



Sunday, July 21, 2024

Companion Animal Health Symposium: Biotics 2024 - Impact on Companion Animal Health & Well-Being - Sponsored by Phileo

Chair: Russ Kelley, Phileo by Lesaffre

8:30 AM - 4:30 PM

Glen 201-204

8:30 a.m. **Companion Animal Health Symposium Introduction**

8:45 a.m. 29 **Precise Fermentation - Overview of Lesaffre Capabilities**

Rodolphe Rabot ¹

¹Phileo by Lesaffre

9:15 a.m. 30 **Microbiota and Companion Animal Health**

Jan S. Suchodolski ¹

¹Texas A&M University

10:05 a.m. **Companion Animal Health Symposium AM Break**

10:25 a.m. 32 **Biotics: Are there differences?**

Kelly S. Swanson ¹

¹University of Illinois Urbana-Champaign

11:15 a.m. 33 **Beyond bacteria: Impact of live yeast as a probiotic on the intestinal health of dogs**

Taís S. Bastos ¹, Renata B. Souza ¹, Achraf A. Leseaux ², Ananda P. Felix ¹

¹Federal University of Parana, ²Phileo by Lesaffre

12:05 p.m. **Companion Animal Health Symposium Lunch**

1:00 p.m. 34 **The influence and interaction of nutrition with the immune system in companion animal models**

Elizabeth A. Bobeck ¹

¹Iowa State University

1:50 p.m. 35 **Beneficial role of 1,3, .1.6 yeast beta glucan in pet health**

Julie Schulthess ¹, Achraf A. Leseaux ¹, Rodolphe Rabot ¹

¹Phileo by Lesaffre

2:30 p.m. **Companion Animal Health Symposium PM Break**

3:00 p.m. 36 **Benefits of pro- and post-biotics on oral care in companion animals**
Manuela Oliveira ¹
¹Faculty of Veterinary Medicine, University of Lisbon

3:50 p.m. 37 **Companion Animal Health Symposium Panel Discussion**

Biennial Reproduction Symposium: Understanding how to limit early pregnancy losses in livestock - Sponsored by USDA

Chair: Ky Pohler, Texas A&M University

8:30 AM - 5:00 PM

Glen 206

8:30 a.m. **Biennial Reproduction Symposium Introduction**

8:45 a.m. 11 **Current state of pregnancy loss in livestock**

Ky G. Pohler ¹

¹Texas A&M University

9:30 a.m. 7 **Role of the preovulatory follicle in oocyte metabolic and developmental competence for pregnancy**

Sarah E. Moorey ¹

¹University of Tennessee

10:15 a.m. **Biennial Reproduction Symposium AM Break**

10:35 a.m. 12 **Differences in pregnancy loss between Bos indicus and Bos Taurus cattle**

Vitor RG Mercadante ¹, Trinity Vidlund ², Stefania Pancini ², Damon Smith ³, Sarah E. Moorey ⁴, Alan Ealy ², Fernando Biase ², Ky G. Pohler ³, Cliff C. Lamb ⁵

¹Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences, ²Virginia Tech, ³Texas A&M University, ⁴University of Tennessee, ⁵Agri-Life Research, Texas A&M University

11:20 a.m. 10 **Awardee Talk: Pregnancy losses in Bos indicus-influenced cowherds**

Reinaldo F. Cooke ¹, Jose Vasconcelos ²

¹Department of Animal Science, Texas A&M University, ²Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista

12:05 p.m. **Biennial Reproduction Symposium Lunch**

1:30 p.m. 8 **Gestational heat stress: Implications for pregnancy success and offspring development in swine**

Jay S. Johnson ¹, MaryKate Harrod Byrd ²

¹University of Missouri, ²Purdue University

2:15 p.m. 9 **Contributions of sire diet to pregnancy establishment in cattle**

Pedro Fontes ¹

¹University of Georgia

3:00 p.m. **Biennial Reproduction Symposium PM Break**

3:30 p.m. 14 **Infectious diseases and fertility**

Andrea Sketch Lear ¹

¹University of Tennessee

4:15 p.m. 13 **Awardee Talk: Goals, methods, and philosophy of graduate mentoring in reproductive physiology**

Gary L. Williams ¹

¹Texas A And M University

ASAS-NANP Symposium: Mathematical Modeling and Data Predictive Analytics in Animal Nutrition - Sponsored by National Animal Nutrition Program

Chair: Luis Tedeschi, Texas A&M university, department of Animal Science

8:30 AM - 5:30 PM

Glen 208/209

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

8:40 a.m. 1 **Precision Livestock Farming: Harnessing Artificial Intelligence for Animal Management**

Isabella C F S Condotta ¹

¹University of Illinois at Urbana-Champaign

9:20 a.m. 2 **Combining dynamic models with deep learning through time series analysis**

Hossein Moradi rekabdarkolae ¹, Hector M. Menendez ², Jameson R. Brennan ¹

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

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

10:20 a.m. 3 **Hands -on 1: Applying System Dynamics to Develop “Flight Simulators” for Sustainable Animal Production**

Hector M. Menendez ¹, Benjamin L. Turner ², Alberto S. Atzori ³, Jameson R. Brennan ⁴, Ira L. Parsons ⁴, Elias R. Velasquez Moreno ⁴, Aletta L. Husmann ⁴, Hadley Dotts ⁴, Pablo Guarnido-Lopez ⁵, Luis O. Tedeschi ⁶

¹South Dakota State University, Department of Animal Science, ²Texas A&M Kingsville,

³University of Sassari, ⁴South Dakota State University, ⁵Texas A&M university, ⁶Texas A&M university, department of Animal Science

11:50 a.m. **Round-Table Discussions/Updates I**

Aline Remus ¹

¹Agriculture and Agri-Food Canada (AAFC)

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

1:00 p.m. 4 **Hands-on 2: Environmental evaluation of feeding strategies with agent-based modeling and life cycle assessment: from theory to practice - Sponsored by EAAP**

Florence Garcia-Launay ¹
¹INRAE UMR PEGASE

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

3:10 p.m. 5 **Hands-on 3: Introduction to developing Python computational pipelines for predictive machine learning modelling of livestock data**

Dan Tulpan ¹
¹University of Guelph

5:00 p.m. **Round-Table Discussions/Updates II**

Hector M. Menendez ¹
¹South Dakota State University, Department of Animal Science

5:20 p.m. 6 **Transforming animal agriculture through hybrid modeling and quantum computing**

Luis O. Tedeschi ¹
¹Texas A&M University, Department of Animal Science

Monday, July 22, 2024

Ruminant Nutrition I: Fermentation and Methanogenesis

Chair: Brandon Smith, Auburn University

8:30 AM - 11:30 AM

Macleod D

8:30 a.m. 90 **Awardee Talk: Shedding light into the black box: The dual-flow continuous culture system and ruminal fermentation**

Antonio P. Faciola ¹
¹University of Florida

9:00 a.m. 91 **Awardee Talk: Using respiration calorimