O. Oladejo ², John K. Htoo ³, Peixin F. Fan ¹, Jean-Magloire F. Feugang ¹

¹Department of Animal & Dairy Sciences, Mississippi State University, ²School of Agricultural Sciences and Forestry, Louisiana Tech University, ³Evonik Operations GmbH

4:30 p.m. PS7-22 **Influence of Fiber Sources on Fecal Moisture, Ileal Digestibility, and Hindgut Disappearance of Energy and Nutrients in Nursery Pigs**

Yujeong Hwang ¹, Beob Gyun Kim ¹

¹Konkuk University

4:30 p.m. PS7-21 **Interaction Between Growth Stage of Pigs and Soluble Dietary Fiber-to-insoluble Dietary Fiber Ratio for Ileal Digestibility and Hindgut Disappearance of Energy and Nutrients**

Yujeong Hwang ¹, Yoon Soo Song ¹, Beob Gyun Kim ¹

¹Konkuk University

4:30 p.m. PS7-7 **Interlaboratory Variability in Total Dietary Fiber Measurements in Fresh Refrigerated Dog Foods**

Taija Stoner-Harris ¹, Chris Almon ¹, Steven Buskaritz ¹, Renan Antunes Donadelli ¹, Gabriela Magossi ¹, Kayla Henry ¹, Dustin Keys ¹, Eden Ephraim ¹

¹Freshpet

4:30 p.m. PS7-27 **Methionine hydroxy analogue bis-chelated trace minerals supplementation results in more diverse and functional fecal microbiome profile compared with inorganic trace minerals in grow-finish pigs**

Jesus A. Acosta Camargo ¹, Debora A. Reolon ¹, Bruno N. Silva ², Bradley V. Lawrence ³, Marisol Castillo ¹, Deana Hancock ¹

¹Novus International Inc, ²Universidade Federal de Minas Gerais, ³Novus International Inc.

4:30 p.m. PS7-6 **Mineral Balance and Predicted Urinary pH Assessment in Extruded Grain-containing, Grain-free, and Urinary Tract Health Over-the-counter Cat Foods**

Krystina A. Lema Almeida ¹, Youhan A. Chen ¹, Gail Kuhlman ², Júlia Guazzelli Pezzali ¹

¹Kansas State University, ²Iowa State University

4:30 p.m. PS7-15 **National Animal Nutrition Program (NANP): Harmonized Databases, Reproducible Modeling, and Artificial Intelligence-enabled Knowledge Synthesis for Animal Nutrition Research**

Mingyung Lee ¹, Jordan M. Adams ¹, Julia Travassos da Silva ², Heidi Rossow ³, Todd R. R. Callaway ⁴, Peter R. Ferket ⁵, Timothy J. J. Hackmann ⁶, Mark D. Hanigan ⁷, Hector M. Menendez ⁸, Edgar O. O. Oviedo-Rondon ⁵, Aline Remus ⁹, Michael J. VandeHaar ¹⁰, Sarah H. White-Springer ¹, Luis Orlindo Tedeschi ¹¹

¹Department of Animal Science, Texas A&M University, ²Colorado State University, ³University of California Davis, ⁴Department of Animal and Dairy Science, University of Georgia,

⁵Department of Poultry Science, North Carolina State University, ⁶Department of Animal

Science, University of California, Davis, ⁷Department of Dairy Science, Virginia Tech University,

⁸South Dakota State University, ⁹Agriculture and Agri-Food Canada, ¹⁰Michigan State University,

¹¹Texas A&M University

4:30 p.m. PS7-18 **Nutritive Value of Yak Meat Compared to Beef and Bison and Chef Evaluation of Yak Meat Dishes**

Jeffrey W. Lehmkuhler ¹, Colt W. Knight ², Gregor Dike ³

¹University of Kentucky, ²University of Maine, ³Zhi-ba Shing-ga Yak Farm

4:30 p.m. PS7-2 **Performance of Cultured Chicken Cells as Complementary Protein Sources in Extruded Cat Diets**

Aneesa Bahman ¹, Nolan Frantz ¹

¹Blue Buffalo

4:30 p.m. PS7-1 **Performance of Cultured Chicken Cells as Complementary Protein Sources in Extruded Dog Diets**

Aneesa Bahman ¹, Nolan Frantz ¹

¹Blue Buffalo

4:30 p.m. PS7-4 **Performance of Rice Protein Concentrate as Complementary Protein Sources in Extruded Cat Diets**

Aneesa Bahman ¹, Nolan Frantz ¹

¹Blue Buffalo

4:30 p.m. PS7-3 **Performance of Rice Protein Concentrate as Complementary Protein Sources in Extruded Dog Diets**

Aneesa Bahman ¹, Nolan Frantz ¹

¹Blue Buffalo

4:30 p.m. PS7-14 **Saddle to STEM: Training Agricultural Educators to Harness Horse Genetics as a Gateway to Science Engagement**

Meghan C. Wulster-Radcliffe ¹, Sarah A. Reed ², Cheyenne S. Summers ², Steven A. Zinn ², James C. MacLeod ¹, Robert C. Coleman ¹, John S. Radcliffe ¹, Rebekah C. Epps ¹

¹University of Kentucky, ²University of Connecticut

4:30 p.m. PS7-5 **Understanding the Impact of Oxidized Chicken Meal on Product Acceptance Through Metabolomics, E-nose, and Palatability Trials with Working Labrador Retrievers**

Stephen J. Fulbright ¹, Claire Timlin ¹, Fiona B. McCracken ¹, Craig N. Coon ¹

¹Four Rivers Kennel, LLC

4:30 p.m. PS7-10 **Utility and Functionality of Black Soldier Fly Larvae in Extruded Diets on Nutrient Digestibility, Fecal Metabolites, and Serum Chemistry in Senior Dogs**

Alison L. Tibbs ¹, McKenzie Cross ¹, Julio Mito ¹, Maria R.C. de Godoy ¹

¹University of Illinois Urbana-Champaign

Tuesday, July 21, 2026

CSAS Symposium 2: Advancements in Sustainable Ruminant Livestock Systems in North America - Sponsored by Canadian Society of Animal Science

Chair: Sara Place, Department of Animal Sciences, AgNext, Colorado State University

8:00 AM - 12:00 PM

Ballroom C

8:00 a.m. **CSAS Symposium 2 Introduction**

8:10 a.m. 112 **Ecosystems Services Influenced by Ruminant Livestock**

Leslie Roche ¹

¹University of California, Davis

8:45 a.m. 113 **Environmental Impacts of N. American Ruminant Livestock Production – Where Have We Been and Where Are We Headed?**

Logan R. Thompson ¹

¹Kansas State University

9:20 a.m. **CSAS Symposium 2 Break**

9:45 a.m. 114 **Animal Welfare – A Four- or Two-legged Issue?**

Michelle S. Calvo-Lorenzo ¹

¹Elanco Animal Health

10:20 a.m. 115 **Socio-economic Dimensions of Advancing Ruminant Livestock Sustainability**

Jaime Luke ¹

¹Michigan State University

10:55 a.m. 116 **Ruminant Impacts on Land Use Alignment and Dietary Sufficiency Under Diverse Food Consumption and Land Use Scenarios**

Robin R. White ¹

¹Virginia Tech

11:30 a.m. **CSAS Symposium Panel Discussion**

Feed Management Symposium: Increasing Awareness and Use of Livestock Feed Management Through the National Animal Nutrition Program (NANP) - Sponsored by National Animal Nutrition Program

Chair: Luis Tedeschi, Texas A&M University

8:00 AM - 12:00 PM

E-F

8:00 a.m. **Feed Management Symposium Introduction**

8:10 a.m. 108 **ARS Food Animal Production in Animal Science**

EA A. French ¹

¹USDA-ARS

8:30 a.m. 109 **Increasing Awareness and Use of Livestock Feed Management Through the National Animal Nutrition Program (NANP): Beef Cattle**

Matthew R. Beck ¹, Jacquelyn M. Prestegard-Wilson ², Bryan W. Neville ³, Troy Wistuba ⁴, Mike Martz ⁵

¹Texas A&M University, ²Texas A&M AgriLife Extension, ³USDA, ARS, US Meat Animal Research Center, ⁴Akralos Nutrition, ⁵Larson Farms

9:30 a.m. **Feed Management Symposium Break**

9:45 a.m. 110 **Increasing Awareness and Use of Livestock Feed Management Through the National Animal Nutrition Program (NANP): Dairy Cattle**

Mary Beth Hall ¹, Luiz Ferrareto ², EA A. French ³, Victor E. Cabrera ², Rick Dado ⁴

¹The Cows Are Always Right, ²University of Wisconsin-Madison, ³USDA-ARS, ⁴Four Hands Holsteins

10:45 a.m. 111 **Strategies to Improve Nutrient Utilization Efficiency in Swine Production Systems**

Gerald C. Shurson ¹, Pedro E. Urriola ¹, Brian Kerr ², Lara Moody ³, Dale Stevermer ⁴

¹University of Minnesota, ²USDA-Agricultural Research Service, ³Institute for Feed Education and Research / AFIA, ⁴Trails End Farm

11:45 a.m. **Closing Remarks**

Poster Session 8

8:45 AM - 9:45 AM

Grand Terrace

8:45 a.m. PS8-2 Agronomic Impact of Interseeding Red Clover into Intermediate Wheatgrass Cultivars in Dual-use Systems

Kathy J. Soder ¹, Justin Burt ², Curtis Dell ¹

¹USDA-ARS, ²Department of Animal and Dairy Sciences, University of Georgia

8:45 a.m. PS8-3 Comparative Analysis of Soil Microbial Diversity and Communities Under Monocrop and Polycrop Forage Systems Swath-grazed During Winter

Richard Oloo ¹, Nilusha Malmuthuge ², Emmanuel Gonzalez ³, Herbert (Bart) Lardner ¹, Obioha N. Durunna ⁴

¹University of Saskatchewan, ²University of Calgary, Faculty of Veterinary Medicine, ³McGill University, ⁴Lakeland College

8:45 a.m. PS8-5 Effect of Defoliation Intensity on Cool-season Cover Crop Performance

Sonia Arias ¹, María Victoria Errobidart ², María Agustina Ressia ², Javier Freddi ², Ana María Piazza ², Pamela Yanina Giles ²

¹Departamento de Producción Animal, Facultad de Agronomía, Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina, ²Agronomy Faculty, UNICEN

8:45 a.m. PS8-1 Effect of Genotype, Harvest Date and Plant Anatomy on Nutrient and Phytochemical Profiles of Fenugreek Forage

Yuxi Wang ¹, Ali Sabra ¹, Champa Wijekoon ¹, Hari Poudel ¹, Tim A. McAllister ²

¹Agriculture and Agri-Food Canada, ²Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB

8:45 a.m. PS8-4 Effect of Maturity Stage at Harvesting on Rumen Degradation and Intestinal and Total Track Digestion of Dry Matter of Intercropped Oat and Faba Bean Hay in Ruminant Livestock Systems

Carlene Nagy ¹, Victor H. Guevara-Oquendo ¹, P. Yu ¹

¹Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan

8:45 a.m. PS8-25 **Effect of Rumen-protected Methionine Supplementation on Antioxidant Status and Sperm Kinematic Properties in Angus Beef Bulls**

Leticia Carolina Bortolanza Soares ¹, Sarah R. Underdahl ², Kacie L. McCarthy ³, Matthew Crouse ⁴, James D. D. Kirsch ⁵, Sheri T. Dorsam ⁵, Cierrah J. Kassetas ⁵, Trent C. C. Gilbery ⁵, Kevin K. Sedivec ⁶, Joel S. Caton ⁵, Carl Robertson R. Dahlen ⁵

¹Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND, ²Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND, ³University of Nebraska Lincoln, ⁴Phibro Animal Health Corporation, ⁵Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁶Central Grasslands Research Extension Center, North Dakota State University, Streeter, ND, USA

8:45 a.m. PS8-19 **Effects of Aluminosilicate Supplementation on Fecal Starch Concentration and Starch Digestibility of Finishing Nellore Bulls**

Bárbara Martins Brixner ¹, Alecsander Alves Almeida ², Miguel Angel Chase Lloret ³, Daniel Montanher Montanher Polizel ⁴, Diogo Fleury Azevedo Costa ³, Flávio Augusto Portela Santos ³

¹Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ) - University of São Paulo (USP), ²Escola Superior de Agricultura Luiz de Queiroz, ³"Luiz de Queiroz" College of Agriculture, ⁴Department of Biology and Animal Science, Sao Paulo State University, Ilha Solteira, SP, Brazil.

8:45 a.m. PS8-12 **Effects of Essential Oil Supplementation on Health and Performance of Newly Received Beef Cattle Grazing Bermudagrass**

Miriam A. Snider ¹, Cody Shelton ¹, Cyle C. Jones ¹, Grayson Gourley ¹, Henry Hilscher ², Daniel Rivera ¹

¹University of Arkansas System Division of Agriculture, Southwest Research and Extension Center, ²Livestock Nutrition Center LLC

8:45 a.m. PS8-16 **Effects of Feeding Varying Levels of a Glucogenic Precursor Blend on Performance Health and Metabolic Status of High-risk Heifers at Receiving**

Cody E. Gruber ¹, Weston Crane ², Bella Schultz ², Don Lewis ³, Paul A. Beck ¹

¹Oklahoma State University, ²Willard Sparks Beef Research Center - Oklahoma State University, ³Biosen Inc, LLC

8:45 a.m. PS8-9 **Effects of Temperament on Growth Performance and Metabolic and Hormonal Profile of Bos Indicus-influenced Heifers**

Isabelle Pinheiro ¹, Ashley K. Edwards ², Marcelo Vedovatto ¹, Lee Faulk ², Barbara Roqueto dos Reis ³, Giancarlo Pereira Silva ¹, Ronaldo da Silva Junior ⁴, Matheus L. Ferreira ¹

¹Louisiana State University, ²Louisiana State University AgCenter, ³Mississippi State University, ⁴Universidade Federal de Vicosa

8:45 a.m. PS8-13 **Evaluating the Effects of Natural Preservatives on the Quality Characteristics and Shelf Life of Commercially Available Table Eggs**

Alondra Desha ¹, Serenity Henderson ¹, Ava Amey ¹, Alannah Anthony ¹, Marissa Haller ¹, Victoria A. Uyanga ¹

¹Lincoln University of Missouri

8:45 a.m. PS8-6 **Evaluation of an Air Fryer Device as a Rapid Method for Dry Matter Determination in Feedlot Diet Ingredients**

Maria Costa ¹, Felipe Martins Favero ², Thiago Bernardes ¹

¹University of Lavras, Brazil, ²Universidade Federal de Lavras

8:45 a.m. PS8-14 **Evaluation of an Automated Head Chamber System for Measuring Gas Flux in Confined Steers**

Leonardo Gomes Sitorski ¹, Irene Reis ², Eduardo M. Paula ¹, Juan J. Vargas ¹, Sara E. Place ¹

¹Department of Animal Sciences, AgNext, Colorado State University, ²Colorado State University

8:45 a.m. PS8-22 **Evaluation of Grazing or Harvesting Cereal Rye in Corn-soybean Rotation on Yield and Nutritive Quality**

Grady J. Gullickson ¹, William T. Meteer ¹, Daniel W. Shike ¹

¹University of Illinois

8:45 a.m. PS8-11 **Evaluation of Post-weaning Tissue Shrink in Beef Cow-calf Systems of the Southeastern United States**

Jasmine M. Eason ¹, James E. Samson ¹, John F. Odhiambo ²

¹Alabama A&M University, ²Alabama Agricultural and Mechanical University

8:45 a.m. PS8-24 **Forage Inclusion Modifies Ruminal Fermentation and Methane Production in Dairy Calves Fed High-starch Total Mixed Rations**

Leticia Carolina Bortolanza Soares ¹, Paulo Henrique Mazza Rodrigues ², Flávio Perna Junior ², Alexandre Vaz Vaz Pires ², Ariany Faria Toledo ³, Pedro Henrique Cavalcante C. Ribeiro ³, Carla Maris Machado M. Bittar ⁴, Daniel Montanher Montanher Polizel ⁵

¹Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND, ²Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil, ³Department of Animal Science, School of Agricultural and Veterinary Studies, São Paulo State University (UNESP), Jaboticabal, Brazil., ⁴Department of Animal Science, College of Agriculture “Luiz de Queiroz”, University of Sao Paulo, Piracicaba, SP, Brazil., ⁵Department of Biology and Animal Science, Sao Paulo State University, Ilha Solteira, SP, Brazil.

8:45 a.m. PS8-17 **Influence of Bacillus-dfm and Hydroxy Trace Minerals on in vitro Digestibility Parameters Using a Dairy Diet as Substrate**

Natasha B. Bedresdke Petrenko ¹, Fernando P. de Paula Leonel ², Bruno I. Cappelozza ³, Davi Brito De Araujo ⁴, Julia Travassos da Silva ¹, Julia Baroni Alves ¹, Huey Yi Loh ¹, Arturo Rodezno Gomez ¹, Raphael dos Santos Gomes ⁵, Libby Heenan ¹, Terry E. Engle ¹

¹Colorado State University, ²Federal University of São João del Rei - UFSJ/Colorado State University, ³Novonesis, ⁴Nutreco Nederland - Selko, ⁵Federal Institute of Education, Science and Technology of Rondonia (IFRO)

8:45 a.m. PS8-18 **Influence of Bacillus-dfm and Sulfate Trace Minerals on in vitro Digestibility Parameters of Standard Diet for Dairy**

Natasha B. Bedresdke Petrenko ¹, Fernando P. de Paula Leonel ², Bruno I. Cappelozza ³, Davi Brito De Araujo ⁴, Julia Travassos da Silva ¹, Julia Baroni Alves ¹, Huey Yi Loh ¹, Arturo Rodezno Gomez ¹, Raphael dos Santos Gomes ⁵, Libby Heenan ¹, Terry E. Engle ¹

¹Colorado State University, ²Federal University of São João del Rei - UFSJ/Colorado State University, ³Novonesis, ⁴Nutreco Nederland - Selko, ⁵Federal Institute of Education, Science and Technology of Rondonia (IFRO)

8:45 a.m. PS8-20 **Influence of Natural Zeolite Supplementation on Dietary Energy Utilization in Finishing Nellore Bulls**

BÁRBARA MARTINS BRIXNER ¹, Augusto Marques Nardi ², José Renato Silva Gonçalves ³, Laísse Garcia de Lima ³, Daniel Montanher Montanher Polizel ⁴, Diogo Fleury Azevedo Costa ², Flávio Augusto Portela Santos ²

¹Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ) - University of São Paulo (USP), ²"Luiz de Queiroz" College of Agriculture, ³Experimental Station Hildegard Georgina Von Pritzelwitz, Fazenda Figueira, ⁴Department of Biology and Animal Science, Sao Paulo State University, Ilha Solteira, SP, Brazil.

8:45 a.m. PS8-23 **Isolation and Characterization of a Novel Pyramidobacter Species from the Rumen of Cattle**

Christopher Lingga ¹, Timothy J. J. Hackmann ²

¹University of California, Davis, ²Department of Animal Science, University of California, Davis

8:45 a.m. PS8-27 **Long-term Impact of a High-starch Diet Early in Life on Feeding Behavior and Rumination in Sheep**

Michał Jamrogiewicz ¹, Marcin Przybyło ¹, Jarosław Kański ¹, Jadwiga Flaga ¹, Dorota Wojtysiak ², Renata Miltko ³, Xinjie Zhao ⁴, Marcus Clauss ⁵, Paweł Górka ⁶

¹Department of Animal Nutrition and Fisheries, Faculty of Animal Sciences, University of Agriculture in Krakow, al. Mickiewicza 24/28, 30-059 Kraków, Poland, ²Department of Animal Genetics, Breeding and Ethology, Faculty of Animal Sciences, University of Agriculture in Krakow, al. Mickiewicza 24/28, 30-059 Kraków, Poland, ³The Kielanowski Institute of Animal Physiology and Nutrition, Polish Academy of Sciences, ul. Instytucka 3, 05-110 Jabłonna, Poland, ⁴Animal Nutrition Group, Institute of Agricultural Sciences, ETH Zurich, Universitätstrasse 2, 8092 Zurich, Switzerland, ⁵Clinic for Zoo Animals, Exotic Pets and Wildlife, Vetsuisse Faculty, University of Zurich, Winterthurerstrasse 260, CH-8057 Zürich, Switzerland; AgroVet Strickhof, Vetsuisse Faculty, University of Zurich, Eschikon 27, 8315 Lindau, Switzerland, ⁶Department of Animal Nutrition and Fisheries, Faculty of Animal Sciences, University of Agriculture in Krakow, al. Mickiewicza 24/28, 30-059 Kraków, Poland; Department of Animal Nutrition and Feed Science, National Research Institute of Animal Production, ul. Jurańska 44, Aleksandrowice, 32-084 Morawica, Poland

8:45 a.m. PS8-28 **Micro-fused Essential Oil Blend Supplementation Alters the Plasma Metabolome of Sheep**

Yariana Woody ¹, Ken'derrian Pate ¹, Ivory Smith ¹, Oluwatobi E. Fijabi ², Brou Kouakou ¹, Adel R. Moawad ¹, Ibukun M. Ogunade ³, Godstime Taiwo ²

¹Fort Valley State University, ²New Mexico State University, ³West Virginia University

8:45 a.m. PS8-8 **Public Perception of Methane Emissions and Climate Change in the Livestock Industry: A Sentiment and Network Analysis of Reddit Discourse (2018–2026)**

Rajesh Neupane ¹, Adam Teo ², Shreyas Kumar ³, Sushil Paudyal ¹

¹Texas A&M University, ²Department of Computer Science & Engineering, Texas A&M,

³Department of Computer Science & Engineering, Texas A&M University

8:45 a.m. PS8-26 **Residual Feed Intake Phenotype Modulates Growth Performance and Ruminal Microbiome Responses to a Bacillus-based Direct-fed Microbial in Beef Steers**

Taylor S. Sidney ¹, Modoluwamu Idowu ², Godstime Taiwo ³, Peixin F. Fan ⁴, Ibukun M. Ogunade ⁵

¹Mississippi State University, ²Tennessee Technological University, ³New Mexico State University, ⁴Department of Animal & Dairy Sciences, Mississippi State University, ⁵West Virginia University

8:45 a.m. PS8-21 **Substantial Variability in Corn Silage Nutrient Composition Across Brazil: Importance of Routine Laboratory Analysis**

Bárbara Martins Brixner ¹, João Pedro Monteiro do Carmo ², Thamarys V. Barros Reis ³, Jonas Gabriel Dantas ⁴, Roselena Sestari ⁴, Daniel Montanher Montanher Polizel ⁵, Diogo Fleury Azevedo Costa ³, Flávio Augusto Portela Santos ³, Luiz Gustavo Nussio ⁶

¹Escola Superior de Agricultura "Luiz de Queiroz" (ESALQ) - University of São Paulo (USP),

²ESALQLAB - ESALQ/USP, ³"Luiz de Queiroz" College of Agriculture, ⁴Escola Superior de Agricultura Luiz de Queiroz, ⁵Department of Biology and Animal Science, Sao Paulo State University, Ilha Solteira, SP, Brazil., ⁶Department of Animal Science, Luiz de Queiroz College of Agriculture, University of São Paulo, Piracicaba, SP, Brazil

8:45 a.m. PS8-10 **Sustainability assessment of terminal beef production using beef × dairy straightbred calves**

Eduardo M. Paula ¹, Leticia Marra Campos ¹, Juan J. Vargas ¹, Caiki Calepso Fantini ¹, Diego Manriquez-Alvarez ¹, Pedro Carvalho ², Kim R. Stackhouse-Lawson ³, Greg Thoma ⁴, Sara E. Place ¹

¹Department of Animal Sciences, AgNext, Colorado State University, ²University of Georgia - Tifton, ³Colorado State University - AgNext, ⁴AgNext, Department of Animal Sciences, Colorado State University

8:45 a.m. PS8-7 **Swathgrazing polycrops to build cow-calf resilience and profitability in Alberta.**

Mary-Juliet N. Uwakwe ¹, Janet Nowosad ², Carien Vandenberg ², Erick Santos ¹, Obioha N. Durunna ²

¹University of Alberta, ²Lakeland College

Ruminant Nutrition 3: Amino Acid and Lipid Nutrition

Chair: Juan Llor, University of Illinois Urbana-Champaign

8:45 AM - 9:45 AM

Ballroom B

8:45 a.m. 150 **Ruminal Microbial Efficiency and Fermentation Characteristics Modeled by the Addition of Methionine, Bound Zn-methionine, or Zinc Sulfate in a Continuous Culture System**

Beatriz Reis ¹, Jhones O. Sarturi ², Bradley J. Johnson ¹, Allen McDonald ³, TJ biggs ³, Jennifer Schutz ³, Diego M. Tosta ⁴

¹Texas Tech University, ²Animal and Food Sciences, ³Global Animal Products, ⁴Ohio State University

9:00 a.m. 151 **Effects of Dried Seaweed, Micro-fused Essential Oil, and Lactobacillus Reuteri on Rumenmicrobiota and Performance of Sheep**

Oluwatobi E. Fijabi ¹, Taylor S. Sidney ², Modoluwamu Idowu ³, Sunday O. Peters ⁴, Lanre Morenikeji ⁵, Ibukun M. Ogunade ⁶, Godstime Taiwo ¹

¹New Mexico State University, ²Mississippi State University, ³Tennessee Technological University, ⁴Berry College, ⁵Virginia State University, ⁶West Virginia University

9:15 a.m. 152 **Reducing Crude Protein in Dairy Cow Diets: Effects of Metabolizable Protein Supply on Performance, Nutrient Digestibility, and Nitrogen Efficiency**

Anne Rosi Guadagnin ¹, Lydia Kroon ¹

¹Schothorst Feed Research

9:30 a.m. 153 **The Effects of By-product Meals, Hulls and Oils at Varying Inclusion Rates in Lactating Dairy Cow Tmr-based Diets on DMD, Total Gas and CH₄ Production, and Ruminal Fermentation Parameters in vitro**

Paul Tamayao ¹, Emma J. McGeough ¹, Kim H. Ominski ², Hooman Derakhshani ¹, Jan Cornelis Plazier ¹

¹University of Manitoba, ²Department of Animal Science, University of Manitoba

Animal Breeding and Genetics 3

Chair: Catherine Ernst, Michigan State University

8:45 AM - 10:00 AM

Ballroom A

8:45 a.m. 128 **Award Talk: Heritability and Repeatability of Hair Shedding in Angus Beef Cattle**

Luana P. T. Alvares ¹, Scott E. Speidel ¹, Kelli J. Retallick ², Andre Garcia ², Pedro Ramos ³, R. M. Enns ¹

¹Colorado State University, ²Angus Genetics Inc., American Angus Association, Saint Joseph, MO, USA, ³Angus Genetics Inc

9:15 a.m. 129 **A Preliminary Evaluation of the Relationship Between Winter Hair Coat Shedding Ability on Subsequent Lamb Growth Performance of Dorper Ewes**

Holley R. Sheals ¹, Abby Cooper ¹, Lexus L. Hagood ¹, Nona R. Saulnier ¹, Jessica L. Henry ¹, Davis J. McGath ¹, Emma R. Teague ¹, Dale E. McClelland ¹, Jerica J. J. Rich ¹, Randy H. Burnett ²

¹Arkansas State University College of Agriculture, ²College of Agriculture - Arkansas State University

9:30 a.m. 130 **Genetic Parameters for Traits Related to Heat Tolerance in a Crossbreed Beef Cattle Population**

Camila Santos ¹, Jay S. Johnson ², Jacob M. Maskal ¹, Troy N. Rowan ³, Lucio Mota ⁴, Joao B. Silva Neto ¹, Andre Garcia ⁵, Daniela Lourenco ⁶, Cedric Gondro ⁷, Guilherme J. M. Rosa ⁸, Luiz F. Brito ⁹, Leticia F. Oliveira ¹

¹Purdue University, ²University of Missouri, ³University of Tennessee, ⁴Department of Animal Sciences, Purdue University, ⁵Angus Genetics Inc., American Angus Association, Saint Joseph, MO, USA, ⁶Department of Animal and Dairy Science, University of Georgia, Athens, GA, USA, ⁷Department of Animal Science, Michigan State University, East Lansing, MI, USA, ⁸Department of Animal and Dairy Sciences, University of Wisconsin-Madison, Madison, WI, USA, ⁹Purdue University, West Lafayette, USA

9:45 a.m. 131 **Genome-wide DNA Methylation Profiling of in Utero Heat Stressed Gilts Genomically Selected for Heat Stress Tolerance or Sensitivity in the F3 Generation**

Jacob Musa ¹, Luiz F. Brito ², Mariah Castro Durval ³, Camila U. Braz ⁴, MaryKate H. Byrd ³, Hui Wen ⁵, Pedro H. F. H. F. Freitas ³, Francesco Tiezzi ⁶, Christian Maltecca ⁵, Yijian Huang ⁷, Allan P. Schinckel ³, Jay S. Johnson ⁸

¹University of Missouri-Columbia, ²Purdue University, West Lafayette, USA, ³Purdue University, ⁴University Of Illinois Urbana-Champaign, ⁵North Carolina State University, ⁶University of Florence - Department of Agriculture, Food, Environment, and Forestry (DAGRI), ⁷Smithfield Premium Genetics, ⁸University of Missouri

Animal Health 1

Chair: Nathan Horn, United Animal Health; Department of Animal Science, Purdue University;
Steven Zinn, University of Connecticut

8:45 AM - 10:15 AM

G-J

8:45 a.m. 121 **Comparative Genomic Analysis of Escherichia coli from Liver Abscesses, Ruminal and Colonic Epithelial Tissues of Feedlot Cattle and Human Pyogenic Liver Abscesses**

Thangam Venkatesan ¹, Raghavendra G. Amachawadi ², Harith Salih ³, T. G. G. Nagaraja ¹

¹Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, ²Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University, ³Kansas State University

9:00 a.m. 127 **Integrating sequencing, qPCR, and culture from matched liver abscesses and gut epithelial tissues in feedlot cattle reveals community-wide and Fusobacterium-specific population dynamics**

Kayla H. Hazlett ¹, Alyssa Deters ², Cory Wolfe ¹, Paul S. Morley ¹, T. G. G. Nagaraja ², Lee Pinnell ¹

¹VERO Program, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, ²Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University

9:15 a.m. 123 **Engineering Polycationic Nanopeptide-fused Endolysins to Target Mannheimia Haemolytica Associated with Bovine Respiratory Disease**

Sidra Moqaddes¹, Hechao Du², Jieting Lin¹, Jae Eun Hyun¹, Mawra Gohar¹, Alexei Savchenko¹, Kim Stanford³, Brenda J. Ralston¹, Tim A. McAllister⁴, Dongyan Niu¹

¹University of Calgary, ²College of Animal Science and Food Engineering, Jinling Institute of Technology, ³University of Lethbridge, ⁴Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

9:30 a.m. 124 **Genomic Analysis of Salmonella Enterica Serovar Lubbock from Liver Abscesses: Virulence Potential Assessment and Comparative Analysis with Strains from Lymph Nodes and Feces of Feedlot Cattle**

Hari B. Sridhar¹, Thangam Venkatesan¹, Raghavendra G. Amachawadi², T. G. G. Nagaraja¹

¹Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, ²Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University

9:45 a.m. 125 **Exploring the Relationship Between Nasal Passage Thermal Imaging and the Nasal Microbiome for Early Detection of Bovine Respiratory Disease**

Robin A. Cheek¹, Elizabeth B. Kegley², Jana L. Reynolds², Alexis J. Harness², Craig M. Looney², Jacy L. Riddle¹, Samantha M. Howe¹, Jeremy G. G. Powell³

¹University of Arkansas, ²University of Arkansas Division of Agriculture, ³Department of Animal Science, University of Arkansas

10:00 a.m. 126 **Comparative Genomics of Fusobacterium Necrophorum Reveals Subspecies-specific Antimicrobial Resistance Gene Patterns and Virulence Factor Distribution Across Bovine and Human Clinical Isolates**

Justine Kilama¹, Devin B. Holman², Raghavendra G. Amachawadi³, Carl Robertson R. Dahlen⁴, T. G. G. Nagaraja⁵, Samat Amat⁶

¹Animal Science Department, North Dakota State University, ²Lacombe Research and Development Centre, ³Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University, ⁴Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁵Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, ⁶Animal Science Department, North Dakota State University

Physiology and Endocrinology 1: General Physiology and Endocrinology

Chair: Amy Desaulniers, University of Nebraska

8:45 AM - 11:30 AM

H-I

8:45 a.m. 139 Award Talk: Integrative Physiology and Functional Genomics Reveal Novel Mechanisms Regulating Pubertal Development in Gilts

Clay A. Lents¹, Hiruni R. Wijesena¹, Dan J. Nonneman¹, Brittney N. Keel², Gary A. Rohrer², Casey C. Nestor³, Tad S. Sonstegard⁴, Stan M. Hileman⁵, Brett R. White⁶

¹USDA, ARS, US Meat Animal Research Center, ²USDA-ARS, U.S. Meat Animal Research Center,

³Department of Biomedical Sciences, Colorado State University, ⁴Acceligen Inc, ⁵Department of Physiology, Pharmacology and Toxicology and Department of Neuroscience, West Virginia University, ⁶Department of Animal Science, University of Nebraska, Lincoln

9:15 a.m. 140 Bos Indicus Heifers Have a Reduced Number of Kisspeptin- and Dynorphin-immunopositive Cells in the Arcuate Nucleus Compared to Bos Taurus Heifers

Sarah M. West¹, Lucas o. e Silva², Viviana Garza¹, Jessica F. Sustaita-Monroe¹, Leslie N. King¹, Sarah Bynum¹, George A. Perry³, Roberto Sartori⁴, Rodolfo C. Cardoso¹

¹Department of Animal Science, Texas A&M University, College Station, TX, 77843, USA.,

²Department of Animal Reproduction, Faculty of Veterinary Medicine and Animal Science, University of São Paulo (FMVZ/USP), ³Texas A&M AgriLife Research, ⁴Department of Animal Science, Luiz de Queiroz College of Agriculture, University of São Paulo (ESALQ/USP), Piracicaba, SP, 13418-900, Brazil.

9:30 a.m. 141 Relationship Between Vaccination Treatment and Cortisol Concentration in Bos Indicus and Bos Indicus-influenced Cattle After Vaccination with a Modified-live Viral Vaccine

Haley N. Weidman¹, Abigail E. Roberts¹, Kira C. Sayre², Charles R. Long¹, Thomas H. Welsh³, Alexandria P. Snider⁴, George A. Perry⁵

¹Texas A&M AgriLife, Overton, ²Texas A&M, ³Texas A&M University, ⁴U.S. Meat Animal Research Center, USDA-ARS, ⁵Texas A&M AgriLife Research

9:45 a.m. 142 Maternal Factors and Calving Season Affect Immune Phenotype of Beef Calves Sired by Bulls Selected for Moderate and High Growth

Janeen L. Salak-Johnson¹, Alexis R H Main², Christopher Chase³

¹Michigan State University College of Veterinary Medicine, ²Oklahoma State University, ³South Dakota State University

10:00 a.m. Physiology and Endocrinology 1: General Break

10:15 a.m. 143 Award Talk: Nutrition as a Regulatory Signal in Dairy Management

Juan Loo¹

¹University of Illinois Urbana-Champaign

10:45 a.m. 144 **Impact of Weaning Stress, Maternal Age, and Genetic Selection on Gut Microbiome in Beef Steer Calves**

Janeen L. Salak-Johnson ¹, Alexis R H Main ², Megan L. Justice ²

¹Michigan State University College of Veterinary Medicine, ²Oklahoma State University

11:00 a.m. 146 **Methionine Hydroxy Analogue Bis-Chelates Expedite Metabolic Recovery From An LPS Induced Inflammatory Challenge**

Jesus A. Acosta Camargo ¹, Laura Payling ², Maria C. Walsh ², Bradley V. Lawrence ³, Luis F. Romero ², Marisol Castillo ¹, Deana Hancock ¹

¹Novus International Inc, ²Biofractal, ³Novus International Inc.

**Companion Animal Symposium 1: Drivers of Food Choice Preference - Sponsored by
Champion Petfoods**

Chair: James Templeman, Rangen Group

9:00 AM - 12:00 PM

Ballroom D

9:00 a.m. **Companion Animal Symposium 1 Introduction**

9:15 a.m. 117 **The Role of Genetics and Environment in the Determination of Sensory Preferences**

Nancy E. Rawson ¹

¹Monell Chemical Sense Center

9:45 a.m. 118 **Viral vs empirical: Informing pet parents how to make appropriate pet food purchasing decisions and tackling nutritional misinformation**

Aulus C. Carciofi ¹

¹São Paulo State University

10:15 a.m. **Companion Animal Symposium 1 Break**

10:30 a.m. 119 **Olfactory Drivers of Food Preference: Adapting Sensory Analysis for Dogs**

Nathaniel J. Hall ¹

¹Texas Tech University

11:00 a.m. 120 **What We (think We) Understand About Palatability Testing and Where We Go from Here?**

Kadri Koppel ¹

¹Mars Pet Nutrition

11:30 a.m. **Companion Animal Symposium 1 Round Table Discussion**

Novonesis' Feed Smarter Symposium: Advancing Probiotic Science Across Cattle Systems
- Sponsored by Novonesis

Chair: Bruno Cappelozza, Novonesis; Reinaldo Cooke, Texas A&M University

9:00 AM - 5:15 PM

Lecture Hall

9:00 a.m. **Symposium Introduction**

9:05 a.m. 167 **Feed Smarter: Probiotics in Beef and Dairy Cattle: Where Are We Really?**

Todd Callaway ¹, Alexis H. Rooks ¹, Hunter G. Perez ¹, Donald Holupka ¹, Pedro Carvalho ², Francis L. Fluharty ³

¹University of Georgia, ²University of Georgia - Tifton, ³Department of Animal and Dairy Science, University of Georgia

9:40 a.m. 168 **Effects of Bacillus-based and Active Dry Yeast Microbials Supplementation on Intake, Digestibility, and Ruminant Fermentation Parameters of Rumen-cannulated Angus Heifers Fed a Corn-silage-based Diet**

Arnaldo Limede ¹, Rodrigo Marques ¹, Fernando Cidrini ¹, Erollykens F. Santos ¹, Frank Even ¹, Bruno I. Cappelozza ²

¹Virginia Tech, ²Novonesis

9:55 a.m. 169 **Feed Smarter: Bacillus-based Direct-fed Microbial Supplementation in Cow-calf Systems**

Philippe Moriel ¹, Vinicius S. Izquierdo ¹, Julio Berwanger ², Frank Even ³

¹University of Florida, IFAS/Range Cattle Research and Education Center, ²University of Florida | IFAS, Range Cattle Research and Education Center, ³Virginia Tech

10:30 a.m. **Symposium AM Break**

10:45 a.m. 170 **Influence of Bacillus-dfm and Hydroxy Trace Minerals on in vitro Digestibility Parameters of Grass Hay**

FERNANDO P. de Paula LEONEL ¹, Bruno I. Cappelozza ², Davi Brito De Araujo ³, Julia Travassos da Silva ⁴, Julia Baroni Alves ⁵, Natasha B. Bedresdke Petrenko ⁵, Huey Yi Loh ⁵, Arturo Rodezno Gomez ⁵, Libby Heenan ⁵, Terry E. Engle ⁵

¹Federal University of São João del Rei - UFSJ/Colorado State University, ²Novonesis, ³Nutreco Nederland - Selko, ⁴Department of Animal Science, Texas A&M University, ⁵Colorado State University

11:00 a.m. 171 **Feed Smarter: Bacillus Based Direct Fed Microbial Supplementation Improves Feed Intake and Reduces Stress Markers in Feeder Calves**

Rodrigo Marques ¹

¹Virginia Tech

11:35 a.m. 172 Supplementing a Bacillus-based Probiotic to Mitigate Frothy Bloat in Beef Cattle Receiving a High-concentrate Diet

Izadora de Souza ¹, Reinaldo F. Cooke ¹, Guilherme F. Monteiro ¹, William Souza ¹, Renata M.S. Suñé ², Bruno I. Cappelozza ³

¹Texas A&M University, ²UFPEL, ³Novonesis

11:50 a.m. Symposium Lunch Break

1:30 p.m. 173 Feed Smarter: Supplementation of Bacillus and Other Microbial-derived Feed Additives and Their Impact on Finishing Cattle Production

Zachary Smith ¹, Federico Podversich ²

¹South Dakota State University, ²Department of Animal Science, South Dakota State University

2:05 p.m. 174 Effects of Feeding a Bacillus-based Probiotic on Performance of Feedlot Cattle Offered a High-concentrate Diet Supplemented with Sodium Monensin

Juan Bollatti ¹, Federico Bernardi ¹, Ramiro Andreola ¹, Fernando Clemente ², Melina Briosso ², Oscar Queiroz ², Bruno I. Cappelozza ²

¹Biofarma, ²Novonesis

2:20 p.m. 175 Influence of Bacillus-dfm and Trace Minerals Sources on in vitro Digestibility Parameters of a Feedlot Diet

Fernando P. de Paula Leonel ¹, Bruno I. Cappelozza ², Davi Brito De Araujo ³, Julia Travassos da Silva ⁴, Julia Baroni Alves ⁵, Natasha B. Bedresdke Petrenko ⁵, Huey Yi Loh ⁵, Arturo Rodezno Gomez ⁵, Terry E. Engle ⁵

¹Federal University of São João del Rei - UFSJ/Colorado State University, ²Novonesis, ³Nutreco Nederland - Selko, ⁴Department of Animal Science, Texas A&M University, ⁵Colorado State University

2:35 p.m. 176 Award Talk: Probiotics as Immunomodulator in Beef Cattle Exposed to Stress Challenges

Reinaldo F. Cooke ¹

¹Texas A&M University

3:10 p.m. 177 Supplementing a Bacillus-based Probiotic to Mitigate Acidosis in Beef Cattle Consuming a High-concentrate Diet

Izadora de Souza ¹, Reinaldo F. Cooke ¹, Guilherme F. Monteiro ¹, William Souza ¹, Renata M.S. Suñé ², Bruno I. Cappelozza ³

¹Texas A&M University, ²UFPEL, ³Novonesis

3:25 p.m. Symposium PM Break

3:40 p.m. 178 **Feed Smarter: Probiotics to Improve Nutrient Digestibility in Dairy Cows**

Luiz Ferraretto ¹

¹University of Wisconsin-Madison

4:15 p.m. 179 **Effects of Incubating *Bacillus Paralicheniformis* 809 and *Bacillus Subtilis* 810 on in vitro Nutrient Disappearance of Feedstuffs and Total Mixed Rations Commonly Used in European Dairy Systems**

Ivan Eisner ¹, Egil Prestløkken ², Elise Hatch Fure ³, Hassan Z. Z. Taweel ⁴, Paolo Fantinati ¹, Oscar Queiroz ¹, Bruno I. Cappellozza ¹

¹Novonesis, ²Norwegian University of Life Sciences, ³Norwegian University of Life Sciences (NMBU), ⁴ForFarmers Group

4:30 p.m. 180 **Probiotics to transition and lactating dairy cows**

José Eduardo E. P. Santos ¹

¹University of Florida

5:05 p.m. **Symposium Closing**

Joao M. B. Vendramini ¹

¹Texas A&M AgriLife Research

Poster Session 9

10:00 AM - 11:00 AM

Grand Terrace

10:00 a.m. PS9-2 **Association between temperament and serum metabolomics in feedlot Nellore cattle**

Leticia K. Kim Huang ¹, Leticia Carolina Bortolanza Soares ², Patricia Maloso Ramos ³, Fabiana Ayumi A. Shiozaki ⁴, Eduardo Solano Pina Santos ⁴, Brenda Santos Oliveira ⁴, Germán D. Ramírez-Zamudio ⁵, Nara Regina Brandão Cônsolo ⁶, Paulo Roberto Leme ⁴, Saulo da Luz Silva ⁴

¹Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Department of Animal Science, Texas A&M University, College Station, TX, ²Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND,

³Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), ⁴Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil, ⁵University of São Paulo, Pirassununga, Brazil, ⁶Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

10:00 a.m. PS9-12 **Comparison of Fecal Microbial Composition and Plasma Metabolome Between Dairy and Meat Goats**

Sola J. Ikuejamoye-Omotore ¹, Zaira Estrada-Reyes ¹, Raheem D. Murray ¹, Eva Grace Dennett ¹, Kamari D. King ¹, Mustafa Hitit ¹, Trinity Wilson ¹, Keenan Hardy ², Faran Atkins ², Crystal Roberts ², Negusse F. Kidane ³, Andres Alfredo Pech Cervantes ²

¹College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446., ²College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446, ³Prairie View A&M University

10:00 a.m. PS9-13 **Dietary Ergovaline Concentrations Did Not Alter Responses to Haemonchus contortus Infections in Hair Sheep**

Andrew Milsom ¹, Emily Reynolds ², Dan Quadros ¹

¹University of Arkansas System Division of Agriculture, ²University of Arkansas

10:00 a.m. PS9-3 **Differential protein abundance analysis in the Longissimus thoracis muscle of Nellore beef calves in response to creep-feeding**

Gabriel L. N Liberal ¹, Glauder R. Lago ¹, Gustavo L. B. Tinoco ¹, Juliana A. Torrecilhas ², Lucas R. Marques ², Laura S. Andrini ², Lucas A. P. da Costa ², Gustavo R. Siqueira ³, Flávio D. Resende ³, Guilherme L. Pereira ⁴, Rogério A. Curi ²

¹São Paulo State University (UNESP), School of Agricultural and Veterinary Sciences (FCAV),

²São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ),

³Agência Paulista de Tecnologia dos Agronegócios, ⁴São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, SP, Brazil

10:00 a.m. PS9-1 **Early Growth and Wooden Breast Pathology**

Hailey S. Hoffman ¹, Shamdeed Kabir ¹, Behnam Abasht ¹

¹University of Delaware

10:00 a.m. PS9-14 **Effect of Dietary Flaxseed Inclusion on Meat Quality Traits of Texel-crossbred Lambs Finished in Feedlot**

Noelia Centurión ¹, Maria Sol Villaverde ², Marcela Martinez ², Rodrigo D. Bravo ², Santiago Ferreyra ³, Leopoldina Scotti ⁴, Nicolás Juliano ³, Alejandro A. Palladino ⁵, Einar Vargas-Bello-Perez ⁶, Nicolas DiLorenzo ⁷, Florencia Miccoli ⁸

¹Facultad de Ciencias Agrarias, Universidad Nacional de Lomas de Zamora (FCA, UNLZ).,

²Departamento de Agronomía, Universidad Nacional del Sur, Bahía Blanca, Buenos Aires,

Argentina, ³Facultad de Ciencias Agrarias, Universidad Nacional de Lomas de Zamora (FCA,

UNLZ), ⁴Centro de Investigación y Transferencia del Noroeste de Buenos Aires (CITNOBA),

Argentina, ⁵Consejo Nacional de Investigaciones Científicas (CONICET), ⁶Facultad de Zootecnia y

Ecología, Universidad Autónoma de Chihuahua, Chihuahua, México, ⁷University of Florida,

⁸Instituto de Investigación, Producción Agropecuaria, Ambiente y Salud (IIPAAS), Argentina

10:00 a.m. PS9-15 **Effect of Direct-fed Microbial Additives on Days on Feed to Slaughter Weight, Carcass, and Wholesale Cut Yields from Light or Heavy Body Weight, Intact or Castrated Crossbred Lambs**

Alexandra A. Virella ¹, Natalia A. Afanador-Mayer ¹, Luis C. Solorzano ¹, Camilo Almeyda ², Katherine A. Domenech ¹, Abner A. Rodriguez ¹

¹University of Puerto Rico, ²ADM Nutrition Puerto Rico

10:00 a.m. PS9-10 **Effect of Dried Seaweed (*Ascophyllum Nodosum*) on Performance and Plasma Metabolomics of Sheep**

Ken'derrian Pate ¹, Yariana Woody ¹, Ivory Smith ¹, Oluwatobi E. Fijabi ², Brou Kouakou ¹, Adel R. Moawad ¹, Ibukun M. Ogunade ³, Godstime Taiwo ²

¹Fort Valley State University, ²New Mexico State University, ³West Virginia University

10:00 a.m. PS9-11 **Effect of Including *Leucaena*, *Gliricidia*, and *Guazuma* Leaves on Intake, Digestibility, and Methane Emission in Sheep**

Luis Corona Gochi ¹, Yasmani Caro-Ríos ², Sebastián Mata-Cruz ¹, José Moises Talamantes-Gómez ¹, María Fernanda Vázquez-Carrillo ¹, Armir Romero-Pérez ¹

¹Universidad Nacional Autónoma de México, ²Instituto de Ciencia Animal

10:00 a.m. PS9-16 **Effect of Red Algae (*Asparagopsis Taxiformis*) Supplementation on Rumen Antimicrobial Resistance Gene Abundances in Goats Fed Two Forage Diets**

Amlan Kumar Patra ¹, Ryszard Puchala ¹, Dereje T. Tadesse ¹

¹American Institute for Goat Research, Langston University

10:00 a.m. PS9-17 **Effects of Copper Oxide Wire Particles and Selected Botanicals for Gastrointestinal Parasite and Heat Stress Management in Spanish Goats**

Sonibare O. Adekayode ¹, Kourtney Brown ¹, Dereje T. Tadesse ¹, Hirut Y. Yirga ¹, Amlan Kumar Patra ¹, Ryszard Puchala ¹

¹American Institute for Goat Research, Langston University

10:00 a.m. PS9-4 **Effects of duodenal infusion of glutamate, leucine and lysine on the expression of genes related to lipid metabolism in beef cattle**

Marcio M. Ladeira ¹, Ariel T. R. Alves ¹, Andrey S. Miranda ², Erick D. Batista ³, José Maria Oliveira ⁴, Felipe C. Maciel ², Ligia F. Souza ¹, Artur Horta ¹, Paola Moutinho ¹

¹UFLA, ²University of Lavras, Brazil, ³Universidade Federal de Lavras, ⁴Illinois of University

10:00 a.m. PS9-24 **Effects of Early-gestational Parenteral Iron Administration on Maternal Iron Biomarkers in Prolific Sows Under Commercial Conditions**

Katlyn A. McClellan ¹, Darcy Pamulaklakin ¹, Courtney Pohlen ¹, Eric M. Weaver ¹

¹South Dakota State University

10:00 a.m. PS9-5 **Effects of high-pressure processing holding time on oxygen consumption and metmyoglobin reducing activity of dark-cutting steaks**

Minha Arankuny¹, Kaden Sherrell², Leila Venzor², Gary A. Sullivan², Mary-Grace Danao², Jordan Wick², Gretchen G. Mafi¹, Morgan Pfeiffer¹, Sunil More¹, Ranjith Ramanathan¹

¹Oklahoma State University, ²University of Nebraska-Lincoln

10:00 a.m. PS9-25 **Effects of Skipped Mating at the First Post-weaning Estrus on Reproductive Outcomes of First Parity Sows and Lifetime Offspring Performance**

Samuel Berrio¹, Pedro E. Urriola¹, Mike J. Boerboom², Jeff S. Knott³, Kelsey L. Hammers³, Lee J. Johnston¹

¹University of Minnesota, ²Boerrboom Ag Resources, ³Ideal Nutrition

10:00 a.m. PS9-18 **Enteric Methane Emissions in Mature Spanish Goats as Affected by Red Algae (*Asparagopsis taxiformis*), Concentrate Level, and Forage Type**

Dereje T. Tadesse¹, Amlan Kumar Patra¹, Sonibare O. Adekayode¹, Hirut Y. Yirga¹, Ignacio Tovar-Luna¹, Gemechu Taffa¹, Arthur L. Goetsh¹, Lionel J. Dawson¹, Ryszard Puchala¹

¹American Institute for Goat Research, Langston University

10:00 a.m. PS9-26 **Estimates of Genetic Parameters for Enteric Gas Fluxes in US Beef Cattle**

Ligia Cavani¹, Scott Zimmerman¹, Sara Nilson², John Genho², Victor Pedrosa³

¹C-Lock Inc., ²Neogen Corp., ³Neogen Corporation, Biotechnology Research

10:00 a.m. PS9-19 **Evaluating Effect of Probiotic Strains Supplementation in Pre and Peri-weaned Goats on Immune Health, Growth Rate, Microbial Composition and Abundance Using Shotgun Metagenomics**

Eunice Ndegwa¹, Kim Chyer¹

¹Virginia State University

10:00 a.m. PS9-20 **Evaluation of Post-cryopreservation Recovery of Mammalian Cells Frozen at Four Different Temperatures for a Month**

Mahipal Singh¹, Xiaoling Ma¹, Lauryn Nelson¹, Courtney Henry¹

¹Fort Valley State University

10:00 a.m. PS9-6 **Exploratory lipidomics reveals factors affecting tenderness and intramuscular fat variation in Nellore beef**

Juliana A. Torrecilhas¹, Gabriela B. C. Lima², Welder A. Baldassini³, Clara E. Costa³, Alexandre S. Losi Filho³, Matheus S. A. Santos³, Leonardo R. Petri⁴, Rogério A. Curi¹, Otávio R. Machado Neto³, Christina R. Ferreira⁵, Luis A. L. Chardulo²

¹São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ),

²São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, SP, Brazil, ³School of Veterinary Medicine and Animal Science (FMVZ), São Paulo State University (UNESP), ⁴São Paulo State University (UNESP), Jaboticabal, São Paulo, Brazil,

⁵Purdue University

10:00 a.m. PS9-21 **Impacts of Saline Water on Intake and Milk Production in Alpine Goats**
Hirut Y. Yirga¹, Dawit Woldemariam¹, Ryszard Puchala¹, Dereje T. Tadesse¹, Amlan Kumar Patra¹, Carlos Alvarado¹, Sonibare O. Adekayode¹

¹American Institute for Goat Research, Langston University

10:00 a.m. PS9-22 **Influence of Birth Type on Biochemical Indicators of Passive Transfer of Immunity in Lambs**

Maria Clara Fernandes Barrada¹, Larissa Mardones², Laiza Vitória Oliveira Campos¹, Iasmin Sanches¹, Maria Eduarda Gomes¹, Yasmin Moraes¹, Thainara Falcão¹, Clauber Braga¹, Bruno Altoe¹, Igor Pereira¹, Marco Túlio Costa Costa Almeida¹

¹Universidade Federal do Espírito Santo, ²University of Wisconsin-Madison

10:00 a.m. PS9-23 **Pregnancy Losses Associated with Hormonal Factors in Beef Cows: A Systematic Review and Meta-analysis**

German Sanabria¹, Eduarda R. Anhaia¹, Giovana S. Giacomelli¹, Julio Otavio Barcellos²

¹Department of Animal Science, Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil, ²Beef Cattle Center for Research on Systems of Beef Cattle Production-NESPRO-UFRGS

10:00 a.m. PS9-7 **Proteomic analysis reveals change in the lipid metabolism of muscle in beef cattle submitted to early weaning and pasture finished**

Juliana A. Torrecilhas¹, Gabriel L. N Liberal², Gabriela B. C. Lima³, Luis A. L. Chardulo³, Philippe Moriel⁴, Hugo Osório⁵, Marcos E. Buzanskas⁶, André M. Almeida⁷, Irene Reis⁸, Guilherme L. Pereira³

¹São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ),

²São Paulo State University (UNESP), School of Agricultural and Veterinary Sciences (FCAV),

³São Paulo State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, SP, Brazil, ⁴University of Florida, IFAS/Range Cattle Research and Education Center,

⁵IPATIMUP – Institute of Molecular Pathology and Immunology of the University of Porto, University of Porto, 4200-135 Porto, Portugal, ⁶Unesp, ⁷LEAF – Linking Landscape, Environment,

Agriculture and Food Research Center, Associate Laboratory TERRA, Instituto Superior de Agronomia, Universidade de Lisboa, Tapada da Ajuda, 1349-017 Lisboa, Portugal, ⁸Colorado State University

10:00 a.m. PS9-27 **Repeatability of Colostrum Quality Measures in Sows Across Two Parities**

Simon A. Collier¹, Andrea M. Luttman¹, Nancy E. Raney¹, Catherine W. Ernst¹

¹Michigan State University

10:00 a.m. PS9-8 **Residual Feed Intake Divergence Affects Carcass Traits, Meat Quality, and Muscle Multi-omics Profiles in Feedlot-finished Nellore Bulls**

Welder A. Baldassini ¹, Alexandre S. Losi Filho ¹, Matheus S. A. Santos ¹, Diogo O. G. Tomazela ¹, Murilo S. Magistri ², Nara Regina Brandão Cônsolo ³, Vinicius L. S. Herreira ², Luiz A. Colnago ⁴, Leonardo R. Petri ⁵, Lucas A. Camargo ⁶, Otávio R. Machado Neto ¹, Luis A. L. Chardulo ⁷

¹School of Veterinary Medicine and Animal Science (FMVZ), São Paulo State University (UNESP),

²School of Veterinary Medicine and Animal Science, University of São Paulo (USP), ³Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science,

University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil, ⁴EMBRAPA

Instrumentação, ⁵São Paulo State University (UNESP), Jaboticabal, São Paulo, Brazil, ⁶School of

Agricultural and Veterinary Sciences (FCAV), São Paulo State University (UNESP), ⁷São Paulo

State University (UNESP), School of Veterinary Medicine and Animal Science (FMVZ), Botucatu, SP, Brazil

10:00 a.m. PS9-28 **Using Neonatal Piglet Hair to Explore Potential Connections Between Sow Stress and Prenatal Stress**

Andrea M. Luttman ¹, Nancy E. Raney ¹, Catherine W. Ernst ¹

¹Michigan State University

10:00 a.m. PS9-9 **Vitamin E and Glutamine Mitigate Heat Stress-induced Cellular Damage and Preserve Myogenesis in Bovine Muscle-derived Cells**

Bo-Mi Kim ¹, Xue-Cheng Jin ¹, Jun-Hee Lee ², Hye-Sun jung ¹, Won-Seob Kim ³, Hong-Gu Lee ¹

¹Konkuk University, ²Konkuk university, ³Daegu University

Ruminant Nutrition 4: Enhancing Feedlot Performance

Chair: Kara Thornton, Utah State University

10:00 AM - 12:15 PM

Ballroom B

10:00 a.m. 154 **Effects of Feed Additives on Intake, Growth Performance, and Health Responses of Receiving Feedlot Cattle**

João Guilherme Petter Mittelstedt ¹, Felipe Biazotto ², Felipe Fonseca Nassar ², Artur G. G. Pilati ², Vitoria Aparecida M. Ribeiro ², Avianna Liuzzo ², Juan M. Piñeiro ², Matthew R. Beck ³, Vinicius N. N. Gouvea ¹

¹Texas A&M, ²Texas A&M University Department of Animal Science, ³Texas A&M University

10:15 a.m. 155 **Dry Matter Intake Prediction of Cattle Fed High-grain Diets Improves When Using Predictors Describing Degree of Finish**

Federico Podversich ¹, Alfredo DiCostanzo ², Zachary Smith ³

¹Department of Animal Science, South Dakota State University, ²UNL Extension, ³South Dakota State University

10:30 a.m. 156 **Influence of Accelerated Feedlot Diet Adaptation, with or Without a Calcareous Algae Rumen Buffer Additive, on Growth Performance, Liver Abscess Prevalence, and Carcass Traits of Beef × Dairy Steers**

Sydney M. Bowman-Schnug¹, Erin N. Burke¹, Ashley K. Schilling-Hazlett¹, Cesar A. Velasquez Rios¹, Benjamin A. Wenner², Kim R. Stackhouse-Lawson¹, Pedro Carvalho³

¹Colorado State University - AgNext, ²Feedworks USA, Ltd., ³University of Georgia - Tifton

11:00 a.m. **Ruminant Nutrition 4: Enhancing Feedlot Performance Break**

11:15 a.m. 158 **Evaluation of Feed Additives Combinations with Monensin on Performance of Finishing Beef Cattle**

Jessica Gusmao¹, Rodrigo Pacheco², Victor Campanelli¹, Izabela Faria¹, Renan Carlos Santos¹, Rafael Cervieri³, Pedro Henrique Terêncio¹, Tadeu Eder da Silva⁴, Thiago Henrique Silva¹

¹Campanelli Innovation Center, ²Beefix Innovation e Solutions, ³Nutribeef, ⁴University of Vermont

11:30 a.m. 159 **Effects of Dietary Crude Protein Concentration and Urea Source on Nitrogen Utilization in Finishing Nellore Bulls**

Renato Luís de Paula¹, Rayane Aparecida A. Lino¹, Gabriela Dias Rezende¹, Júlia Mara Campos Souza¹, Javier Martin-Tereso², Isabela P.C.de Pena Carvalho de Carvalho², Erick D. Batista¹

¹Universidade Federal de Lavras, ²Trouw Nutrition R&D

11:45 a.m. 160 **Effects of replacing corn silage with alternative roughages in grain-based diets fed to beef steers**

Ingrid L. B. Fernandes¹, Tara L. Felix¹

¹Pennsylvania State University

12:00 p.m. 161 **Performance and Carcass Responses of Feedlot Beef Heifers Fed a Magnesium Oxide Blend**

Richardson C. Torres¹, Tathiane R. R.S Gionbelli², Rosana RUEGGER³, Josselin Le Cour Grandmaison³, Rogelio Gomez⁴, Isaac Perez Bello⁵, Mateus P. Gionbelli¹

¹University of Lavras, Brazil, ²Federal University of Lavras, ³Terresis Agriculture, ⁴Rogan Soluciones Ganaderas, ⁵SERVIPEQ

Animal Breeding and Genetics 4

Chair: Sunday Peters, Berry College

10:15 AM - 11:30 AM

Ballroom A

10:15 a.m. 132 **Identification of Candidate Genes Associated with Weaning Weight in Simmental Cattle**

Rieko S. Wilford¹, Henrique A. Mulim-McCarthy¹, Hinayah Rojas de Oliveira¹

¹Purdue University

10:30 a.m. 133 **Impact of Breed Type on Gene Expression During Muscle Development in Bos Taurus or Bos Indicus-influenced Cattle**

Lillian Okamoto¹, Aaron Thomas¹, Kara J. Thornton¹

¹Utah State University

10:45 a.m. 134 **Preconceptional Maternal Nutrition Affects Postnatal Growth Performance in Singleton Female Lambs**

Amanda Davis¹, Cesar A. Rosales-Nieto², Almudena Veiga-Lopez³, Barbara Makela⁴, Richard A. Ehrhardt⁵

¹Texas State University, ²Department of Agricultural Sciences, Texas State University, San Marcos, ³Department of Pathology, University of Illinois Chicago, IL, ⁴Department of Animal Science, College of Agriculture and Natural Resources, Michigan State University, ⁵Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University

11:00 a.m. 137 **Investigating the Relationship Between Service Sire Effects from Heifer Pregnancy Evaluations and Semen Quality Traits in Angus Bulls**

Matthew G. Kinghorn¹, Danielle M. Ellinghuysen¹, Jorge Hidalgo², Trevor Hefley¹, Michael D. MacNeil³, Jennifer M. Bormann¹, Robert L. Weaber¹, Megan M. Rolf¹

¹Kansas State University, ²University of Georgia, Athens, GA, USA, ³Delta G

11:15 a.m. 136 **Used but not useless: reusing CIDRs in 7 day estrous synchronization programs of beef cows**

Lucas C. S. Branco¹, Amanda G. Silva², Enrico Padula³, Juliet Henning¹, Payton Griffin⁴, Raquel F. Oliveira², Gabriela L. Dasqueve², Luisa A. Alegro⁵, Michael F. Smith³, Thiago Martins⁶, Cecilia C. Rocha⁷

¹Division of Animal Sciences, Southwest Research, Extension, and Education Center, University of Missouri, ²Department of Animal Reproduction, School of Veterinary Medicine and Animal Science, University of São Paulo, ³Division of Animal Sciences, University of Missouri, ⁴School of Agriculture, Missouri State University, ⁵Department of Animal Science, North Carolina State University, ⁶University of Missouri, ⁷Division of Animal Sciences, Southwest Research Extension and Education Center, University of Missouri

Poster Session 10

11:15 AM - 12:15 PM

Grand Terrace

11:15 a.m. PS10-21 **Assessment of Kentucky Small Ruminant Producer Adoption and Perceptions of Legumes for Parasite Control**

Elizabeth Workman¹, Sarah N. Carr¹, Niyigena Valens¹, Abbigail R. Hines¹

¹Kentucky State University

11:15 a.m. PS10-6 **Does Dietary Guanidinoacetic Acid and Rumen-protected Methionine Supplementation Improve Performance and Carcass Traits of Beef Finishing Steers?**

Madeline J. McLennan¹, Emily Knapper¹, Walmir Silva¹, Michael A. Steele², Katherine M. Wood², Nicola Serão³, Vivienne Inhuber⁴, Mateus P. Gionbelli⁵, Marcio S. Duarte⁶

¹Department of Animal Biosciences, University of Guelph, ²University of Guelph, ³StatsGaze Data Science Solutions, ⁴Alzchem Trostberg GmbH, ⁵University of Lavras, Brazil, ⁶Federal University of Viçosa / University of Guelph

11:15 a.m. PS10-4 **Effect of Mutating Porcine CYP17A1 for Altering Pregnenolone Metabolism to Control Boar Taint**

Alyssa Lini¹, Christine Bone¹, E. James Squires¹

¹University of Guelph

11:15 a.m. PS10-20 **Effect of Sesame Plant Silage Level on in vitro Digestibility, Ruminal Fermentation, and Methane Production**

Luis Corona Gochi¹, Karla Ximena Ávila-Juárez¹, Esteban Julián Mireles-Martínez², José Alonso-Galeana², Sebastián Mata-Cruz¹, José Moises Talamantes-Gómez¹, Águeda García-Pérez¹, Claudia Márquez-Mota¹, María Fernanda Vázquez-Carrillo¹, Armir Romero-Pérez¹

¹Universidad Nacional Autónoma de México, ²Universidad Autónoma de Guerrero

11:15 a.m. PS10-3 **Effectiveness of Computer Vision to Quantify Piglet Backtest Behavior**

Gloria Sunderland¹, Mamunur Rahman², Sandra L. Rodriguez Zas¹, Isabella C. F. S Condotta¹

¹University of Illinois Urbana-Champaign, ²Department of Animal Sciences, University of Illinois Urbana-Champaign

11:15 a.m. PS10-17 **Effects of Fermented Pomegranate Pomace with Clostridium Butyricum on the Systemic Immunity of Weaned Piglets Challenged with F18 Enterotoxigenic Escherichia coli**

Jinuk Nam¹, Shuhan Sun¹, Youngmin Park¹, Yating Zhao¹, Weizhang Wen¹, Shangjun Wang¹, Xueqi Wang¹, Jinmu Ahn², Yonggu Kang², Minhong Song³, Boon-Ling Yeo¹, Yi Wang¹, Peng Ji¹, Yanhong Liu¹

¹University of California, Davis, ²Chungnam National University

11:15 a.m. PS10-13 **Effects of Low-protein Amino Acid-balanced Diets on Growth Performance, Protein Metabolism-related Gene Expression, and Gut Microbiota Structure in Yellow-feathered Chickens**

Xinyue Liang¹, Sai Zhang¹, Jinling Ye¹, Yujie Huang¹, Dong Ruan¹

¹Institute of Animal Science, Guangdong Academy of Agricultural Sciences

11:15 a.m. PS10-16 **Effects of Short Chain Fatty Acids Derivatives on Local Recruitment of Intestinal Immune Cells and Gene Expression of Weanling Pigs Challenged with F4 and F18 Enterotoxigenic Escherichia coli**

Shuhan Sun ¹, Sangwoo Park ¹, Yating Zhao ¹, Youngmin Park ¹, Linh Truong ¹, Jinuk Nam ¹, Supatirada Wongchanla ¹, Peng Ji ¹, Xunde Li ¹, Yanhong Liu ¹

¹University of California, Davis

11:15 a.m. PS10-23 **Genomic identification of the most common sheep gastrointestinal nematodes in Missouri**

Md. Imranuzzaman ¹, Chao Ke ¹, Joel Gutierrez ¹, Tumen Wuliji ¹, Mohan Acharya ¹

¹Lincoln University

11:15 a.m. PS10-18 **Ileal Amino Acid Digestibility and Digestible Energy in Bakery Byproducts Fed to Nursery Pigs**

Hee Eun Oh ¹, Yoon Soo Song ¹, Hyunseok Do ¹, Yeojin An ¹, Beob Gyun Kim ¹

¹Konkuk University

11:15 a.m. PS10-11 **Impact of Grazing on the Residue Structure of an Oat-vetch Cover Crop in Integrated Crop-livestock Systems**

Pamela Yanina Giles ¹, María Agustina Ressa ¹, María Victoria Errobidart ¹, Javier Freddi ¹, Sonia Arias ²

¹Agronomy Faculty, UNICEN, ²Departamento de Producción Animal, Facultad de Agronomía, Universidad Nacional del Centro de la Provincia de Buenos Aires, Argentina

11:15 a.m. PS10-27 **Integrating Multi-Frequency Bioelectrical Impedance and Machine Learning for Pregnancy Detection in Sheep**

Abdallah M. Shahat ¹, Aslam Abubakari ¹, Aftab Siddique ¹, Ivory Smith ¹, Yariana Woody ¹, Ken'derrian Pate ¹, David Shapiro-Ilan ², Brou Kouakou ¹, Thomas H. Terrill ¹, Adel R. Moawad ¹

¹Fort Valley State University, ²USDA, Byron

11:15 a.m. PS10-15 **Nitrogen Balance in Growing Pigs Fed Diets Containing Varying Levels of Standardized Ileal Digestible Threonine and Soybean Hulls**

Mariana G. Lacerda ¹, Kallita L. S. Cardoso ¹, Gabriela R. Silva ¹, Elisa A. Nogueira ¹, Vanessa P. Abreu ¹, Amoracyr J. C. Nuñez ¹, Allan P. Schinckel ², Luiz F. Brito ³, Aline S.M. Cesar ⁴, Vivian V. Almeida ¹

¹Federal University of Goiás, ²Purdue University, ³Purdue University, West Lafayette, USA,

⁴University of São Paulo, Piracicaba, Brazil

11:15 a.m. PS10-9 **Nutrient Return and Animal Performance from Dairy Heifers Raised in Contrasting Meadow Fescue Grazing Systems**

David Jaramillo ¹, Lais Lima ², Lisa Bauman ¹

¹USDA-ARS, ²University of Florida

11:15 a.m. PS10-28 Performance and Harvest Traits of Boer and Boer x Spanish Growing Goats Fed Diets with Different Concentrate Levels

Ignacio Tovar-Luna ¹, Wei Wang ¹, Ryszard Puchala ¹, Amlan Kumar Patra ¹, Dereje T. Tadesse ¹, Hirut Y. Yirga ¹, Sonibare O. Adekayode ¹, Arthur L. Goetsh ¹

¹American Institute for Goat Research, Langston University

11:15 a.m. PS10-19 Prediction Models for in vitro Nutrient Disappearance of Fish Meal for Pigs

Yejin An ¹, Anh Ngoc Thi Dang ¹, Beob Gyun Kim ¹

¹Konkuk University

11:15 a.m. PS10-5 Predictive Modeling for Reproductive Potential of Gilts Using Vaginal Microbiomes

Thomas W. Hicks ¹, Lauren Fletcher ¹, Bojing Li ¹, Xiaoshu Zhan ², Dan Tulpan ¹, Julang Li ¹

¹University of Guelph, ²Foshan University

11:15 a.m. PS10-26 Retail Meat Cut Yield and Meat Quality of Light Weight and Heavy Weight, Intact or Castrated Crossbred Lambs Fed Diets Containing Direct-fed Microbial Additives

Alexandra A. Virella ¹, Natalia A. Afanador-Mayer ¹, Luis C. Solorzano ¹, Camilo Almeyda ², Katherine A. Domenech ¹, Abner A. Rodriguez ¹

¹University of Puerto Rico, ²ADM Nutrition Puerto Rico

11:15 a.m. PS10-7 Ruminant Fermentation in vitro Screening of Perennial Forages for Improved Nutrient Disappearance and Lower Methane Production

Gustavo H. S. Camargos ¹, Ângela Lana ¹, Herbert (Bart) Lardner ², Bill Biligetu ³, Gabriel O. Ribeiro ⁴

¹Federal University of Minas Gerais, ²University of Saskatchewan, ³Department of Plant Sciences, University of Saskatchewan, ⁴Department of Animal and Poultry Science, University of Saskatchewan

11:15 a.m. PS10-12 Supplementation Level Strategies for Beef Heifers Grazing Warm-season Perennial Pastures

Joao Lucas Abreu ¹, Joao M. B. Vendramini ², Fabricia Miotto ¹, Jose Neiva ¹, Philipe Moriel ³, Maria Eduarda Lima ¹, Agata Noleto ¹, Pedro Henrique Lima ¹

¹Universidade Federal do Norte do Tocantins, ²Texas A&M AgriLife Research, ³University of Florida, IFAS/Range Cattle Research and Education Center

11:15 a.m. PS10-8 Tannin Supplementation in Cow-calf Pairs Grazing a Grass Monoculture

Juan J. Villalba ¹, Iddy Muzzo ², Xin Dai ³, Horacio Blanchard ⁴, Nicola Panciroli ⁵, Olivier Desrues ⁵, Claudio Cabral ⁵

¹Department of Wildland Resources, Utah State University, ²Department of Wildland Resources, Utah State University, ³Utah State University - Agricultural Experiment Station,

⁴Utah State University, ⁵Silvateam S.p.A, Italy

11:15 a.m. PS10-14 The Effect of Varium® on Growth Performance, Gut Microbiome, and Health of Growing Pigs

san ching ¹, Nguyen Quang Thieu ², Phan Thi Thuy quyen ³, Nguyen An Khang ², Nguyen Kim Ngan ², To Thi Hong Phuong ², Pham Phuc Thinh ², Nguyen Viet Hai ¹

¹Amlan International, ²Nong Lam University, ³Saigon Nutrition

11:15 a.m. PS10-2 Using the Number of Victimized Pigs to Evaluate Tail-biting Outbreaks

Yuzhi Li ¹, Courtney Archer ², Ty B. Schmidt ³, Benny E. Mote ³, Lee J. Johnston ¹

¹University of Minnesota, ²University of Illinois Urbana-Champaign, ³University of Nebraska - Lincoln

11:15 a.m. PS10-24 Utilization of deciduous tree leaf meal as a component of a complete diet

Eugene E. D Felton ¹, Marie E. D. Krause ¹

¹West Virginia University

11:15 a.m. PS10-25 Validation of a Brix Refractometer as an On-farm Tool to Assess Colostrum Quality and Passive Immunity Transfer Status in Lambs

Jasmine Fraser ¹, Charlotte Winder ¹, Tracy Burnett ², David Renaud ³, Michael A. Steele ⁴, Marlene Paibomesai ⁵

¹Ontario Veterinary College, University of Guelph, ²University of Guelph, Ridgetown Campus, ³University of Guelph., ⁴University of Guelph, ⁵Ontario Ministry of Agriculture, Food and Agribusiness

11:15 a.m. PS10-10 Warm-season Forage Mixtures Effects on Silage Nutritive Value and Fermentation Characteristics

Joao M. B. Vendramini ¹, Gian Camargo ¹, Jim P. Muir ¹, John Cason ¹, Bob Whitney ², Jordan Senn ¹, Brian Bennett ¹

¹Texas A&M AgriLife Research, ²Texas A&M AgriLife Extension

Physiology and Endocrinology 2: Reproductive Management and Fertility

Chair: Nicholas Dias, Kansas State

11:45 AM - 12:30 PM

H-I

11:45 a.m. 147 Impact of Estradiol and Progesterone Concentrations at CIDR Removal and 48 Hours Later on Bos Indicus Cattle Estrus Expression and Pregnancy Success

Abigail E. Roberts ¹, Haley N. Weidman ¹, Jozlyn M. Perry ¹, George A. Perry ²

¹Texas A&M AgriLife, Overton, ²Texas A&M AgriLife Research

12:00 p.m. 148 **Evaluating Bull Breeding Soundness Throughout the Breeding Season**

Odile Polanco Jimenez ¹, Brette D. Poliakiwski ¹, Damon Smith ¹, Thaina Minela ², Zachary K. Seekford ¹, Ornella Messi ¹, Thomas B. Hairgrove ¹, Camilo Hernández-Avilés ¹, G. Cliff C. Lamb ², Ky G. Pohler ¹

¹Texas A&M University, ²Texas A&M AgriLife Research

12:15 p.m. 149 **Segmentation guided deep learning for sperm morphology classification in bull breeding soundness examinations**

Jaden A. Hallman ¹, Bruno Batista de Medeiros ², Pedro Martins ¹, Muller C. Martins ³, Molly Sloan Smith ¹, Lucas Melo-Goncalves ¹, Ashley Boone ¹, Bradley Heins ¹, Anderson A.C Alves ², Pedro Levy Piza Fontes ¹

¹University of Georgia, ²Department of Animal and Dairy Science, University of Georgia, Athens, GA, 30602, ³Federal University of Uberlândia

Physiology and Endocrinology Symposium

Chair: Jeremy Block, Department of Animal Science, University of Wyoming

1:15 PM - 5:15 PM

Ballroom C

1:15 p.m. **Physiology and Endocrinology Symposium Introduction**

1:20 p.m. 162 **Lactocrine Programming of Neonatal Testis Development: Evidence from Swine**

Amy T. Desaulniers ¹

¹University of Nebraska

2:05 p.m. 163 **A Preliminary Analysis of Physiological Factors Influencing Fetal Development in Gilts Exposed to Varying Heat Stress Intensities During Early and Late Gestation**

Lillian C. Bombeck ¹, Juan F. Castillo ², Amy L. Petry ¹, Luiz F. Brito ³, Jeremy J. Cottrell ⁴, Carley R. Hopkins ², Caitlyn R. Sullivan ¹, Jay S. Johnson ¹

¹University of Missouri, ²Department of Animal Sciences, University of Missouri, ³Purdue University, West Lafayette, USA, ⁴University of Melbourne

2:20 p.m. 164 **Developmental Plasticity: Maternal Nutrition's Impacts Through the Lifecycle of Livestock**

Sarah McCoski ¹, Makayla Brenner ²

¹Montana State University, ²North Dakota State University

3:05 p.m. **Physiology and Endocrinology Symposium Break**

3:30 p.m. 165 **Postnatal Nutritional Programming of the Ovarian Reserve in Beef Heifers**
Shelby L. Rosasco¹

¹University of Wyoming

4:15 p.m. 166 **Effects of in-vitro Embryo Production on Placental Steroid Hormone Synthesis, Placental Morphology, Calf Vigor, and Calf Growth Through Weaning**

Makayla Brenner¹, Abigail Zezeski², Megan L. Van Emon², Megan Woolley², Austin Waltman², Amanda N. Bradbery², Tom Geary³, Sarah McCoski²

¹North Dakota State University, ²Montana State University, ³USDA-ARS Fort Keogh Livestock and Range Research Laboratory

4:30 p.m. 167 **Effects of Early Life Nutrition on Development and Age at Puberty**

David A. Kenny¹, Alan K. Kelly², Kate Keogh³

¹Teagasc, ²University College Dublin, ³University of Galway

Poster Session 11

1:30 PM - 2:30 PM

Grand Terrace

1:30 p.m. PS11-3 **A digital twin framework for high-risk FAMACHA prediction in goats using bioelectrical impedance analysis and grouped machine learning**

Phaneendra Batchu¹, Ramya Kota², Goutham Kumar Isai¹, Davia Brown¹, Andrea Rubio Villa¹, Aftab Siddique¹, Thomas H. Terrill¹, Cristina Pisani³, David Shapiro-Ilan³

¹Fort Valley State University, ²Fort valley State University, ³USDA, Byron

1:30 p.m. PS11-5 **Artificial Intelligence-Powered Poultry Disease Prediction Model**

Md. Saif-Al Sarker¹, Md. Azam Hossain¹, Md. Sazedul Karim Sarker², MF sharmin³

¹Islamic University of Technology, ²Poultry Research Center, Bangladesh Livestock Reserach Institute, Savar, Dhaka, ³PRC, BLRI

1:30 p.m. PS11-23 **Assessing the effects of stocking rate on bermudagrass herbage mass and stocker average daily gain as influenced by climate variability and soil moisture using a forage-animal interface model**

Prem Woli¹, Charles R. Long², Monte M. Roquette³

¹Texas A&M AgriLife Research at Overton, ²Texas A&M AgriLife, Overton, ³Texas A&M University

1:30 p.m. PS11-17 **Associations Among Cardiac Traits, Body Temperature, Feed Efficiency, and Carcass Composition in Crossbred Angus Feedlot Steers – an Exploratory Study Based on Heart Scores**

Mariana Eloisa E. Garcia Ascolani¹, Chloe B. Krause¹, Caitlyn T. Kleffner¹, Madilyn Brummer¹, Kaylen Stearns¹, Morgan Pfeiffer¹, Megan Eckhardt¹, Joerg M. Steiner², David L. Lalman¹, Ranjith Ramanathan¹

¹Oklahoma State University, ²Texas A&M

1:30 p.m. PS11-2 **Characterizing Metabolic Gradients in Bovine Liver Tissue Across Abscess Proximity**

Macy T. Lawrence ¹, Joe D. Roder ², Trent E. Schwartz ¹, Loni W. Lucher ¹, Ty E. Lawrence ¹, Emilie C. Baker ¹

¹West Texas A&M University, ²Huvepharma

1:30 p.m. PS11-10 **Effect of a Blend of Essential Oils Alone or in Combination with Monensin on the Growth of Grass-fed Beef Cattle**

Emilie Arcier ¹, Guillaume Desrousseaux ¹, Gianluca C. Chagas ², Miguel H.A Santana ³, Fernando José Schalch ⁴

¹Laboratoires Phodé, ²Universidade de São Paulo, ³University of São Paulo, Pirassununga, Brazil,

⁴Minerthal Produtos Agropecuários Ltda

1:30 p.m. PS11-1 **Effect of Heat Stress on the Transcriptome of Lambs During the Weaning Period**

Zaira Estrada-Reyes ¹, Sola J. Ikuejamoye-Omotore ¹, Andres Alfredo Pech Cervantes ², John O. Adebayo ³, Makenzie N. Harrison ³, Thomas H. Terrill ⁴

¹College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446., ²College of Agriculture, Food and Natural Resources, Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, 77446, ³Department of Animal Science, North Carolina Agricultural and Technical State University, ⁴Fort Valley State University

1:30 p.m. PS11-26 **Effects of a Pecan Shell-containing Diet on Inflammatory Responses of Endotoxin-challenged Beef Calves**

Kiana L. Rivera ¹, Mariah S. Humphrey ¹, Mackenzie M. Smithyman ¹, Cassandra L. Smithyman ¹, Noel L. Lara ¹, Delila D. Dominguez ¹, Shaylee M. Strong ¹, Bianca D. Birkenstock ¹, Clint A. Loest ¹

¹New Mexico State University

1:30 p.m. PS11-25 **Effects of Dietary Additives on Antioxidant Activity After Submaximal Exercise in Juvenile Horses**

Manda S. Reiter ¹, Jessica L. Leatherwood ¹, Teghan A. Brooks ¹, Heidi Lykins ¹, Alex M. Trauner ², Cecilia R. Gualandri ¹, Lauren R. Pavel ¹, Sylvia C. Nelson ¹, Brittany L. Paris ³, Abby Pritchard ⁴, Holly S. Spooner ⁵, Rafael E. Martinez ¹, Amanda N. Bradbery ²

¹Tarleton State University, ²Montana State University, ³Sam Houston State University, ⁴Cargill Animal Nutrition, ⁵Unbeetable Feeds

1:30 p.m. PS11-11 **Effects of Group Size on Intake, Behavior, and Performance of Bulls Finished in a Commercial Feedlot During the Rainy Season**

Valter Bonamichi Jr ¹, Fernanda Benez ², Quemuel Gonçalves ³, Matheus Cordeiro ¹, Thiago Bernardes ¹

¹University of Lavras, Brazil, ²University of Mato Grosso, Brazil, ³Terra Savana Agro

1:30 p.m. PS11-7 **Effects of Weaning Age on Fall-calving Cow Performance and Economics**
Jackson B. Matthews ¹, Joshua C. McCann ¹, Greg R. Osman ¹, Daniel W. Shike ¹
¹University of Illinois

1:30 p.m. PS11-22 **Evaluation of plant maturity and inoculum on silage produced from leguminous beans.**
Emily A. Petzel ¹, Brian Northup ¹
¹USDA, Agricultural Research Service

1:30 p.m. PS11-15 **Fatty Acid Composition in Plasma, Red Blood Cells and Endometrium of Pbie-susceptible Mares Before and After Oral omega-3 DHA Supplementation**
Yazmin Osornio Magana ¹, David W.L W.L. Ma ², Michelle Cassie ², Tracey Chenier ², Alexandra Rankovic ³
¹Ontario Veterinary College University of Guelph, ²Professor, ³University of Guelph

1:30 p.m. PS11-21 **Impact of delayed planting on yield of cool-season annual pastures**
Kesner AUGUSTE ¹, Kim Mullenix ¹, S. Leanne Leanne Dillard ¹, W. Brandon B. Smith ²
¹Auburn University, ²Department of Animal Science, Auburn University

1:30 p.m. PS11-9 **Impacts of Maternal Prepartum Rumen Protected Choline Supplementation on Beef Calf Performance**
Abigail Bowers ¹, Gabriel Ferreira De Lima Cruz ¹, Sophia Green ¹, Liam Leuwerke ¹, Sophia Kendall ¹, Eric Mousel ², Heather M. White ¹
¹University of Wisconsin-Madison, ²University of Minnesota

1:30 p.m. PS11-20 **Influence of cultivar on potential activity of methane production from annual ryegrass**
Berman E. Espino Valverde ¹, Henry G. Jordan Jr. ¹, Gabriela I. Selles G. ¹, Fernando M. Suazo ¹, Kaylee Abbott ¹, Camila Eduarda Souza De souza ¹, W. Brandon B. Smith ²
¹Auburn University, ²Department of Animal Science, Auburn University

1:30 p.m. PS11-19 **Interseeded Red Clover or Supplementation for Stocker Cattle Grazing Tall Fescue**
Mason Henson ¹, Cole Lincoln ², W. Brandon B. Smith ³, S. Leanne Dillard ²
¹Oklahoma State University, ²Auburn University, ³Department of Animal Science, Auburn University

1:30 p.m. PS11-12 **Interval from Feedlot Arrival to Initial Processing: Effects on Health and Performance of Feedlot Receiving Cattle**
Leticia K. Kim Huang ¹, Reinaldo F. Cooke ², Guilherme F. Monteiro ², Izadora de Souza ²
¹Department of Animal Nutrition and Production, School of Animal Science and Food Engineering, University of Sao Paulo (FZEA-USP), 13635-900, Pirassununga, Sao Paulo, Brazil and Department of Animal Science, Texas A&M University, College Station, TX, ²Texas A&M University

1:30 p.m. PS11-6 **Isolation and characterization of Bifidobacterium spp. from the fecal microbiome of neonatal dairy calves.**

Malena Cid de la Paz ¹, Md. Gahangir Alam ¹, Hilario C. Mantonavi ¹

¹University of Wisconsin-Madison

1:30 p.m. PS11-16 **Maternal Bovine Appeasing Substance Administration at Castration Reduces Stress, Pain-related Behavior, and Respiratory Disease in Feedlot Bulls**

Guilherme F. Monteiro ¹, Reinaldo F. Cooke ¹, Martin Zinicola ²

¹Texas A&M University, ²Cowix

1:30 p.m. PS11-24 **Multi-dose Clodronate Disodium Use on Osteoclast Recruitment and Apoptosis in Juvenile Quarter Horses**

Brittany L. Paris ¹, Jessica L. Leatherwood ², Kati G. Glass ³, Carolyn E. Arnold ⁴, Mckenzie J. Mork ⁵, Thomas H. Welsh ⁶, Amanda N. Bradbery ⁵

¹Sam Houston State University, ²Tarleton State University, ³Texas A&M University College of Veterinary Medicine, ⁴Texas Tech University School of Veterinary Medicine, ⁵Montana State University, ⁶Texas A&M University

1:30 p.m. PS11-14 **Performance and Physiological Responses of Beef Calves Carrying the Slick PRLR Allele During the Post-weaning Period**

Ramiro V. Oliveira Filho ¹, Reinaldo F. Cooke ², Thaina Minela ³, Kaylin Jacobs ², Gabriela Schneider ², Jessica Sperber ², Tad S. Sonstegard ⁴, Ky G. G. Pohler ², G. Cliff C. Lamb ³, Musah Muntari ², Jonathan R. Bostrom ⁵, Kiril M. Dimitrov ²

¹University of Arkansas, ²Texas A&M University, ³Texas A&M AgriLife Research, ⁴Acceligen Inc, ⁵Acceligen

1:30 p.m. PS11-4 **Phenotypic and genomic characterization of the Bacteroides purulensis sp. nov. type strain, isolated from purulent material of a bovine liver abscess**

Robert J. Gruninger ¹, Marissa J. McCormack ¹, Nora Chomistek ¹

¹Agriculture and Agri-Food Canada

1:30 p.m. PS11-8 **Relationships Between Visceral Organ Mass and Feedlot Performance of Holstein Steers, SimAngus x Holstein Steers and Heifers, and SimAngus Steers**

Melanie Pimentel-Concepción ¹, Daniel D. Buskirk ¹, Jerad Jaborek ²

¹Michigan State University, ²Michigan State University extension

1:30 p.m. PS11-13 **The Shape of Efficiency: Linking Morphometrics to Growth, Feed Utilization, and Gas Flux of Receiving Beef Cattle**

Kyle Vahlenkamp ¹, John Pennington ¹, Jerry Hudec ¹, Cortland Smith ¹, Samuel Neuman ², Gordon E. E. Carstens ¹, Matthew R. Beck ¹

¹Texas A&M University, ²Texas A&M AgriLife

1:30 p.m. PS11-28 **There Is No Best Bull: Teaching Tradeoffs in Beef Cattle Genetic Selection**

Katie A. Shira ¹, Kimberly M. Davenport ²

¹Washington State University and University of Idaho, ²Department of Animal Sciences, Washington State University

1:30 p.m. PS11-27 **Using a Competitive Card Game to Teach Breeding and Genetics Through Systems-level Thinking**

Kimberly M. Davenport ¹, Raina K. Kittilstved ², Avery K. Lyons ¹, Jocelynn R. Brown ¹, Emma Johnson ¹, Morgan D. Wagle ¹, Lilly Machart ¹, Anais Atilano ¹, Brenda M. Murdoch ³

¹Department of Animal Sciences, Washington State University, ²Department of Chemistry, Washington State University, ³University of Idaho

Companion Animal 1 - Sponsored by Bill Barr and Company

Chair: James Templeman, Rangen Group

1:30 PM - 5:00 PM

Ballroom D

1:30 p.m. 216 **Effects of a Mushroom-based Beta Glucan Blend on the Gastrointestinal Health and Immune Function of Healthy Adult Cats**

Milan Broughton ¹, Patricia Massae Oba ², Laura Bauer ¹, Samantha Koziol ³, Chinmayee Panda ³, Ryan N. Dilger ¹, Brett R. Loman ¹, Kelly Scott Swanson ¹

¹University of Illinois Urbana Champaign, ²Department of Animal Science, University of Illinois Urbana-Champaign, ³Standard Process

1:45 p.m. 217 **Impact of Meat-based Raw versus Thermally Processed Diets on Serum Metabolites and Plasma Concentrations of Advanced Glycation End Products in Healthy Dogs**

Katelyn Bailey-Wisnieski ¹, Weixin Wang ², Yonghui Li ¹, Elisabeth Huff-Lonergan ³, Susan Wynn ⁴, Shengmin Sang ², Júlia Guazzelli Pezzali ¹

¹Kansas State University, ²North Carolina Agricultural and Technical State University, ³Iowa State University, ⁴Instinct Pet Food

2:00 p.m. 218 **Student Perspectives on Companion Animal Education in Collegiate Animal Science Programs**

Allison K. Pachunka ¹, Doug Golick ¹, Lisa Karr ¹

¹University of Nebraska-Lincoln

2:15 p.m. 219 **Influence of Maillard Reaction Compounds Formation and Biogenic Amines in Raw Materials on Protein Utilization Efficiency in Dogs**

Lucas Bassi Scarpim ¹, Leticia Grazielle Pacheco ², Camila Goloni ², Stephanie S. Theodoro ³, Vladimir Costa ⁴, Aulus C. Carciofi ¹

¹São Paulo State University, ²Sao Paulo State University, ³University of São Paulo, ⁴Sao Paulo State university

2:30 p.m. 220 **Beyond Digestive Health: Effects of a *Saccharomyces Cerevisiae* Fermentation Product on Rest, Comfort, and the Gut Microbiome in Aging Dogs**

Jessica Jarett¹, Neil D. Paton¹, Anirikh Chakrabarti¹, Adam T. Zarth¹, Ana M. Magallanes Lopez¹, Vanessa M. De La Guardia-Hidrogo², Christina L. Vogel², Kelly Scott Swanson³

¹Cargill, ²University of Illinois Urbana-Champaign, ³University of Illinois Urbana Champaign

2:45 p.m. 221 **Metabolic and Short-term Health Impacts of a 2% Dietary Betaine Intake in Lean, Healthy Adult Cats**

Amelia M. Huebsch¹, Júlia Guazzelli Pezzali²

¹Kansas State University Department of Grain Science, ²Kansas State University

3:00 p.m. 222 **Unlocking Canine Gut Health: Assessing Probiotic Modulation of Gut Microbiota Using Colonic Fermentation Model**

Achraf A. Adib Lesaux¹, Russell Kelley¹, Jonna EB Koper², Jake Burlet³, Cindy Duysburgh⁴, Jonas Ghyselinck⁴

¹Phileo by Lesaffre, ²Lesaffre Institute of Science and Technology, ³Canbiocin, ⁴Prodigest

3:15 p.m. **Companion Animal 1 Break**

3:30 p.m. 223 **Long-term Feeding of a Fresh-frozen Diet Supports Canine Health and Reduces Biological Ages**

Claire L. Timlin¹, Catherine Carchedi², Stephen Fulbright¹, Fiona B. McCracken¹, Brittany White², Craig N. Coon¹

¹Four Rivers Kennel, LLC, ²Ollie Pets Inc.

3:45 p.m. 224 **Yeast Probiotic *Saccharomyces Cerevisiae* Demonstrates High Survival in Simulated Canine Digestion: Insights from TIM1 FIDO *in vitro* Study**

Achraf A. Adib Lesaux¹, Jonna EB Koper², Russell Kelley¹, Nabil Bosco², Justine Delannoy²

¹Phileo By Lesaffre, ²Lesaffre Institute of Science and Technology

4:00 p.m. 225 **Increasing Fresh Meat Levels with Spray Dried Plasma Addition Improved Palatability and Digestibility in Extruded Dog Kibble**

Joy Campbell¹, Ding Wang²

¹APC LLC, ²BrightPet Nutrition Group

4:15 p.m. 226 **Amino Acid-complexed Trace Minerals Support Gut Health and Metabolic Response of Labrador Retrievers During a Mild Stress Event**

Laura A. Amundson¹, Alyssa A. Cornelison¹, Allison A. Millican¹, Craig N. Coon², Fiona B. McCracken², Claire L. Timlin²

¹Zinpro Corporation, ²Four Rivers Kennel, LLC

4:30 p.m. 227 **A diet supplemented with antioxidants and a prebiotic showed renal protective benefits in aging cats**

Erin Bryan ¹, Carolyn Cupp ¹

¹Nestle Purina

4:45 p.m. 228 **Effects of Dietary Yeast Glycopolite Supplementation on Fecal Quality, Gut Permeability, and Indices of Hydration in Training Sled Dogs**

Navreet Gandhi ¹, Benjamin D. Fox ¹, Lindsey Rummell ¹, Jordyn Welsh ¹, Alexandra Rankovic ¹, Jaeju Yu ¹, Michael A. Steele ¹, Rob Patterson ², Kate K. Shoveller ¹

¹University of Guelph, ²CBS Bioplatforms

Animal Behavior and Well-Being 1: Ruminants

Chair: Juliana Ranches, Oregon State University

1:45 PM - 3:45 PM

Ballroom B

1:45 p.m. 204 **Visual Cues Improve Awareness but Decrease Compliance to Virtual Fence**

Sebastian P. Schreiber ¹, Eric Thacker ¹, Juan J. Villalba ²

¹Utah State University, ²Department of Wildland Resources, Utah State University

2:00 p.m. 205 **Tail Docking by Hot-iron Cauterization: Healing Progression of Lambs Docked at Birth or Five Weeks of Age**

Madeline W. Ketner ¹, Sarah J J Adcock ¹

¹University of Wisconsin-Madison

2:15 p.m. 206 **Comparison of Rumination Time Estimates from Two Solar-powered Smart GPS Devices in Beef Cattle on Pasture**

Egleu D. M. Mendes ¹, Luis Orlindo Tedeschi ¹, Andy D. Herring ¹, Jacquelyn M. Prestegard-Wilson ²

¹Texas A&M University, ²Texas A&M AgriLife Extension, Department of Animal Science

2:30 p.m. 207 **Assessing the Validity of an Emerging Facial Grimace Scale in Beef Calves During Standard Processing Procedures**

Yazmin Montes ¹, Brian L. Bruner ¹, Jessica Carnal ², Abbie Viscardi ², Merritt L. Drewery ¹

¹Texas State University, ²Kansas State University

2:45 p.m. **Animal Behavior and Well-Being 1: Ruminants Break**

3:00 p.m. 208 **Novel Observations of Beef Cattle Response to Black Vulture Proximity**

Blair C. Downey ¹

¹University of Tennessee, Knoxville

3:15 p.m. 209 **Influence of Early-life Experiences on Post-weaning Oral Behaviors in Dairy Calves**

Blair F. Wermuth¹, Blair C. Downey¹

¹University of Tennessee, Knoxville

Nonruminant Nutrition 1: Micronutrients and Nutrition of Breeding, Pregnancy, and Lactation

Chair: Erin Posey, National Veterinary Services Laboratories, Veterinary Services, Animal and Plant Health Inspection Service, US Department of Agriculture

2:00 PM - 3:45 PM

H-I

2:00 p.m. 189 **Feeding Gestating and Lactating Sows with High Dietary Selenium Levels to Improve Reproductive Performance and Piglets Survivability and Performance**

Ariadne Maria Portilho Saturnino da Silva¹, Isabelle B. Audet¹, Frederic Guay², Danyel Bueno Dalto¹

¹Agriculture and Agri-Food Canada, ²Université Laval

2:15 p.m. 190 **Effects of High Dietary Inorganic and Organic Selenium Supplementation in Gestating and Lactating Sows on Selenium Status and Piglet Performance**

Ariadne Maria Portilho Saturnino da Silva¹, Isabelle B. Audet¹, Frederic Guay², Danyel Bueno Dalto¹

¹Agriculture and Agri-Food Canada, ²Université Laval

2:30 p.m. 191 **Effects of Maternal Zinc Supplementation Strategies During Gestation on Farrowing Characteristics, Colostrum Total Solids, and Serum Biochemical Profiles in Sows and Their Newborn Piglets**

Bruna S. L. Cony¹, Edilaine C. Araujo², Gabriel B. Martins², Júlio C. V. Furtado², Matheus M. Fagundes², Nathalia O. T. Camargo², Carolina H. Franceschi², Gabriela M. Galli², Raquel Lunedo³, Dani Perondi³, Carine M. Vier⁴, Weasley A. D. Orlando⁴, Danyel Bueno Dalto⁵, Ines Andretta²

¹Federal University of Rio Grande do Sul (UFRGS), Brazil; Université Laval/AAFC, Canada,

²Federal University of Rio Grande do Sul (UFRGS), Brazil, ³Master Agroindustrial Ltda., Brazil,

⁴Pig Improvement Company (PIC), USA, ⁵Agriculture and Agri-Food Canada

2:45 p.m. 192 **Influence of Timing of High Dietary Zinc Supplementation During Gestation on Sow Reproductive Outcomes and Lifetime Pig Performance**

Samuel Berrio¹, Pedro E. Urriola¹, Mike J. Boerboom², Jeff S. Knott³, Kelsey L. Hammers³, Lee J. Johnston¹

¹University of Minnesota, ²Boerrboom Ag Resources, ³Ideal Nutrition

3:00 p.m. 193 **Increasing organic trace mineral supplementation during late gestation and lactation influences sow iron status and litter weaning performance in prolific sows**

Katlyn A. McClellan ¹, Darcy Pamulaklakin ¹, Courtney Pohlen ¹, Joshua Jendza ², Eric M. Weaver ¹

¹South Dakota State University, ²Qualitech

3:15 p.m. 194 **Evaluating the Timing of Nutrient Enrichment in Late Gestation on Reproductive Outcomes and Sow Mortality Under Commercial Conditions**

Katlyn A. McClellan ¹, Darcy Pamulaklakin ¹, Courtney Pohlen ¹, Cheyenne Hughes ², Esther Hart ², Casey Neill ³, Ronald T. Ketchem ⁴, Eric M. Weaver ¹

¹South Dakota State University, ²Reliance Pork, ³Carthage, ⁴30 & Up Consulting

3:30 p.m. 195 **Methionine Hydroxy Analogue Bis-chelated Trace Minerals Differentially Impact Barrows and Gilts Compared with Inorganic Trace Minerals**

Jesus A. Acosta Camargo ¹, Bruno N. Silva ², Debora A. Reolon ¹, Bradley V. Lawrence ³, Marisol Castillo ¹, Deana Hancock ¹

¹Novus International Inc, ²Universidade Federal de Minas Gerais, ³Novus International Inc.

Ruminant Nutrition 5: Enhancing Animal Health

Chair: Kristen Johnson, Washington State University

2:00 PM - 4:15 PM

E-F

2:00 p.m. 181 **The Effects of in vitro LPS Stimulation on the PBMC Transcriptome of Beef Steers with Negative or Positive Residual Average Daily Gain**

Yarahy Leal ¹, Samantha R. Johnson ¹, Modoluwamu Idowu ², Godstime Taiwo ³, Taylor S. Sidney ⁴, Ibukun M. Ogunade ¹

¹West Virginia University, ²Tennessee Technological University, ³New Mexico State University,

⁴Mississippi State University

2:15 p.m. 182 **Effects of Low-dose Antimicrobial Feeding on the Ruminant Gastrointestinal Tract Bile Acid Profile over Time**

Lester Nolasco ¹, Theresa M. Casey ¹, Christina R. Ferreira ¹, Jon P. Schoonmaker ¹

¹Purdue University

2:30 p.m. 183 **Effects of Low-dose Antimicrobial Feeding on the Ruminant Gastrointestinal Tract Lipid-soluble and Water-soluble Metabolite Profiles over Time**

Lester Nolasco ¹, Theresa M. Casey ¹, Christina R. Ferreira ¹, Jon P. Schoonmaker ¹

¹Purdue University

2:45 p.m. 184 **Effect of a Pool of Essential Oils, Flavonoids and Tannins on Methane Emissions, Production Performances, Ruminal and Blood Parameters in Beef Cattle During Heat Stress Conditions**

Silvia Grossi ¹, Carlo Angelo Sgoifo Rossi ¹

¹Università Statale degli Studi di Milano, Divas Department

3:00 p.m. **Ruminant Nutrition 5: Enhancing Animal Health Break**

3:15 p.m. 185 **Influence of Ruminal or Postruminal 5-hydroxytryptophan Administration on Serotonin Metabolism and Arterial Hemodynamics in Growing Beef Steers**

Ellem Matos ¹, David L. Harmon ¹, Brittany E. Davis ², Ronald J. Trotta ³

¹University of Kentucky, ²Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY 40546, USA., ³Department of Animal and Food Sciences, University of Kentucky, Lexington, KY 40546, USA.

3:30 p.m. 186 **Red Clover Leaf Supplementation Improves Thermoregulation in Cattle**

Brittany E. Davis ¹, Jennifer R. Weinert-Nelson ², Ronald J. Trotta ³, Alayna Jacobs ¹, Alysa M. Farrell ³

¹Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY, ²Department of Animal and Food Sciences, University of Wisconsin-River Falls, ³Department of Animal and Food Sciences, University of Kentucky

3:45 p.m. 187 **Maternal Guanidinoacetic Acid Supplementation Modulates Cellular Heat Stress Responses in Late-gestating Hanwoo Cows and Their Calves**

Xue-Cheng Jin ¹, Bo-Mi Kim ¹, Jun-Hee Lee ¹, Jang-Hoon Jo ¹, Hye-Sun jung ¹, Jae-Sung Lee ¹, Hong-Gu Lee ¹

¹Konkuk University

4:00 p.m. 188 **Gastrointestinal Tract (GIT) Barrier Function in Stressed Feedlot Cattle Fed Essential Oils**

Donald C. Herzog ¹, Lester Nolasco ¹, Rodrigo S. Torres ¹, Jon P. Schoonmaker ¹

¹Purdue University

Beef Species 2: Backgrounding/Finishing Management

Chair: Zachary Smith, South Dakota State University

2:30 PM - 4:45 PM

G-J

2:30 p.m. 196 **Backgrounding Cattle Fed Diets Containing Direct-cut or Wilted Grass Silage: Effects on Intake, Feed Sorting, and Performance in a Commercial Feedlot**

Felipe Martins Favero ¹, Maria Costa ², Rafaella Prado ², Matheus Cordeiro ², Thiago Bernardes ²

¹Universidade Federal de Lavras, ²University of Lavras, Brazil

2:45 p.m. 197 **Effect of Barley Grain Processing Method in Finishing Feedlot Diets on Enteric Methane Emissions, Growth Performance, and Ruminal Fermentation in western Canadian Beef Heifers**

Melissa S. Williams ¹, Stephanie A. Terry ²

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

3:00 p.m. 198 **Effects of Rumen Protected Fat and Vitamin E Supplementation on I: Growth, Efficiency and Marbling Deposition in Wagyu X Angus Cattle**

Susan K. Duckett ¹, Aliute N.S Udoka ¹, Alexa Cornett ¹, Gabriella C. Iheanacho ¹

¹Clemson University

3:15 p.m. 199 **Effects of Rumen Protected Fat and Vitamin E Supplementation on II: Muscle Cellularity and Transcriptomic Regulation in Wagyu X Angus Cattle**

Aliute N.S Udoka ¹, Alexa Cornett ¹, Gabriella C. Iheanacho ¹, Susan K. Duckett ¹

¹Clemson University

3:30 p.m. **Beef Species 2: Backgrounding/Finishing Management Break**

3:45 p.m. 200 **Drinking Water Quality in Brazilian Feedlots and Implications for Trough Water Sampling Procedures**

Paulo Damasceno ¹, Rafaella Prado ¹, Valter Bonamichi Jr ¹, Samara Cunha ¹, Thiago Bernardes ¹

¹University of Lavras, Brazil

4:00 p.m. 201 **Performance of Beef and Dairy-origin Male Cattle During Growing and Finishing Phases**

Felipe C. Maciel ¹, Gabriel R. Neiva ², Miguel F. Dias ¹, Richardson C. Torres ¹, Maria Alejandra M. Fierro ³, Daniel R. Casagrande ¹, Mateus P. Gionbelli ¹

¹University of Lavras, Brazil, ²University of Lavras, ³University of Tolima, Colombia

4:15 p.m. 203 **Automated Detection and Scoring of Feces in Beef Cattle Feedlots Using Unmanned Aerial Vehicles**

Samuel Thompson ¹, Guilherme L. Menezes ¹, Paulo Damasceno ², Thiago Bernardes ², Joao R. R. Dorea ³

¹Department of Animal and Dairy Sciences, University of Wisconsin–Madison ²University of Lavras, Brazil, ³University of Wisconsin-Madison

Poster Session 12
2:45 PM - 3:45 PM
Grand Terrace

2:45 p.m. PS12-28 **A Gut Environment Modifier in Antibiotic Treated Dairy Heifer Calves with Clinical Digestive or Respiratory Disease**

Bryson Prather ¹, Jeffery Hall ², Duarte E. Diaz ¹, Jennifer Miranda ¹, Paloma Valencia ³, Rodolfo Elias ¹

¹University of Arizona, ²Huvepharma, Inc., ³University of San Diego

2:45 p.m. PS12-10 **Bulk RNA-Seq Deconvolution Identifies Peripheral Blood Cell Signatures of Fertility in Beef Heifers**

Madelynn VanderHoek ¹, Wellison J.S. Diniz ¹, Soren P. P. Rodning ¹, Paul W. W. Dyce ¹, Priyanka Banerjee ¹

¹Auburn University

2:45 p.m. PS12-4 **Characterizing Liver Health Index Fluctuations in Peripartum Dairy Cows and Their Association with Postpartum Lactational Performance and Health**

Mackenzie Potter ¹, Frederico N. S. Pereira ¹, Aline Martelo-Pereira ¹, Mohammad H. Rashid ¹, Erollykens F. Santos ², Craig S. McConnel ¹, John R. Wenz ¹, Rafael C. Neves ³, Addison L. Carroll ¹, Hugo F. Monteiro ⁴, Juliana Ranches ⁵, Erminio Trevisi ⁶, Luciano S. Caixeta ⁷, Caio C. Figueiredo ¹

¹Washington State University, ²Virginia Tech, ³Purdue University, ⁴Cornell University, ⁵Oregon State University, ⁶Department of Animal Science, Food and Nutrition (DIANA) and the Romeo and Enrica Invernizzi Research Center for Sustainable Dairy Production (CREI), Faculty of Agricultural, Food and Environmental Sciences, Università Cattolica del Sacro Cuore, ⁷University of Minnesota

2:45 p.m. PS12-13 **Comparative parasitism and production performance in beef calves over a 90-day grazing period when treated with two parasiticides**

Emily A. Melchior ¹, Mark Alley ¹, Thomas Short ², Catherine Dowling ¹, Mitchell Blanding ¹

¹Zoetis Inc., ²Zoetis

2:45 p.m. PS12-18 **Divergent Prolactin Receptor Genotype Responses in Growth Performance, Feed Efficiency and Feeding Behavior in Beef Calves**

Ramiro V. Oliveira Filho ¹, Musah Muntari ², Thaina Minela ³, Reinaldo F. Cooke ², Clayton Diebel ², Owen Sanders ², Daniela Galindo ², Tad S. Sonstegard ⁴, Ky G. G. Pohler ², G. Cliff C. Lamb ³

¹University of Arkansas, ²Texas A&M University, ³Texas A&M AgriLife Research, ⁴Acceligen Inc

2:45 p.m. PS12-21 **Effect of Tannin of Chestnut and MGM-P on Growing Stage of Piglets**

Zhuoyu YANG ¹, Min Ma ¹, Yuriko Enomoto ¹, Tomoko Suda ¹, Junyou Li ¹

¹The University of Tokyo

2:45 p.m. PS12-9 **Effects of a pentavalent, modified-live virus vaccine administered during initial antimicrobial treatment for bovine respiratory disease in high-risk feedlot cattle**

Samuel Neuman ¹, John T. Richeson ²

¹Texas A&M Agrilife, ²West Texas A&M University

2:45 p.m. PS12-25 **Effects of a Phytogetic Additive and Sodium Monensin on Performance and Health of Weaned Beef Cattle**

Johnnatan Castro Cabral Gonçalves ¹, Alexandre Perdigão ², Matheus Trindade Rocha ¹, Livia Nascimento Gomes ³, Victor Valério Carvalho ², Sidnei Antonio Lopes ¹

¹Federal University of Viçosa (UFV), ²DSM-Firmenich, ³Federal University of Mato Grosso do Sul (UFMS)

2:45 p.m. PS12-26 **Effects of an Active Dry Yeast *Saccharomyces Cerevisiae* CNCM I-1077 on Beef Heifers' Days on Feed and Growth Performance**

Kaliu Scaranto Silva ¹, Kip K. Karges ¹, Melissa L. Jolly-Breithaupt ¹, Cory T. Parsons ¹, Paige R. Adams ¹, Darryl Gibb ², Tim A. McAllister ²

¹Lallemand Animal Nutrition, ²Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB

2:45 p.m. PS12-17 **Effects of maternal rate of body weight gain and one-carbon metabolite supplementation on piRNA expression and predicted mRNA targets in bovine fetal muscle**

Thais Ribeiro da Silva ¹, Priyanka Banerjee ¹, Matthew Crouse ², Alison K. K. Ward ³, Carl Robertson R. Dahlen ⁴, Jessica G. G. Syring ⁵, Layla E. King ⁶, Muhammad Anas ⁷, Mojtaba Daneshi ⁸, Mara R. Hirchert ⁷, Rebecca M. M. Swanson ⁷, Pawel P. P. Borowicz ⁹, Joel S. Caton ⁴, Wellison J.S. Diniz ¹⁰

¹Auburn University, ²Phibro Animal Health Corporation, ³University of Saskatchewan, ⁴Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁵Department of Animal Sciences and Center for Nutrition and Pregnancy, North Dakota State University, Fargo, ⁶University of Minnesota Crookston's, ⁷Department of Animal Sciences and Center for Nutrition and Pregnancy, North Dakota State University, ⁸Indiana Animal Disease Diagnostic Laboratory, College of Veterinary Medicine, Purdue University, ⁹North Dakota State University, ¹⁰Auburn University

2:45 p.m. PS12-15 **Effects of prenatal Vitamin A administration on skeletal muscle development and growth of beef calves**

Andrey S. Miranda ¹, José Oliveira ², Antônio X. Mucida ³, Felipe C. Maciel ¹, Daniel C. Castro ³, Geovana E. S. Damasceno ³, Daniel R. Casagrande ¹, Marcio S. Duarte ⁴, Mateus P. Gionbelli ¹

¹University of Lavras, Brazil, ²University of Illinois, ³Federal University of Lavras, ⁴Federal University of Viçosa / University of Guelph

2:45 p.m. PS12-20 **Effects of vitamin A administration in beef cows during late gestation on maternal performance, placental parameters, and lactation**

Andrey S. Miranda ¹, Mateus P. Gionbelli ¹, José Oliveira ², Antônio X. Mucida ³, Fabricio S. Carvalho ¹, Richardson A. C. Torres ³, Douglas F. de Souza ⁴, Gustavo B. Martins ³, Marcio S. Duarte ⁵

¹University of Lavras, Brazil, ²University of Illinois, ³Federal University of Lavras, ⁴University of Lavras, ⁵Federal University of Viçosa / University of Guelph

2:45 p.m. PS12-14 **Evaluation of Infrared Thermography to Assess Body Temperature in Beef Heifers of Different Breeds and Residual Feed Intake Phenotypes During Winter**

Londono-Mendez Camila Maria Camila ¹, Sergio Lasso Ramirez ¹, Arturo Macias Franco ¹, Weiguang Hao ¹, Carolyn J. Fitzsimmons ², Gleise Medeiros Da Silva ¹

¹University of Alberta, ²Agriculture and Agri-Food Canada

2:45 p.m. PS12-6 **Hematological and Rheological Determinants of Species-specific Blood Dispersion Patterns for Automated Anemia Detection in Livestock**

Phaneendra Batchu ¹, Aftab Siddique ¹, David Shapiro-Ilan ², Cristina Pisani ², JA van Wyk ³, Niki C. C. Whitley ¹, Thomas H. Terrill ¹

¹Fort Valley State University, ²USDA, Byron, ³University of Pretoria

2:45 p.m. PS12-24 **How Sward Forage Structure and Nutritive Value Shape the Performance of Nellore Steers in Tropical Pasture-based Beef Cattle Production Systems**

Rolando Pasquini Neto ¹, Mingyung Lee ², Marcia Fernandes ³, André de Faria Pedrosa ⁴, Sérgio Raposo de Medeiros ⁴, Alexandre Berndt ⁴, Patricia Perondi Anção Oliveira ⁴, José Ricardo Macedo Pezzopane ⁴, Paulo Henrique Mazza Rodrigues ⁵, Luis Orlindo Tedeschi ³

¹FMVZ/USP, ²Department of Animal Science, Texas A&M University, ³Texas A&M University, ⁴Embrapa Southeast Livestock, ⁵Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil

2:45 p.m. PS12-22 **Impacts of Implant Type on Feedlot Performance, Feeding Behavior, Blood Metabolites, and Carcass Traits of Angus Steers**

Zachary C. Crump ¹, Anthony F. Alberto ¹, Alexis J. Jackson ¹, Lillian Okamoto ¹, Ryan A. Spurling ¹, Kara J. Thornton ¹

¹Utah State University

2:45 p.m. PS12-3 **In vitro Toxicity of Onion Peel Powder, Apple Peel Powder, and Guinea Hen Weed Powder on Salmonella Spp**

Deji Abiodun Ekunseitan ¹, Lekan Elegbede ¹, Samuel Quarmyne ¹, Yewande Fasina ¹

¹North Carolina A&T State University

2:45 p.m. PS12-16 **Influence of freezing and thawing on MRI parameters of mid-gestation pig fetuses**

Thomas W. Dobbins¹, Thomas Neuberger², Claire Stenhouse², Sean Gullette²

¹The Pennsylvania State University, ²The Pennsylvania State University

2:45 p.m. PS12-2 **Lipopolysaccharide (LPS) Challenge Alters Oxidative Stress Markers in Dairy-beef Breeds**

Sam Barker¹, Joshua Slay¹, Mackenzie M. Smithyman², Nicole C. Burdick Sanchez³, Paul R. Broadway³, Ryan R. Rathmann⁴, Michael A. Ballou⁴, Jerrad Legako⁵

¹Tarleton State University, ²New Mexico State University, ³USDA-LIRU, ⁴Texas Tech University, ⁵Texas A&M University

2:45 p.m. PS12-12 **Maternal metabolic and performance responses to guanidinoacetic acid during late gestation**

Luiz Jardel Motta¹, Luiza Kladt¹, Lívia Rodrigues¹, Tales L. Resende², Claudia B. Sampaio¹, Mateus P. Gionbelli³, Marcio S. Duarte⁴

¹Federal University of Viçosa, ²Evonik, ³University of Lavras, Brazil, ⁴Federal University of Viçosa / University of Guelph

2:45 p.m. PS12-19 **Metabolic Indicators and Body Development of Beef and Dairy-origin Male Cattle During Feedlot Growing and Finishing**

Felipe C. Maciel¹, Gabriel R. Neiva², Miguel F. Dias¹, Andrey S. Miranda¹, Fabricio S. Carvalho¹, Daniel R. Casagrande¹, Mateus P. Gionbelli¹

¹University of Lavras, Brazil, ²University of Lavras

2:45 p.m. PS12-7 **Nested Cross-validated Hyperparameter Optimization and Decision-boundary Analysis for Image-based Anemia Classification in Dairy Goats**

Priyanka Gurrapu¹, Phaneendra Batchu¹, Aftab Siddique¹, David Shapiro-Ilan², Cristina Pisani², Niki C. C. Whitley¹, Thomas H. Terrill¹

¹Fort Valley State University, ²USDA, Byron

2:45 p.m. PS12-11 **Prepartum rumen-protected B vitamin complex supplementation improves maternal reserves, colostrum yield, and reproductive responses in beef cows**

Luiza Kladt¹, Ana Clara Araújo¹, Salvador Venuto¹, Jenifer Varizi¹, Sarah Dean², Victoria Asselstine³, Dalton Henriques², Nicola Serão⁴, Claudia B. Sampaio¹, Mateus P. Gionbelli⁵, Marcio S. Duarte⁶

¹Federal University of Viçosa, ²Jefo, ³Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, Ontario, Canada, ⁴StatsGaze Data Science Solutions, ⁵University of Lavras, Brazil, ⁶Federal University of Viçosa / University of Guelph

2:45 p.m. PS12-8 **Prevalence and Distribution of Major Bacterial Pathogens in Liver Abscesses of Beef-on-dairy Cattle**

Haitham Alneaemy¹, Raghavendra G. Amachawadi², Haiyan Wang³, Harith M. Salih³, Taghreed S. Mahmood³, T. G. G. Nagaraja⁴

¹Kansas State University, ²Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University, ³Kansas State University, ⁴Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University

2:45 p.m. PS12-1 **Reduced Tylosin Susceptibilities in Fusobacterium Necrophorum Subspecies of Liver Abscess Origin**

Harith M. Salih¹, Raghavendra G. Amachawadi², Haiyan Wang¹, Taghreed S. Mahmood¹, Haitham Alneaemy³, T. G. G. Nagaraja⁴

¹Kansas State University, ²Department of Clinical Sciences, College of Veterinary Medicine, Kansas State University, ³Kansas State University, ⁴Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University

2:45 p.m. PS12-23 **Seasonal Dynamics of Nellore Steers in Tropical Pasture-based Beef Cattle Production Systems**

Rolando Pasquini Neto¹, André de Faria Pedrosa², Sérgio Raposo de Medeiros², Alexandre Berndt², Patricia Perondi Anchão Oliveira², José Ricardo Macedo Pezzopane², Paulo Henrique Mazza Rodrigues³, Luis Orlindo Tedeschi⁴

¹FMVZ/USP, ²Embrapa Southeast Livestock, ³Department of Animal Nutrition and Production, College of Veterinary Medicine and Animal Science, University of Sao Paulo (FMVZ-USP), 13635-900, Pirassununga, Sao Paulo, Brazil, ⁴Texas A&M University

Poster Session 13

4:00 PM - 5:00 PM

Grand Terrace

4:00 p.m. PS13-3 **Accounting for Particle Size Distribution and Ensiling Time Improves Whole-Sample Starch Digestibility Estimates in High-Moisture Corn**

Kassidy K. Buse¹, Paige R. Adams¹, Kaliu Scaranto Silva¹, Kip K. Karges¹

¹Lallemand Animal Nutrition

4:00 p.m. PS13-19 **Dietary supplementation of a blend of probiotics and prebiotics alters the plasma metabolome and improves growth performance in newly weaned beef steers during the receiving period**

Modoluwamu Idowu¹, Adekunle O. Ajiboye², Godstime Taiwo³, Christopher M. Ashwell², Ibukun M. Ogunade²

¹Tennessee Technological University, ²West Virginia University, ³New Mexico State University

4:00 p.m. PS13-4 **Effect of Adding Plant Extracted Hydrolysable Tannin and Saponin combination in Blend Pelleted Products on Protein Degradable and Undegradable Fraction Profiles and Their Total Supply**

T. Hidayat ¹, M.R. Espinosa ², P. Yu ¹

¹Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, ²Department of Animal and Poultry Science, College of Agricultural and Bioresources, University of Saskatchewan

4:00 p.m. PS13-5 **Effect of Dose Level of DL-Malate on Chemical and Nutrient Profiles of Newly developed Blend pellet products**

O. Moghrabi ¹, L.L. Prates ¹, M.R. Espinosa ¹, P. Yu ²

¹Department of Animal and Poultry Science, College of Agricultural and Bioresources, University of Saskatchewan, ²Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan

4:00 p.m. PS13-11 **Effect of Forb Inclusion on Digestion and Metabolism of Warm-Season Forage Diets in Beef Cattle**

Cynthia Siziba ¹, Diva Rigney ², Kim Mullenix ¹, S. Leanne Dillard ¹, Jim P. Muir ³, W. Brandon B. Smith ⁴

¹Auburn University, ²Montana State University, ³Texas A&M AgriLife Research, ⁴Department of Animal Science, Auburn University

4:00 p.m. PS13-23 **Effect of Monensin and Narasin on Performance of Finishing Beef Cattle**

Matheus Rodrigues de Souza ¹, Rodrigo Marques ², Mateus José Inácio de Abreu ³, Isadora Alves Dornellas ³, José Paulo Roman Barroso ⁴, Adriano Vinicius Paiva ⁴, Murilo Chuba Rodrigues ⁴, Iorrano Cidrini ⁴, Flávio D. Resende ⁵, Gustavo R. Siqueira ⁵

¹Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA), ²Virginia Tech, ³UNESP, ⁴Elanco Animal Health, ⁵Agência Paulista de Tecnologia dos Agronegócios

4:00 p.m. PS13-2 **Effect of olive oil by-product inclusion on ingestive behavior and intake dynamics in finishing Brangus beef cattle**

Renata M.S Suñé ¹, Marcio Correa ¹, Uriel Londero ¹, Magna Savela ¹

¹UFPEL

4:00 p.m. PS13-12 **Effect of propionic acid-based additives on the aerobic stability and fermentation profile of wet distillers grains with solubles**

Analia Echeverria ¹, Araceli B. Maderal ¹, Ignacio Fernandez-Marenchino ¹, Georgia J. Dubeux ¹, Andres Lacherre ¹, Tomas Andres-Soto ¹, Macarena Gomez-Salmoral ¹, Bailey Johnson ¹, Josefina Caro ¹, Nicolas DiLorenzo ¹

¹University of Florida

4:00 p.m. PS13-10 **Effects of 14-day post-weaning supplementation of a *Saccharomyces cerevisiae*-based additive on growth performance and immune status of beef steers during a 112-d backgrounding period**

Aderanti I. Oni ¹, Samantha R. Johnson ¹, Yarahy Leal ¹, Ibukun M. Ogunade ¹

¹West Virginia University

4:00 p.m. PS13-17 **Effects of Different Supplementation Strategies on the Performance of Pasture-Finished Nellore Heifers**

Fernando Cidrimi ¹, Rodrigo Marques ¹, Ana Carolina Pozzo ², Vinicius Rezende Augusto ², Erollykens F. Santos ¹, Arnaldo Limede ¹, Marison Falcao ³, Mario Procopio de Menezes Júnior ⁴, Manoel E. R. Santos ², Iorrano Cidrimi ³

¹Virginia Tech, ²Faculdade de Medicina Veterinária e Zootecnia da Universidade Federal de Uberlândia, ³Elanco Animal Health, ⁴Cria Bem Nutrição Animal

4:00 p.m. PS13-25 **Effects of Feeding Level on Pregnancy Performance, Metabolic Responses, and Reproductive Efficiency in Primiparous Ewes and Their Offspring**

Dream Valles ¹, Adel R. Moawad ¹, Abdallah M. Shahat ¹, Brou Kouakou ¹, Jung Lee ¹, Phaneendra Batchu ¹

¹Fort Valley State University

4:00 p.m. PS13-20 **Effects of Immunomodulatory Additive Supplementation on Performance and Carcass Traits of Nellore Bulls in a Commercial Feedlot During the Heat Stress Season**

Filipe Araújo Canêdo Mendonça ¹, Renner Melo ², Sergio Pezzler ², Manuella Sagawa ², Brenda de Jesus ², Pedro Mamede ¹, Arquimedes Junior ¹, Lucas Ghedin Ghizzi ¹, Danilo Grandini ¹, Timothy Buysker ³, Kari Saddoris-Clemons ¹

¹Phibro Animal Health, ²Fazenda Conforto, ³Smart Science

4:00 p.m. PS13-18 **Effects of monensin alone or combined with ractopamine hydrochloride, fenbendazole, or ivermectin on growth performance of backgrounding and finishing beef steers**

Erika E. Cornand ¹, Stephanie A. Terry ¹, Jonathan K. Challis ²

¹Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ²Morden Research and Development Centre, Agriculture and Agri-Food Canada

4:00 p.m. PS13-15 **Evaluation of ANKOM F57 and F58 Filter Bags for In-Vitro Digestibility Across Different Incubation Timepoints**

Duncan McSorley ¹, Justin Burt ², W. Brandon B. Smith ¹, Jennifer J. Tucker ²

¹Department of Animal Science, Auburn University, ²Department of Animal and Dairy Sciences, University of Georgia

4:00 p.m. PS13-14 **Extracts of Black Soldier Fly frass for use in neonatal calves**

Eugene E. D Felton ¹, Marie E. D. Krause ¹

¹West Virginia University

4:00 p.m. PS13-8 **Impact of natural antibody-based direct-fed microbial on feedlot performance and carcass characteristics in finishing beef cattle**

Emma A. Briggs¹, Adam King¹, Jessie Vipham¹, Mariana Paredes¹, Mindy King¹

¹Kansas State University

4:00 p.m. PS13-7 **In vitro ruminal methane production and fermentation responses to narasin in low- and medium-quality C4 forage substrates**

Mailza G. Souza¹, Tiago Leiva², Juan J. Vargas¹, Leonardo Gomes Sitorski¹, Catherine G. Wharton³, Liza Garcia⁴, Pedro Lasmar⁵, Jose Simas⁵, Sara E. Place¹, Eduardo M. Paula¹

¹Department of Animal Sciences, AgNext, Colorado State University, ²Elanco Animal Health,

³Colorado State University, ⁴North Florida Research and Education Center, Institute of Food and Agricultural Sciences, University of Florida, ⁵Elanco Animal Health

4:00 p.m. PS13-13 **Mammary gland metabolomics due to feeding rumen-protected methionine during a heat stress challenge in lactating Holstein cows**

Danielle de Cássia Martins da Fonseca¹, Fuhou Li², Valentino Palombo³, John Mauck⁴, Jessie Guyader⁵, Felipe Cardoso⁴, Mariasilvia D'Andrea³, Juan Loo⁶

¹School of Animal Science and Food Engineering, University of São Paulo, Pirassununga, 13635-900, São Paulo, Brazil, ²College of Animal Science, Jilin University, Changchun, 130062, China,

³Dipartimento Agricoltura, Ambiente e Alimenti, Università degli Studi del Molise, ⁴Department of Animal Sciences, University of Illinois Urbana-Champaign, ⁵Evonik Operations GmbH, Hanau-Wolfgang, Essen, 63457, Germany, ⁶University of Illinois Urbana-Champaign

4:00 p.m. PS13-1 **Methane Emissions from Brangus Steers in Feedlots Fed with Different Levels of Olive Cake**

Renata M.S. Suñé¹, Marcio Correa¹, Cristina Genro², Uriel Londero¹, Bruna Fernandes³

¹UFPEL, ²Embrapa, ³UFSM

4:00 p.m. PS13-21 **Microbial community composition, fermentation profile, and methane emissions throughout the gastrointestinal tract of adult ruminants**

Arlan Rodrigues¹, Igor M. Ferreira², Margaret K. Costello³, Sophie Davison¹, Hilario C. Mantonavi¹

¹University of Wisconsin-Madison, ²São Paulo State University, ³ORISE/UW/USDA

4:00 p.m. PS13-24 **Mitigating Summer Forage Deficits: A Pilot Evaluation of Prussic Acid-Free Sorghum × Sudangrass in Beef Grazing Systems**

Rosemary O. Ewetade¹, Jacob Wells¹, Ibukunoluwa S. Salako¹, Elizabeth Workman¹, Abigail R. Hines¹

¹Kentucky State University

4:00 p.m. PS13-6 **Physically Effective Neutral Detergent Fiber Inclusion and Roughage Level in Finishing Diets Fed to Feedlot Cattle on Ruminal Ph and Fermentation**

Gabriela M. Fogaça¹, Robson CN Dinardi², Emily S. Nascimento¹, Dayara V. Alvares¹, Julia S. Ivo¹, Júlia G. Ferreira¹, Maria Eduarda M. Santos¹, Pedro Trevisan Tonelli³, Danilo D. Millen⁴, Gregory B. Penner⁵, Murillo C S Pereira¹

¹São Paulo State University (UNESP), College of Technology and Agricultural Sciences, Dracena Campus, ²São Paulo State University (UNESP), College of Agricultural and Technological Sciences, Dracena, SP 17915-899, Brazil., ³UNESP, ⁴São Paulo State University (UNESP), School of Agricultural and Veterinary Sciences, Jaboticabal, SP 14884-900, Brazil., ⁵Department of Animal and Poultry Science, University of Saskatchewan

4:00 p.m. PS13-9 **Ruminal degradability kinetics of a wheat silage substrate in beef cattle grower and finisher diets with or without live yeast**

Crystal N. Martinez¹, Jhones O. Sarturi², Brooke A. McCrumb¹, Ahmari D. Henry¹, Kip K. Karges³, Beatriz Q. Dos Reis¹, Osman R.A Melgar¹, Otavio France¹, Kaliu Scaranto Silva³

¹Texas Tech University, ²Animal and Food Sciences, ³Lallemand Animal Nutrition

4:00 p.m. PS13-22 **Screening maize inbred lines for rumen fermentation efficiency and methane production using an in vitro model**

Arlan Rodrigues¹, Sophie Davison¹, Sebastian I. Arriola Apelo¹, Shawn Kaeppler¹, Natalia de Leon¹, Hilario C. Mantonavi¹

¹University of Wisconsin-Madison

4:00 p.m. PS13-26 **Test Length Recommendations for Determining Residual Water Intake**

Matthew E. Wilson¹, Nathan Blake¹, E. K. ArunKumar¹, Tylor J. Yost¹, Deborah Ologunagba¹, Ida Holaskova¹, Jarred Yates¹

¹West Virginia University

4:00 p.m. PS13-16 **The Effect of Whole Cottonseed as a Supplemental Feedstuff on the Performance of Cows in Cow-Calf Production Systems: A Review.**

Chandler Kyle¹, W. Brandon B. Smith²

¹Auburn University, ²Department of Animal Science, Auburn University

Forages and Pastures 1: Protein Degradability and Silage Management

Chair: Jim MacDonald, University of Nebraska–Lincoln

4:00 PM – 5:00 PM

Ballroom B

4:00 p.m. 373 **Impact of irrigation, nitrogen management and ensiling days on silage quality in warm season annual forages**

Alondra Cruz¹, Dinesh Kumar Saini¹, Diego F. Aviles¹, Aaron B. Norris¹, Krishna Jagadish¹, Impa Somayanda¹

¹Texas Tech University

4:15 p.m. 212 **Ruminal and Gastrointestinal Degradability of Protein in Alfalfa and Tannin-containing Birdsfoot Trefoil Estimated by an Improved Three-step Procedure**

John H. Grabber¹, Wayne Coblenz¹

¹USDA-ARS, US Dairy Forage Research Center

4:30 p.m. 214 **Effect of Planting Density and Cutting Height on Dry Matter Yield and Forage Quality of Corn and Sorghum Silages**

Jennifer C. Giesey¹, William C. Bridges¹, Gracelyn Alexander¹, Hannah Culler¹, James Strickland¹, Matias J. Aguerre¹

¹Clemson University

Wednesday, July 22, 2026

Ruminant Nutrition 6: Grazing Nutrition

Chair: Zachary Crump, Utah State University

8:00 AM - 8:30 AM

Ballroom B

8:00 a.m. 259 **Effect of Strip-grazing Frequency Using Virtual Fencing on Steer Performance and Carrying Capacity of Stockpiled Oats Pasture**

Sawyer Starrett¹

¹University of Nebraska-Lincoln

8:15 a.m. 260 **Intake, Digestion, and Rumen Fermentation Responses to Protein Supplementation Frequency and Forage Type in Beef Steers**

Allison Serda¹, Tryon A. Wickersham², Merritt L. Drewery¹

¹Texas State University, ²Texas A&M University

Nonruminant Nutrition 2: Metabolism, Gut Health, and Microbial Dynamics

Chair: Victoria Uyanga, Lincoln University of Missouri

8:00 AM - 9:00 AM

G-J

8:00 a.m. 236 **Growth Performance and Energy Utilization of Nursery Pigs Fed Increasing Levels of a Novel Corn Protein Complex**

Eric Oppong¹, Keith Mertz², John Patience¹, Laura L. Greiner¹

¹Iowa State University, ²Cargill

8:15 a.m. 237 **Evaluation of Energy Utilization and Net Energy Efficiency of Novel Corn-derived Protein Ingredients in Growing Pigs**

Eric Oppong¹, Keith Mertz², John Patience¹, Laura L. Greiner¹

¹Iowa State University, ²Cargill

8:30 a.m. 239 **Heat Stress Alters Gastrointestinal Motility and Digestive Parameters in Finishing Pigs**

Orsolya Csötönyi ¹, Ágnes Baráth ¹, László Sarkadi ¹, Kesete Goitom Tewelde ¹, Nikoletta Such ¹, Veronika Halas ¹

¹Hungarian University of Agriculture and Life Sciences

8:45 a.m. 240 **Effects of Waterline Delivery of Lactobacillus and Bifidobacterium Combination on Growth Performance, Diarrhea Frequency, and Hematology Responses in Weaned Pigs**

Deepak E. E Velayudhan ¹, Hyunjin Kyoung ², Ester Vinyeta ³, Zhong-Xing Rao ³, Janet C. Remus ³, Minh Song ²

¹Danisco Animal Nutrition (IFF), ²Chungnam National University, ³Danisco Animal Nutrition & Health (IFF)

Production, Management and Environment 4

Chair: Matheus Ferreira, Louisiana State University

8:00 AM - 11:30 AM

Lecture Hall

8:00 a.m. 283 **Award Talk: From Biology to the Barn: Translating Science into Practical Management Solutions for Swine Producers**

Jay S. Johnson ¹

¹University of Missouri

8:30 a.m. 284 **Impact of Use of Rubber Mats on Thermal Comfort of Gestating Sows in Prop 12 Compliant Barns**

Mary L. Kasakamu ¹, Madonna Benjamin ², Tami M. Bown-Brandl ¹, Monique Pairis-Garcia ³

¹University of Nebraska Lincoln, ²Michigan State University, ³North Carolina State University

8:45 a.m. 285 **Optimizing Macroenvironment Temperature for Lactating Sows and Their Litters Using Electronically-controlled Piglet Heating Pads**

Caitlyn R. Sullivan ¹, L. Kirsten Fanning ², Mckenzie R. Cecil ², MaryKate H. Byrd ², Shelby L. Diggs ³, Samantha M. Neeno ², Tyler C. Fields ², Jiquin Ni ², Brian T. Richert ², Jeremy T. Marchant ⁴, Allan P. Schinckel ², Robert M. Stwalley III ², Jay S. Johnson ¹

¹University of Missouri, ²Purdue University, ³Department of Animal Sciences, University of Missouri, ⁴A World of Good Initiative Inc.

9:00 a.m. 286 **Effects of Cooled Drinking Water on Performance of Heat-stressed Lactating Sows**

Lee J. Johnston ¹, Adrienne M. Hilbrands ¹

¹University of Minnesota

9:15 a.m. 287 **Effects of Simulated Wildfire Smoke Exposure on Immune Indicators of Beef Heifers**

Aline C. Rezende dos Santos ¹, Erica Ferri de Oliveira ¹, Jocelyn Torres ¹, Matheus L. Ferreira ², Katie Wollstein ¹, Amy Skibiel ³, Jenifer Cruickshank ¹, Juliana Ranches ¹

¹Oregon State University, ²Louisiana State University, ³University of Idaho

9:30 a.m. **Production, Management and Environment 4 Break**

9:45 a.m. 288 **Award Talk: Amelioration of Heat Stress Using Dietary Mineral (selenium and Chromium) Supplementation**

Frank R. Dunshea ¹

¹University of Melbourne

10:15 a.m. 289 **Modeling the Epidemiological and Social Drivers of Livestock Diseases: A System Dynamics Model of Bovine Respiratory Disease**

Adeolu J. Adekunle ¹, Sahas Puri ¹, Benjamin L. Turner ², Luis Orlindo Tedeschi ¹, Karun Kaniyamattam ³

¹Texas A&M University, ²Texas A&M University Kingsville, ³Department of Animal Science, Texas A&M University

10:30 a.m. 290 **Individual Cattle as Agents and Their Behavior in Healthy and Disease States in an Integrated Beef Production System: An Agent-based Simulation Approach**

Adeolu J. Adekunle ¹, Evan Kniffen ¹, Sayok Bose ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²Department of Animal Science, Texas A&M University

10:45 a.m. 291 **Impact of incidence of bovine respiratory disease (BRD) detected using automated-disease-detection (ADD) technology on performance, feed intake, efficiency and feeding behavior patterns in growing seedstock bulls**

Brooke E. Baker ¹, Gordon E. E. Carstens ¹, Keara O'Reilly ², Ross Havens ³

¹Texas A&M University, ²University of Nebraska-Lincoln, ³Nichols Farms Ltd.

11:00 a.m. 292 **Award Talk: Impact of Transportation Stress on Inflammatory and Oxidative Stress Biomarkers in Beef Cattle**

Nathaniel Ogunkunle ¹

¹Alabama A&M University

Beef Species Symposium: Energetics

Chair: Matthew Beck, Texas A&M University

8:00 AM - 12:00 PM

Ballroom C

8:00 a.m. **Beef Species Symposium Introduction**

8:05 a.m. 293 **Advances and Future Research Directions for Energetic Research of Beef Cattle**

Kristen E. Hales ¹

¹Texas Tech University

9:00 a.m. 294 **Energetics and Energetic Efficiency of Beef Cows**

Alfredo DiCostanzo ¹

¹UNL Extension

9:55 a.m. **Beef Species Symposium Break**

10:10 a.m. 295 **Using Respiratory Gas Fluxes to Access the Energy Intake and Utilization by Grazing and Group Fed Cattle**

Stacey A. Gunter ¹, Emalee J. Friend ¹, Emily A. Petzel ¹, Matthew R. Beck ²

¹USDA, Agricultural Research Service, ²Texas A&M University

11:05 a.m. 296 **Beyond RFI: Optimizing Energetic Efficiency in Grazing Cattle**

Gordon E. Carstens ¹, Matthew R. Beck ¹, Keara O'Reilly ²

¹Texas A&M University, ²University of Nebraska-Lincoln

Meat Science and Muscle Biology

Chair: Thomas Dobbins, The Pennsylvania State University

8:30 AM - 10:15 AM

H-I

8:30 a.m. 229 **Award Talk: Beef Loin Colour and Ultimate pH: Mechanisms, and Influence of Climate-change Induced Bushfires**

Robyn Warner ¹

¹The University of Melbourne

9:00 a.m. 234 **Low-Ionic-Strength Proteomic Profiles Reveal Structural, Membrane, and Metabolic Features of Divergent Aged Pork Eating Quality**

Steven M. Lonergan ¹, Elisabeth Huff-Lonergan ¹, Mackenzie E. Griffin ¹, Brandon Fields ², Neal Matthews ², Logan G. Johnson ³, Anna C. Dilger ⁴, Bailey N. Harsh ⁴, Ben M. Bohrer ⁵

¹Iowa State University, ²PIC, North America, ³Oklahoma State University, ⁴University of Illinois, ⁵The Ohio State. University

9:15 a.m. 231 **Effects of Water Temperature and Curcumin-piperine Supplementation on Growth Performance and Carcass Traits in Juvenile Rainbow Trout**

Aliute N.S Udoka ¹, Troy Farmer ¹, Susan K. Duckett ¹

¹Clemson University

9:30 a.m. 232 **Effect of Amino Acid Derivatives and Polyphenol Supplementation on Skeletal Muscle in Vitro and in Vivo**

Gabriella C. Iheanacho ¹, Aliute N.S Udoka ¹, James L. Klotz ², Susan K. Duckett ¹

¹Clemson University, ²USDA-ARS

9:45 a.m. 233 **Neonatal vitamin A supplementation modulates DNA methylation in Longissimus thoracis muscle in beef cattle**

Ligia Ferreira de Souza ¹, Mariah Castro Durval ², Luiz F. Brito ³, Daniel de Lima Daniel de Lima ⁴, Jose Maria Oliveira ⁵, Marcos Roberto Chiaratti ⁴, Jon P. Schoonmaker ², Marcio M. Ladeira ⁶

¹ Federal University of Lavras (UFLA), ²Purdue University, ³Purdue University, West Lafayette, USA, ⁴Federal University of Sao Carlos, ⁵University of Illinois, ⁶UFLA

10:00 a.m. 230 **Effects of Indoor and Outdoor Rearing Systems on Carcass Characteristics, Meat Quality, and Muscle Composition of Duroc Pigs**

Yongjie Wang ¹, Lin Yang ¹, Kaliyah Hayes ¹, Junzhou Ding ¹, Reza Tahergorabi ¹, Zhoulin Wu ¹, Julisa Cruz ¹, Joseline Mora-Obrajerio ¹, Hao Feng ¹

¹North Carolina Agricultural and Technical State University

Physiology and Endocrinology 3: Nutrition, Stress, and Fetal Programming

Chair: Sarah McCoski, Montana State University

8:30 AM - 11:45 AM

Ballroom A

8:30 a.m. 249 **Award Talk: From Nutrition to Elongation: Uterine Histotroph Programs Early Conceptus Development in Ungulates**

Xiaoqiu Wang ¹

¹North Carolina State University

9:00 a.m. 250 **Impact of Paternal Overnutrition on Fetal Morphometrics During the First Trimester of Gestation**

Molly Sloan Smith ¹, Lucas Melo-Goncalves ¹, Jaden A. Hallman ¹, Phillip Howington ¹, Lawton Stewart Jr. ¹, Alexander M. Stelzleni ², Francis L. Fluharty ³, Pedro Levy Piza Fontes ¹

¹University of Georgia, ²UGA, ³Department of Animal and Dairy Science, University of Georgia

9:15 a.m. 251 **Uterine Blood Flow and Placental Size in Beef Cows with Historically Divergent Fetal Growth Fed at a Similar Nutritional Plane During Late Gestation**

Colby A. Redifer ¹, Allison M. Meyer ², Matthew S. Crouse ¹, Harvey C. Freetly ¹, Amanda K. Lindholm-Perry ³, Robert A. Cushman ¹

¹U.S. Meat Animal Research Center, USDA-ARS, ²Division of Animal Sciences, University of Missouri, ³USDA-ARS, U.S. Meat Animal Research Center

9:30 a.m. 252 **Effects of a Pre-breeding Immunomodulatory Feed Supplement on Ovarian Development in Beef Heifers with Divergent Antral Follicle Count**

Kathlyn M. Hauxwell¹, Joel S. Caton², Matthew S. Crouse³, Colby A. Redifer³, Clay A. Lents⁴, Larry A. Kuehn⁵, Harvey C. Freetly³, Alexandria P. Snider³, Jeremy R. Miles⁶, Haley N.

Weidman⁷, Jerica J. J. Rich⁸, Kacie L. McCarthy⁹, George A. Perry¹⁰, Robert A. Cushman³

¹North Dakota State University, ²Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ³U.S. Meat Animal Research Center, USDA-ARS, ⁴USDA, ARS, US Meat Animal Research Center, ⁵USDA-ARS, U.S. Meat Animal Research Center, ⁶U.S. Meat Animal Research Center, ⁷Texas A&M AgriLife, Overton, ⁸Arkansas State University College of Agriculture, ⁹University of Nebraska Lincoln, ¹⁰Texas A&M AgriLife Research

9:45 a.m. 253 **Inflammation Induced by 4 Days of Moderate-intensity Heat Stress Was Not Improved by ω -3 Polyunsaturated Fatty Acid Supplementation in Growing Steers**

Melanie R. White¹, Shelley A. Curry¹, Ashley A. Hahn¹, Brooke L. Parrish¹, Dustin T. Yates¹

¹University of Nebraska-Lincoln

10:00 a.m. **Physiology and Endocrinology 3: Break**

10:15 a.m. 254 **Award Talk: Paternal Overnutrition in Bulls Impaired Blastocyst Development and Decreased Preimplantation Conceptus Length with Minimal Changes to Conceptus and Endometrial Transcriptome**

Lucas Melo-Goncalves¹, Arslan Tariq², Samir Burato¹, Molly Sloan Smith¹, Jaden A. Hallman¹, Kaleb B. Marchant¹, Saulo Zoca³, Lee Jones⁴, Camila Ezepeha⁵, Lawton Stewart Jr.¹, Fernando Biase⁵, John J. Bromfield², Pedro Levy Piza Fontes¹

¹University of Georgia, ²University of Florida, ³University of Tennessee, ⁴Boehringer Ingelheim Animal Health, ⁵Virginia Tech

10:45 a.m. 255 **Anti-inflammatory Intervention via Dietary ω -3 Polyunsaturated Fatty Acids Partially Resolves Poor Adipose Lipolytic Responsiveness in Heat-stressed Beef Heifers**

Shelley A. Curry¹, Melanie R. White¹, Ashley A. Hahn¹, Elizabeth E. Rodgers¹, Dustin T. Yates¹

¹University of Nebraska-Lincoln

11:00 a.m. 256 **Modest but Chronic Maternofetal Inflammation During Late Gestation in Beef Cows Reduced the Subsequent Birthweight of Their Calves**

Ashley A. Hahn¹, Melanie R. White¹, Shelley A. Curry¹, Elizabeth E. Rodgers¹, Elieen S. Marks-Nelson², Dustin T. Yates¹

¹University of Nebraska-Lincoln

11:15 a.m. 257 **Effects of Melatonin Implants on Circulating Melatonin, Cortisol, and Total Antioxidant Capacity in Late Gestating Beef Cows**

James E. Samson¹, Jasmine M. Eason¹, Nathaniel Ogunkunle¹, John F. Odhiambo²

¹Alabama A&M University, ²Alabama Agricultural and Mechanical University

11:30 a.m. 258 **Evaluating insulin resistance and sensitivity values in beef steers from birth to weaning**

Adam King ¹, Mallory E. LeDoux ², Mindy King ¹, Emma A. Briggs ¹

¹Kansas State University, ²Oklahoma State University

Forages and Pastures 2: Grazing Management, Animal Performance, and Forage Monitoring

Chair: James MacDonald, University of Nebraska, Department of Animal Science

8:45 AM - 11:30 AM

Ballroom B

8:45 a.m. 261 **Behavior, Welfare, and Performance of Beef Cattle Grazing Grass Monocultures Improved by Islands of Forage Diversity**

Iddy Muzzo ¹, Kelvyn Bladen ², Juan J. Villalba ³

¹Department of Wildland Resources, Utah State University, ²Department of Mathematics and Statistics, Utah State University, ³Department of Wildland Resources, Utah State University

9:00 a.m. 262 **Animal Performance and Herbage Responses of Palisade Grass Submitted to Nitrogen Fertilizer Rates Under Grazing**

Abmael S. Cardoso ¹, Igor M. Ferreira ¹, Izabela L. Rigobello ¹, Marcelo A. O. Castro ¹, Angélica S. R. S. Bahia ¹, Debora Siniscalchi ², Ana C. Ruggieri ¹, Ricardo A. Reis ¹

¹São Paulo State University, ²Sao Paulo State University

9:15 a.m. 263 **Reproductive and Growth Performance of Beef Cow-calf Pairs Under Contrasting Grazing Strategies**

Emanoella KS Otaviano ¹, Guilherme FS Congio ², Desiree Ramus ¹, Thomas James ¹, Isabella CF Maciel ¹

¹Noble Research Institute, LLC, ²University of Sao Paulo

9:30 a.m. 264 **Performance of Cow-calf Pairs and Stocker Cattle Rotationally Grazing Sudangrass with or Without Sunnhemp During Summer**

Pedro Fernandes ¹, Shelby Davies-Jenkins ², Mary K. Drewnoski ¹, Daren Redfearn ¹

¹University of Nebraska-Lincoln, ²University of Missouri

9:45 a.m. 265 **Influence of Timing of Grazing During the Growing Season on Forage Utilization, Foraging Efficiency, Botanical Composition, and Diet Quality in Semi-arid Rangelands**

Cooper W. Simmons ¹, Caroline W. Gatschet ¹, Noah G. Davis ¹, Kaylen Stearns ¹, Gavin Haines ¹, Tucker L. Lytton ¹, Sophie O'Connor ¹, Kylee Lewis ¹, Annika Anderson ¹, Paul W. Nugent ¹, Brett W. Griesbaum ¹, Tim DelCurto ¹, Sam Wyffels ¹

¹Montana State University

10:00 a.m. **Forages and Pastures 2: Grazing Management, Animal Performance, and Forage Monitoring Break**

10:15 a.m. 266 **Satellite-derived Assessment of Seasonal Forage Dynamics in Bermudagrass Pastures Under Different Management Strategies**

Marcia Helena Machado da Rocha Fernandes ¹, Monte M. Roquette ¹, Kelli Norman ², Gerald Smith ², Jordan M. Adams ³, Luis Orlindo Tedeschi ¹

¹Texas A&M University, ²Overton Texas A&M AgriLife Research & Extension Center,

³Department of Animal Science, Texas A&M University

10:30 a.m. 267 **UAV-based Multispectral Monitoring to Predict Pasture Nutritional Value, Grazing Behavior, and Methane Production in Grazing Heifers**

Guilherme L. Menezes ¹, Raphael R. Mantovani ¹, Maria Elisa Montes ¹, Gustavo Mazon ¹, Ariana Negreiro ¹, Emerson Alexandrino ¹, Lais Lima ², David Jaramillo ³, Joao R. R. Dorea ⁴

¹Department of Animal and Dairy Sciences, University of Wisconsin–Madison, ²University of Florida, ³USDA-ARS, ⁴University of Wisconsin-Madison

10:45 a.m. 268 **Copper deficiency of cool-season invaded grassland affects liver mineral content of growing beef heifers**

Rachael g. Christensen ¹

¹USDA-ARS

11:00 a.m. 269 **Herbage and animal productivity of two rotational cow-calf grazing strategies in the Southern Great Plains**

Isabella CF Maciel ¹, Emanoella KS Otaviano ¹, Guilherme FS Congio ², Desiree Ramus ¹, Thomas James ¹

¹Noble Research Institute, LLC, ²University of Sao Paulo

11:15 a.m. 270 **Performance of early-weaned beef calves grazing annual ryegrass under different concentrate supplementation strategies**

Joao Lazarin ¹, Joao M. B. Vendramini ¹, Philippe Moriel ², Hiran da Silva ³, Vinicius S. Izquierdo ², Chadwade Anderson ³, Nauara Moura Lage Filho ⁴, Andre Miranda ⁵, Debora Siniscalchi ⁶

¹Texas A&M AgriLife Research, ²University of Florida, IFAS/Range Cattle Research and Education Center, ³University of Florida, ⁴Universidade Federal de Roraima, ⁵The University of British Columbia, ⁶Sao Paulo State University

Companion Animal 2 - Sponsored by Trouw Nutrition, a Nutreco Company

Chair: Júlia Guazzelli Pezzali, Kansas State University

9:00 AM - 12:30 PM

Ballroom D

9:00 a.m. 271 Award Talk: Feeding Decisions That Matter: How Food Choices Shape Oral Health in Companion Animals

Patricia Massae Oba ¹

¹Department of Animal Science, University of Illinois at Urbana-Champaign

9:30 a.m. 272 Effects of Dietary Supplementation of Algal Docosahexaenoic Acid on Fecal Characteristics, Fecal Metabolites, Blood Coagulation Parameters and Serum Chemistry of Adult Dogs

Confidence C. John ¹, Christina Ferraro ¹, Julio Mioto ¹, Alison Tibbs ¹, Christine Wu ², Maria R.C. de Godoy ¹

¹University of Illinois, Urbana-Champaign, ²Corbion, Bangkok

9:45 a.m. 273 Effects of Dietary Phosphoric Acid as a Urinary Acidifier on Renal Health, Mineral Metabolism, and Urine Supersaturation in Cats

Maria Eduarda G. Tozato ¹, Stephanie S. Theodoro ², Júlia Lavandoski ¹, Ticiane B. G. Freire ¹, Ariel de Castro ¹, Jhennifer Fenerick ¹, Marcos Vinícius Santos ¹, Eloise de Ramos ¹, Kellen Oliveira ³, Danuta Doiche ¹, Carmen Pineda ⁴, Aulus C. Carciofi ¹

¹São Paulo State University, ²University of São Paulo, ³Goiás Federal University, ⁴University of Cordoba

10:00 a.m. 274 Phenolic Composition, Not Total Phenolic Concentration, Predicts Total Antioxidant Capacity as Measured by the QUENCHER-CUPRAC Assay in Pet Food Fiber Ingredients

Dalton A. Holt ¹, Trevor Faber ², Ryan N. Dilger ¹

¹University of Illinois Urbana-Champaign, ²Trouw Nutrition

10:15 a.m. 275 Dogs Fed Faba Bean Protein and Starch Concentrate, or Flour Based Diets had Similar Body Composition, Serum Biochemistry, Plasma Amino Acids and Cardiac Function After 26 Weeks

Jordyn Welsh ¹, Lindsey Rummell ¹, Chris Marinangeli ², Sydney Banton ¹, Dave J. Seymour ³, Gail Kuhlman ⁴, Alexandra Rankovic ¹, Shari Raheb ¹, Adronie Verbrugghe ¹, Shoshana Verton-Shaw ¹, Kate K. Shoveller ¹

¹University of Guelph, ²Protein Industries Canada, ³University of Guelph, Trouw Nutrition, ⁴Iowa State University

10:30 a.m. 276 Efficacy of a Botanical Blend for Canine Behavioral Support: Behavioral Outcomes and Owner Perspectives in an In-home Use Setting

Jessica Jarett ¹, Mark Franklin ¹, Neil D. Paton ¹

¹Cargill

10:45 a.m. **Companion Animal 2 Break**

11:00 a.m. 277 **Associations Between Protein Processing and Digestibility, Gut Microbiota Diversity, and Abundance in Dogs**

Stephanie S. Theodoro ¹, Lucas Bassi Scarpim ², Maria Eduarda G. Tozato ², Eloise de Ramos ², Bruna Lopes ³, Jonathan Turck ³, Teresa Schmidt ³, Jhennifer Fenerick ², Jan S. Suchodolski ⁴, Aulus C. Carciofi ²

¹University of São Paulo, ²São Paulo State University, ³Gastrointestinal Laboratory, Texas A&M University, ⁴Gastrointestinal Laboratory Texas A&M University

11:15 a.m. 278 **Comparing Human and Canine *in vitro* Digestibility and Colonic Fermentation of Yeast-based Protein**

Achraf A. Adib Lesaux ¹, Jonna EB Koper ², Justine Delannoy ², Nabil Bosco ², Russell Kelley ¹

¹Phileo By Lesaffre, ²Lesaffre Institute of Science and Technology

11:30 a.m. 279 **Effects of a dietary polyphenol blend at 0.02% and 0.04% on oxidation, inflammation, macronutrient utilization, and concentrations of fecal short and branched chain fatty acids in healthy adult male cats**

Kira Cheer ¹, Pauline Kosmal ¹, Sanjana Anan ¹, Sydney Banton ¹, Teena Thakidiyil ¹, Genevieve Gillies ¹, Wendy Pearson ¹, Elijah Kiarie ¹, Jennifer L. Saunders Blades ², Darcia Kostiuik ³, Ryan N. Dilger ⁴, Kate K. Shoveller ¹

¹University of Guelph, ²Champion Petfoods Holding Inc, ³Champion Petfoods Holding Inc.,

⁴University of Illinois Urbana-Champaign

11:45 a.m. 280 **Evaluating the Effect of a Dietary Yeast Product on Thermoregulatory, Digestive, and Metabolic Responses in Exercising Dogs**

Benjamin D. Fox ¹, Navreet Gandhi ¹, Lindsey Rummell ¹, Alexandra Rankovic ¹, Rob Patterson ², Kate K. Shoveller ¹

¹University of Guelph, ²CBS Bioplatfoms

12:00 p.m. 281 **Evaluation of Raw and Extruded Diets on Cognitive Performance in Senior Dogs**

Cierra N. Crowell ¹, Marsden Fisher ¹, Susan Wynn ², Stephanie Striar ³, Jason Meents ³, Erin B. Perry ¹

¹Southern Illinois University Carbondale, ²Instinct Pet Food, ³Instinct Pet Foods

12:15 p.m. 282 **Nutrition Management Practices for Detection Dogs Within Varying Fields During Deployment: Insights from Handler-Reported Survey Data**

Erin B. Perry ¹, Madison Schmidt ¹, Emma L. Carl ¹

¹Southern Illinois University Carbondale

Swine Species

Chair: Megan Bible, Hamlet Protein Inc

9:45 AM - 11:45 AM

G-J

9:45 a.m. 241 **Vaginal Gene Expression Profiles in Pre-pubertal Replacement Gilts Associated with Variation in Age at Puberty**

Alejandra Forero salamanca ¹, Crystal L. Levesque ¹, Jodi Morton ²

¹South Dakota State University, ²Southern University and A&M College

10:00 a.m. 242 **Behavioral and Physiological Indicators of Litter Outcome in Gestating Gilts**

Andrea M. Luttman ¹, Nancy E. Raney ¹, Catherine W. Ernst ¹

¹Michigan State University

10:15 a.m. 243 **Factors Influencing Sow Colostrum and Subsequent Impacts on Piglet Performance**

Simon A. Collier ¹, Andrea M. Luttman ¹, Nancy E. Raney ¹, Catherine W. Ernst ¹

¹Michigan State University

10:30 a.m. 244 **Supply Chain Disruptions of Vitamins and Amino Acids Threaten Swine Production Efficiency**

Yuan-Tai Hung ¹, Spencer Parkinson ², David Miller ², Philip Lobo ³, Lara Moody ¹

¹Institute for Feed Education and Research / AFIA, ²Decision Innovation Solutions, LLC, ³Lobo Consulting Solutions, LLC

10:45 a.m. **Swine Species Break**

11:00 a.m. 248 **Utilization of enrichment blocks in group-housed sows under commercial conditions: Effects on aggressive interactions and sow and litter performance**

Carley R. Hopkins ¹, Cooper T. McAuley ², Katelyn N. Gaffield ², Jason C. Woodworth ³, Juan F. Castillo ¹, Clayton S. Chastain ⁴, Joel M. DeRouchey ², Shelby L. Diggs ¹, Jordan T. Gebhardt ⁵, Robert D. Goodband ², Eric Parr ⁴, Nicholas J. Prosek ¹, Caitlyn R. Sullivan ⁶, Mike D. Tokach ², Jay S. Johnson ⁶

¹Department of Animal Sciences, University of Missouri, ²Department of Animal Sciences and Industry, Kansas State University, ³Kansas State University, ⁴Carthage Innovative Swine Solutions, ⁵Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, ⁶University of Missouri

11:15 a.m. 246 **Effects of Probiotic Supplementation in DDGS Feeds on Splenic Gene Expression of Berkshire Pigs Finished in Hoop Barns**

Derrick J. Coble ¹, Ayanna J. Harrison ¹, Ashlee J. Robinson ¹, Brianna J. Carter ¹, Daisha J. Peele-Kendrick ¹, Karla J. Branch ¹, Haleigh J. A Pettress ¹

¹North Carolina A&T State University

11:30 a.m. 247 **Effects of Probiotic Supplementation in DDGS Feeds on the Hepatic Transcriptome of Berkshire Pigs Finished in Hoop Barns**

Derrick J. Coble¹, Brianna J. Carter¹, Ayanna J. Harrison¹, Ashlee J. Robinson¹, Daisha J. Peele-Kendrick¹, Karla J. Branch¹, Haleigh J. A Pettress¹

¹North Carolina A&T State University

Growth and Development 1: Environmental Stressors and Digestive Physiology

Chair: John Odhiambo, Alabama Agricultural and Mechanical University

1:30 PM - 3:45 PM

H-I

1:30 p.m. 310 **Award Talk: Immunometabolism Reprioritizes the Hierarchy of Nutrient Parturition During Growth**

Lance H. Baumgard¹

¹Iowa State University

2:00 p.m. 311 **Mitigation Strategies for Ergot Alkaloid-induced Vasoconstriction: Effects of 5-hydroxytryptophan on Maternal and Fetal Development, and Fetal Liver Metabolomics**

Susan K. Duckett¹, Aliute N.S Udoka¹, Gabriella C. Iheanacho¹, Kara Hardin¹, James L. Klotz²

¹Clemson University, ²USDA-ARS

2:15 p.m. 312 **5-hydroxytryptophan Alleviates Toxic Fescue-induced Disruption of Fetal Muscle Development and Associated Gene Expression Pathways During Late Gestation**

Gabriella C. Iheanacho¹, Aliute N.S Udoka¹, James L. Klotz², Susan K. Duckett¹

¹Clemson University, ²USDA-ARS

2:30 p.m. **Growth and Development 1: Environmental Stressors and Digestive Physiology Break**

2:45 p.m. 313 **Ruminal Papillae Morphology and Feeding Behavior of Beef Cattle from Different Production Systems During Growing and Finishing Phases**

Gabriel R. Neiva¹, Felipe C. Maciel², Andrey S. Miranda², Miguel F. Dias², Tathiane R. R.S Gionbelli³, Douglas F. de Souza¹, Daniel R. Casagrande², Mateus P. Gionbelli²

¹University of Lavras, ²University of Lavras, Brazil, ³Federal University of Lavras

3:00 p.m. 314 **5-Hydroxytryptophan Attenuates Toxic Tall Fescue-Induced Oxidative Stress on Fetal Satellite Cells**

Gabriella C. Iheanacho¹, Aliute N.S Udoka¹, Rooksana E. Noorai², Roberta C. Canton², Maximiliano Ortiz², James L. Klotz³, Susan K. Duckett¹

¹Clemson University, ²Clemson University Genomics and Bioinformatics Facility, ³USDA-ARS

3:15 p.m. 371 **The effects of yearling bull rate of gain on fertility and performance**

Kacie L. McCarthy¹, Matthew S. Crouse², Jeff Ondrak², Zachary D. McFarlane³, Carl Robertson R. Dahlen⁴, Robert A. Cushman², Alexandria P. Snider²

¹University of Nebraska-Lincoln, ²U.S. Meat Animal Research Center, USDA-ARS, ³California Polytechnic State University, San Luis Obispo, ⁴Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University

3:30 p.m. 370 **Characterization of Microbiota in 250-Day-Old Bovine Fetuses and Their Dams**

Samat Amat¹, Devin B. Holman², Kell Helmuth³, Godson Aryee³, Jennifer L. Hurlbert³, Carl Robertson R. Dahlen⁴

¹Animal Science Department, North Dakota State University, ²Lacombe Research and Development Centre, ³Animal Science Department, North Dakota State University, ⁴Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University

Animal Health 2

Chair: Emily Melchior, Zoetis Inc.

2:00 PM - 3:30 PM

G-J

2:00 p.m. 316 **Impact of Growth Trait and Dam Age on Immune Response to Weaning Stress in Beef Calves**

Abigail E. Anderson¹, Alexis R H Main², Kendall G. Stilwell¹, Ranjith Ramanathan², Janeen L. Salak-Johnson¹

¹Michigan State University College of Veterinary Medicine, ²Oklahoma State University

2:15 p.m. 317 **Effect of Non-chemical Dewormers on Gastrointestinal Nematode and Immune Response of Goat Kids**

Uma Karki¹, Madhav Dumre¹, Arjun Acharya¹, Sagar Acharya¹

¹Tuskegee University

2:30 p.m. 319 **Mycobacterium avium Subsp. Paratuberculosis Infection Suppresses Purinergic Signaling and Reshapes Immune, Oxidative, and Apoptosis Pathways in Peripheral Blood Mononuclear Cells of Goats**

Jerome C. Peel¹, Oliviya Greenhoward¹, Roger C. Merkel², Dawit Woldemariam¹, Haji Akbar¹

¹American Institute for Goat Research, Langston University, ²Langston University

2:45 p.m. 318 **Evaluation of High-forage and High-concentrate Diets During Gestation on Maternal and Offspring Respiratory Microbiome Development in Beef Cattle**

Godson Aryee ¹, Devin B. Holman ², Kell Helmuth ¹, Justine Kilama ³, Jennifer L. Hurlbert ¹, Brooklyn M. Kuzel ¹, Sarah R. Underdahl ⁴, Joel S. Caton ⁵, Kendall C. Swanson ⁶, Carl Robertson R. Dahlen ⁵, Samat Amat ⁷

¹Animal Science Department, North Dakota State University, ²Lacombe Research and Development Centre, ³Animal Science Department, North Dakota State University, ⁴Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, ND, ⁵Center for Nutrition and Pregnancy and Department of Animal Sciences, North Dakota State University, Fargo, North Dakota, United States, ⁶Department of Animal Science, North Dakota State University, ⁷Animal Science Department, North Dakota State University

3:00 p.m. 315 **Development of Ocular Probiotics to Mitigate Pinkeye in Cattle: An in Vivo Pilot Study**

Md Shafinul Islam ¹, Godson Aryee ², Kell Helmuth ², Justine Kilama ³, Samat Amat ⁴

¹North Dakota State University, ²Animal Science Department, North Dakota State University, ³Animal Science Department, North Dakota State University, ⁴Animal Science Department, North Dakota State University

Horse Species

Chair: Sarah Reed, University of Connecticut

2:00 PM - 4:15 PM

E-F

2:00 p.m. 304 **Award Talk: Supporting the Deconditioning-reconditioning Cycle with Antioxidants: Tales from Polo Ponies**

Sarah A. Reed ¹, Mia Y. Kawaida ¹

¹University of Connecticut

2:30 p.m. 305 **Evaluating the influence of moderate differences in body condition on successful ovulation induction and fasted glucose metabolism in broodmares.**

Cheyenne S. Summers ¹, Rachael E. Gately ², Steven A. Zinn ¹, Sarah A. Reed ¹

¹University of Connecticut, ²Tufts Cummings School of Veterinary Medicine

2:45 p.m. 306 **Short-term provision of moderate dietary starch induces compositional and functional shifts in the fecal microbiome independent of alpha diversity metrics in yearling Quarter Horses**

Adrianna N. DiSilvestro ¹, Lauren T. Wesolowski ², Brooke D. Williams ¹, Lori K. Warren ³, Giri Athrey ¹, Sarah H. White-Springer ¹

¹Texas A&M University and AgriLife Research, ²Texas A&M University, ³University of Florida

3:00 p.m. **Horse Species Break**

3:15 p.m. 307 **Award Talk: Lactation, Neonate Foal Health, and Maternal and Offspring Metabolism in Broodmares with Moderate Body Condition**

Cheyenne S. Summers¹, Steven A. Zinn¹, Huey Yi Loh², Terry E. Engle², Santhi Priya Voggu¹, Kristen E. Govoni¹, Sarah A. Reed¹

¹University of Connecticut, ²Colorado State University

3:45 p.m. 308 **Turnout Management Practices and Associations with Body Condition and Stereotypic Behaviour in Horses Across North America**

Alexandra Rankovic¹, Alessia Masini¹, Priska Darani², Katrina Merkies¹

¹University of Guelph, ²Mad Barn Inc

4:00 p.m. 309 **Equine Segmental Trace Elements Analysis: Stronger Temporal Trends in Tail v. Mane**

Anna Honeycutt¹, Todd O'Hara², Trinette N. Jones¹, Edward Webb¹

¹Tarleton State University, ²Texas A&M University

Ruminant Nutrition 8: Late-Breaking

Chair: Kristen Johnson, Washington State University

2:00 PM - 4:30 PM

Ballroom C

2:00 p.m. 332 **Association of Glucose Metabolism with Residual Feed Intake in Beef Bulls.**

Tomas Andres-Soto¹, Andres Lacherre¹, Macarena Gomez-Salmoral¹, Ignacio Fernandez-Marenchino¹, Araceli B. Maderal¹, Federico L. Tarnonsky¹, Andres Fernandez-Lehmann¹, Georgia J. Dubeux¹, Analía Echeverría¹, Tessa M. M. Schulmeister¹, Daniella C. Heredia¹, Jose L. Infante¹, Maria Camila C. Lopez-Duarte¹, Oscar Alejandro Ojeda-Rojas², Alejandro E. Relling³, Nicolas DiLorenzo¹, Angela M. Gonella¹

¹University of Florida, ²University of Georgia, ³Ohio State University

2:15 p.m. 333 **Associations Between Rumination Behavior, Liquid Passage Kinetics, and Dry Matter Intake in Finishing Beef Steers**

Mallory E. LeDoux¹, Ryan R. Reuter¹, David L. Lalman¹, Matthew R. Beck², Andrew P. Foote¹

¹Oklahoma State University, ²Texas A&M University

2:30 p.m. 334 **Effects of guanidinoacetic acid and rumen-protected methionine supplementation on growth performance, carcass merit, and meat quality of finishing beef steers**

Sergio Lasso Ramirez ¹, Londono-Mendez Camila Maria Camila ¹, Arturo Macias Franco ¹, Aghata Elins Elins Moreira ¹, Weiguang Hao ¹, Vanesa Ramirez-Sepulveda ¹, Bimol Roy ¹, Hushton Block ², Richard Uwiera ¹, Oscar López-Campos ³, Nuria Prieto ³, Heather L. Bruce ⁴, Gleise Medeiros Da Silva ¹

¹University of Alberta, ²Agriculture and Agri-Food Canada, Lacombe Research and Development Centre, 6000 C&E Trail, Lacombe, Alberta, Canada, ³Agriculture and Agri-Food Canada, Lacombe Research and Development Centre, 6000 C&E Trail, Lacombe, Alberta, Canada, ⁴Faculty of Agriculture and Campus Principal, Dalhousie University, Bible Hill, NS

2:45 p.m. 335 **Effects of supplemental isoacids on liver health, carcass quality, and performance in finishing beef steers fed high-fiber or high-grain diets**

Mozart A. Fonseca ¹, Luan De Oliveira Moura Silva ², Nelcino F. Francisco De Paula ³, Edjane P. Silva ², Daryl Kleinschmit ⁴, Laura A. Amundson ⁴, Mike T. Socha ⁴

¹West Texas A & M University, ²New Mexico State University, ³New Mexico State University, Clayton Livestock Research Center, ⁴Zinpro Corporation

3:00 p.m. 336 **Evaluation of granular and oil formulations containing synthetic bromoform for methane mitigation in beef cattle**

Ignacio Fernandez-Marenchino ¹, Liza Garcia ², Araceli B. Maderal ¹, Federico L. Tarnonsky ¹, Andres Lacherre ¹, Tomas Andres-Soto ¹, Macarena Gomez-Salmoral ¹, Georgia J. Dubeux ¹, Andres Fernandez-Lehmann ¹, Analia Echeverria ¹, Tessa M. M. Schulmeister ¹, Pablo Alvarez-Hess ³, Renata Tognelli ³

¹University of Florida, ²North Florida Research and Education Center, Institute of Food and Agricultural Sciences, University of Florida, ³Global Clinical Trial Lead at Rumin8

3:15 p.m. **Ruminant Nutrition 8: Late-Breaking Break**

3:30 p.m. 337 **Ex vivo fermentation of hempseed by cattle rumen microbes and transformation of cell wall carbohydrates**

Miranda R. Agbana ¹, David L. Harmon ¹, Prakash Pandeya ¹, Rachel Schendel ¹

¹University of Kentucky

3:45 p.m. 338 **Farm-level implementation of Climate-Smart Strategies to Reduce Enteric Methane in Grazing Beef Cattle— An Exploratory Case Study**

Wilmer Cuervo ¹, Daniela Rodriguez ², Andrea Oyuela ², Hannah Culler ², Gracelyn Alexander ², Nicolas DiLorenzo ³, Matias J. Aguerre ²

¹Montana State University, ²Clemson University, ³University of Florida

4:00 p.m. 339 **Influence of cashew nutshell extract on enteric methane emissions, ruminal fermentation, and animal performance of finishing natural heifers**

Jasmine N. Mehalic ¹, Carlee M. Salisbury ¹, Logan R. Thompson ¹, Evan C. Titgemeyer ¹

¹Kansas State University

4:15 p.m. 340 **Monensin reduces feed intake and alters glucose, insulin, and active ghrelin responses in finishing beef steers**

Mindy King ¹, Adam King ¹, Mallory E. LeDoux ², Emma A. Briggs ¹

¹Kansas State University, ²Oklahoma State University

Advances in Growth, Development and Meat Science Symposium: Technology-driven Strategies for Precision Growth and Meat Quality - Sponsored by the Rodney L. Preston Appreciation Club

Chair: Steven Lonergan, Iowa State University

2:00 PM - 5:00 PM

Ballroom B

2:00 p.m. **Advances Symposium Introduction**

2:05 p.m. 301 **Vitamin A-mediated Developmental Programming of Muscle and Marbling Fat in Beef Cattle**

Min Du ¹

¹Washington State University

3:00 p.m. 302 **The Role of Satellite Cells in Wooden Breast Development and Meat Quality in Broilers**

Jorge L. Sandoval ¹, Wesley W. Rogers ¹, Charlene Hanlon ¹, Jessica Starkey ²

¹Department of Poultry Science, Auburn University, ²Global R&D, Cobb-Vantress, LLC

3:55 p.m. **Advances Symposium Break**

4:10 p.m. 303 **Beyond Growth: Ai-based Adaptive Protein Concept for Comprehensive Animal Development**

Christian Ramirez Camba ¹

¹University of Minnesota, Department of Animal Science

Companion Animal Symposium 2: Rigor and Reproducibility in Nutrition Research

- Sponsored by Zinpro

Chair: Júlia Guazzelli Pezzali, Kansas State University

2:00 PM - 5:00 PM

Ballroom D

2:00 p.m. **Companion Animal Symposium 2 Introduction**

2:15 p.m. 297 **The Need for Rigor, Reproducibility, Transparency, and Trustworthiness in Nutrition Research**

David Allison ¹

¹Baylor College of Medicine

2:45 p.m. 298 **Exposure Variables in Nutritional Epidemiology: Are They Telling Us What We Think They Are?**

Janice O'Brien ¹

¹Virginia Tech

3:15 p.m. **Companion Animal Symposium 2 Break**

3:30 p.m. 299 **Microbiome Analysis as a Tool to Investigate Gut Health: Methodological Considerations**

Jan S. Suchodolski ¹

¹Gastrointestinal Laboratory Texas A&M University

4:00 p.m. 300 **Embracing Biological Variability: A Path to Reproducible and Generalizable Animal Science**

Guilherme J. M. Rosa ¹

¹Department of Animal and Dairy Sciences, University of Wisconsin-Madison

4:30 p.m. **Companion Animal Symposium 2 Round Table Discussion**

Ruminant Nutrition 7: Ergot Alkaloids

Chair: Marcelo Vedovatto, Louisiana State University

3:30 PM - 5:15 PM

Ballroom A

3:30 p.m. 326 **Award Talk: Physiological and Transcriptomic Effects of Ergot Alkaloids and 5-hydroxytryptophan in Beef Cattle**

MaryKate H. Byrd ¹, Ronald J. Trotta ²

¹Purdue University, ²Department of Animal and Food Sciences, University of Kentucky

4:00 p.m. 327 **Effects of 5-hydroxytryptophan Supplementation and Ergot Alkaloids on Hypothalamic Transcriptomics, Serotonin Bioavailability, and Feed Intake in Beef Cattle**

MaryKate H. Byrd¹, David L. Harmon², Ronald J. Trotta³

¹Purdue University, ²University of Kentucky, ³Department of Animal and Food Sciences, University of Kentucky

4:15 p.m. 329 **Purified Flavonoids Alter Vascular Hemodynamics Alleviating Fescue Toxicosis in Sheep**

Brittany E. Davis¹, Alysa M. Farrell², Donald G. Ely³, S. Ray Smith⁴, Ronald J. Trotta³, Jennifer R. Weinert-Nelson⁵, John B. May⁴, Samantha R. Pavlecic³

¹Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY 40546, USA., ²Department of Animal and Food Sciences, University of Kentucky, Lexington, KY 40546, USA, ³Department of Animal and Food Sciences, University of Kentucky, Lexington, KY 40546, USA., ⁴Department of Plant and Soil Sciences, University of Kentucky, Lexington, KY 40546, USA., ⁵Department of Animal and Food Sciences, University of Wisconsin-River Falls, River Falls, WI, 54022, USA.

4:30 p.m. 328 **Flavonoid Supplementation via Alfalfa Alters Arterial Hemodynamics and Alleviates Fescue Toxicosis in Sheep**

Alysa M. Farrell¹, Donald G. Ely², S. Ray Smith³, Ronald J. Trotta², Jennifer R. Weinert-Nelson⁴, John B. May³, Brittany E. Davis⁵

¹Department of Animal and Food Sciences, University of Kentucky, Lexington, KY 40546, USA, ²Department of Animal and Food Sciences, University of Kentucky, Lexington, KY 40546, USA., ³Department of Plant and Soil Sciences, University of Kentucky, Lexington, KY 40546, USA., ⁴Department of Animal and Food Sciences, University of Wisconsin-River Falls, River Falls, WI, 54022, USA., ⁵Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY 40546, USA.

4:45 p.m. 330 **Soy Essential Amino Acids and Isoflavones Mitigate Ergot Alkaloid-induced Serotonin Suppression in Beef Cattle**

Luiz Sousa¹, Brittany E. Davis², David L. Harmon¹, Ronald J. Trotta³

¹University of Kentucky, ²Forage-Animal Production Research Unit, USDA-ARS, Lexington, KY, ³Department of Animal and Food Sciences, University of Kentucky.

5:00 p.m. 331 **Growth Performance of Backgrounding Steers Fed a Diet with Continuous or Intermittent Inclusion of Ergot Alkaloids with and Without a Mycotoxin Deactivating Product**

Darby A. Meyer¹, Kim Stanford², Tim A. McAllister³, Gregory B. Penner¹, Karen S.

Schwartzkopf-Genswein³, Gabriel O. Ribeiro¹

¹Department of Animal and Poultry Science, University of Saskatchewan, ²University of Lethbridge, ³Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

Animal Behavior and Well-Being 2: Feedlot

Chair: Jessie Morrill, University of Nebraska-Lincoln; Juliana Ranches, Oregon State University

3:45 PM - 5:00 PM

G-J

3:45 p.m. 321 Moo-ing Cattle Through the Industry: Improving Transportation and Fitness for Transport Decision-making

Michaela Clowser¹, Julia Herman¹, Josh White¹

¹National Cattlemen's Beef Association

4:00 p.m. 322 Differential Gene Expression in Glisson's Capsule Associated with Liver Abscesses in Feedlot Cattle

Macy T. Lawrence¹, Trent E. Schwartz¹, Loni W. Lucherk¹, Ty E. Lawrence¹, Emilie C. Baker¹

¹West Texas A&M University

4:15 p.m. 323 A Preliminary Investigation of the Relationship Between Hoof, Liver, and Heart Abnormalities in Natural-program Bos Taurus Beef Cattle (<30 Mos) at Slaughter

Emma M. Hamilton¹, Karly N. Anderson², Kurt D. Vogel², Temple Grandin³

¹Department of Animal Sciences, Colorado State University, Fort Collins, Colorado, 80523-1171, USA, ²Department of Animal and Food Science, University of Wisconsin – River Falls, River Falls, WI, 54022, USA, ³Department of Animal Sciences, Colorado State University, Fort Collins, Colorado, 80523 1171, USA

4:30 p.m. 324 Behavioral Responses of Impaired Feedlot Cattle After Chronic Pen Entry and Associations with Time to Death

Emiline R. Sundman¹, Grant A. Dewell¹, Renée Dewell¹, Karen S. Schwartzkopf-Genswein², Daniela M. Melendez-Suarez³, Danisa Bescucci³, Calvin W. Booker⁴, Tye Perrett⁴, Rebecca L. Parsons¹, Suzanne T. Millman¹

¹Iowa State University, ²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Agriculture and Agri-Food Canada, ⁴Feedlot Health Management Services, A Division of TELUS Agriculture Solutions Inc.

4:45 p.m. 325 Effects of LED Lighting Characteristics on Cattle Movement and Chute Choice Behavior

Julianna Havard¹, Temple Grandin²

¹Colorado State University, ²Department of Animal Sciences, Colorado State University, Fort Collins

Thursday, July 23, 2026

Growth and Development 2: Maternal Environment, Developmental Programming and Growth Physiology

Chair: Marcio Ladeira, UFLA

8:00 AM - 9:45 AM

H-I

8:00 a.m. 349 Award Talk: Effects of Betaine Supplementation and Nutrient Restriction During Gestation on Fetal Muscle Development and Oxidative Status in Sheep

Santhi Priya Voggu ¹, Nicole M. Tillquist ¹, Cheyenne S. Summers ¹, Kaitlyn Baran ¹, Nicholas Barnello ¹, Manda S. Reiter ², Mia Y. Kawaida ¹, Sarah A. Reed ¹, Steven A. Zinn ¹, Kristen E. Govoni ¹

¹University of Connecticut, ²Tarleton State University

8:30 a.m. 350 Late Gestating Sows, Particularly First Sows, Display Insulin Resistance

Frank R. Dunshea ¹, Ryan Clarkson ², Katie McDermott ², Marion Magnon ³, Shane O'Connell ⁴

¹University of Melbourne, ²The University of Leeds, ³The University of Leeds, ⁴Marigot Ltd

8:45 a.m. 351 Leucine Supplementation Enhances Postnatal Growth and Lean Mass Without Increasing Adiposity in a Preterm Piglet Model

Antonio C. Ramos dos Santos ¹, Erin A. Posey ², Agus Suryawan ², Rosemarie D. Parada ³, Caitlin Vonderohe ², Barbara Stoll ², Douglas G. Burrin ², Marta L. Fiorotto ², Teresa A. Davis ³

¹Institute for Advancing Health Through Agriculture (IHA), Texas A&M AgriLife Research,

²USDA/ARS Children's Nutrition Research Center, Department of Pediatrics, Baylor College of Medicine, Houston, TX, ³Institute for Advancing Health Through Agriculture, Texas A&M AgriLife Research, College Station, TX

9:00 a.m. 352 Maternal Undernutrition Alters Muscle Fiber Type Composition and Metabolomic Profile in the Psoas Major Muscle of Japanese Black (Wagyu) Cattle Fetuses

Taketo Haginouchi ¹, Yutaka Suzuki ¹, Takafumi Gotoh ¹

¹Field Science Center for Northern Biosphere, Hokkaido University

9:15 a.m. 353 Programming Effects of Removing Maternal Heat Abatement on Beef Offspring Growth, Thermotolerance, and Liver Transcriptomics During Backgrounding

Isabelle Pinheiro ¹, Marcelo Vedovatto ¹, Wellison J.S. Diniz ², Giancarlo Pereira Silva ¹, Barbara Roqueto dos Reis ³, Ashley K. Edwards ⁴, Matheus L. Ferreira ¹

¹Louisiana State University, ²Auburn University, ³Mississippi State University, ⁴Louisiana State University AgCenter

9:30 a.m. 354 **Impact of Circulating Ergovaline and 5-hydroxytryptophan on Umbilical Vascular Activity and Select Gene Expression in Sheep**

James L. Klotz ¹, Susan K. Duckett ², Aliute N.S Udoka ², John B. May ³, Coral Kent-Dennis ⁴, David L. Harmon ⁴, Hannah Scroggins ⁴

¹USDA-ARS, ²Clemson University, ³Department of Plant and Soil Sciences, University of Kentucky ⁴University of Kentucky

Ruminant Nutrition 9: Feedlot Supplementation

Chair: Keara O'Reilly, University of Nebraska-Lincoln

8:00 AM - 10:15 AM

E-F

8:00 a.m. 341 **Effects of Chromium Propionate Supplementation During Pre-conditioning and Receiving Programs on Performance of Feeder Cattle**

Erollykens F. Santos ¹, Rodrigo Marques ¹, Fernando Cidrini ¹, Arnaldo Limede ¹, Frank Even ¹, Kate Paff ¹, Alison Ezzel ¹, Anna Thomas ¹

¹Virginia Tech

8:15 a.m. 342 **Effects of Supplementation of an Active Dry Yeast Probiotic *Saccharomyces Cerevisiae* CNCM I-1077, on Holstein Steer Feedlot Performance When Fed a High-fiber Finishing Ration**

Cory T. Parsons ¹, Melissa L. Jolly-Breithaupt ¹, Paige R. Adams ¹, Kassidy K. Buse ¹, Kip K. Karges ¹

¹Lallemand Animal Nutrition

8:30 a.m. 343 **Effects of Supplementation of an Active-dry Yeast *Saccharomyces Cerevisiae* CNCM I-1077 on Growth Performance of Moderate-risk Backgrounded Calves**

Melissa L. Jolly-Breithaupt ¹, Paige R. Adams ¹, Kassidy K. Buse ¹, Kip K. Karges ¹

¹Lallemand Animal Nutrition

8:45 a.m. 344 **Effects of Using Tannin and Yeast in Rations on Performance, Some Blood and Rumen Parameters and Carcass Characteristics of Beef Cattle**

Ozge Bulut ¹, Mehmet Basalan ¹

¹Department of Animal Nutrition and Nutritional Diseases, Faculty of Veterinary Medicine, Kirikkale University

9:00 a.m. 345 **Ruminant Nutrition 9: Feedlot Supplementation Break**

9:15 a.m. 346 **Evaluation of Partial Replacement of Distillers' Grains with Heat-treated Full-fat Soybeans on Growth and Carcass Characteristics in Finishing Beef Steers**

Sean M. Robinson ¹, Warren C. Rusche ¹, Federico Podversich ¹, Justin J. Delver ¹, Zachary Smith ²

¹Department of Animal Science, South Dakota State University, ²South Dakota State University

9:30 a.m. 347 **Effects of Trace Mineral Source and Dietary Starch Level on Feedlot Performance, Carcass Characteristics, and Tissue Mineral Concentrations of Nellore Bulls Finished in Brazil**

Julia Baroni Alves ¹, Davi Brito De Araujo ², Jessica Gusmao ³, Antônio Ignácio dos Santos Júnior ⁴, Rafael Cervieri ⁵, Terry E. Engle ¹

¹Colorado State University, ²Nutreco Nederland - Selko, ³Campanelli Innovation Center, ⁴A/Z Pecuária, ⁵Nutribeef

9:45 a.m. 348 **The Effect of Increasing Inclusion Level of Different Rumen Buffers or Alkalizing Agents on in vitro Fermentation Outcomes When Added to a High-roughage Diet for Growing Beef Cattle**

Nathan S. Long ¹, Matthew R. Beck ¹, Camron J. Rush ¹, Avianna Liuzzo ², John Pennington ¹, B.L. L. Castleberry ³, Bridgette D. Hiltbrunner ³, Jacek A. Koziel ³, Jason K. Smith ⁴

¹Texas A&M University, ²Texas A&M University Department of Animal Science, ³USDA-ARS, ⁴Texas A&M AgriLife Extension

10:00 a.m. **The Effect of Increasing Inclusion Level of Different Rumen Buffers or Alkalizing Agents on in vitro Fermentation Outcomes When Added to a Low-roughage Diet for Finishing Beef Cattle**

Nathan S. Long ¹, Matthew R. Beck ¹, Camron J. Rush ¹, Avianna Liuzzo ², John Pennington ¹, B.L. L. Castleberry ³, Bridgette D. Hiltbrunner ³, Jacek A. Koziel ³, Jason K. Smith ⁴

¹Texas A&M University, ²Texas A&M University Department of Animal Science, ³USDA-ARS, ⁴Texas A&M AgriLife Extension

Animal Health and Contemporary Issues Joint Symposium: Precision Livestock Solutions: Health Optimization & Early Disease Detection

Chair: Nathan Horn, United Animal Health; Department of Animal Science, Purdue University;
Steven Zinn, University of Connecticut

8:00 AM - 10:30 AM

Ballroom A

8:00 a.m. **Symposium Introduction**

8:05 a.m. 365 **Grazing Beef and Bison Health Management from Ranch to National Scale: The Next Step with Technology**

Hector M. Menendez ¹

¹South Dakota State University

8:30 a.m. 366 **Dietary Gestational and Lactational Supplementation of Live Yeast to Sows Regulates Immune Markers and Gut Development in Piglets**

Kolapo M. Ajuwon ¹

¹Purdue University

8:55 a.m. 367 **Multi-modal Machine Learning for the Early Detection of Subclinical Ketosis in Dairy Cattle**

Rafael Ferreira ¹, Joao R. R. Dorea ²

¹Data Science Institute, University of Wisconsin-Madison, ²University of Wisconsin-Madison

9:20 a.m. **Symposium Break**

9:35 a.m. 368 **Accuracy, Reliability, and Value of New Digital Technologies in Swine Production Systems**

Christopher L. Puls ¹, Matthew J. Ritter ¹, Chris L. Eden ¹, Eric Nyberg ¹, John Bell ¹

¹United Animal Health

10:00 a.m. 369 **Proteomic Signatures of Health and Aging**

Uma K. Aryal ¹

¹Oklahoma State University

Nonruminant Nutrition 3: Nutritional Supplementation and Additive Strategies

Chair: Victoria Uyanga, Lincoln University of Missouri

8:00 AM - 11:00 AM

G-J

8:00 a.m. 355 **Award Talk: Effects of Dietary L-glutamate, L-aspartate, and Their Combination on Growth Performance, Diarrhea Severity, Immune Responses, Intestinal Integrity, and Amino Acid Digestibility of Weaned Piglets Challenged with Enterotoxigenic Escherichia coli**

Supatirada Wongchanla ¹

¹University of California, Davis

8:30 a.m. 356 **LLM-assisted Meta-analysis of Seven Feed Additive Categories Reveals Differential Effects on Pork Quality Traits**

Lexuan Shi ¹, Jie Chen ², Bocheng Xu ³, Yizhen Wang ¹

¹Zhejiang University, College of Animal Sciences, ²Zhejiang University, College of Animal Sciences, Hangzhou, ³MOE Key Laboratory of Macromolecule Synthesis and Functionalization of Ministry of Education, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou, China

8:45 a.m. 357 **Effects of Amino Acid Supplementation on Fiber Growth in Angora Rabbits**

Aiden Juge ¹

¹Eastern New Mexico University

9:00 a.m. 358 **Fermented Pomegranate Pomace with Clostridium Butyricum Reduced Diarrhea of Weaned Piglets with F18 Enterotoxigenic Escherichia coli**

Jinuk Nam ¹, Shuhan Sun ¹, Youngmin Park ¹, Yating Zhao ¹, Weizhang Wen ¹, Shangjun Wang ¹, Xueqi Wang ¹, Jinmu Ahn ², Yonggu Kang ², Minho Song ³, Boon-Ling Yeo ¹, Yi Wang ¹, Peng Ji ¹, Yanhong Liu ¹

¹University of California, Davis, ²Chungnam National University

9:30 a.m. **Nonruminant Nutrition 3: Break**

9:45 a.m. 360 **Evaluation of a Magnesium-protected Zinc Source as an Alternative to Conventional Zinc Forms in Weaned Piglets**

Zoé Garlatti ¹, Ana Paula Pinoti Pavaneli ², Laura Sartori ², Eduardo Raele De Oliveira ², Elodie Bacou ¹, Josselin Le Cour Grandmaison ¹

¹Terresis Agriculture, ²InsideSui

10:00 a.m. 361 **Effects of Dietary Medium-chain Fatty Acid Supplementation Levels on Growth Performance, Fecal Score, Energy, Antioxidant, and Inflammatory Status of Nursery Pigs Fed High Protein Diets**

Eva S. Safaie ¹, Chan Ho Kwon ¹, Jannell A. Torres ¹, Ji Hye Lee ¹, Ellen Davis ², Michaela P. Metz ², Young Dal Jang ¹

¹University of Georgia, ²Fortiva

10:15 a.m. 362 **A Meta-analysis to Evaluate the Effects of a Phytogenic Feed Additive on Growth Performance of Grow-finish Pigs**

Izadora B. Kuneff ¹, Lan Zheng ², Shelby Curry ², G. Raj Murugesan ², April W. Levy ², Eric van Heugten ¹

¹North Carolina State University, ²dsm-firmenich, Animal Nutrition & Health

10:30 a.m. 363 **Effects of Replacing Soybean Meal with Black Soldier Fly (Hermetia Illucens) Larvae Meal on Growth Performance, Feed Efficiency and Carcass Traits of Broiler Chickens**

Md. Sazedul Karim Sarker ¹, F Tabassum ², US Saleheen Ety ³, S Faruque ³, BK Biswas ⁴, SS S. Zihan ³, MF Sharmin ³

¹Poultry Research Center, Bangladesh Livestock Research Institute, Savar, Dhaka, ²SPRDP, ³PRC, BLRI, ⁴Tennessee State University

10:45 a.m. 364 **Butyrate glycerides ameliorate high-energy and low-protein diet induced fatty liver hemorrhagic syndrome by modulating hepatic lipid metabolism and mitochondrial function in laying hens**

Yuqing Zhang ¹, Minqi wang ¹

¹Zhejiang University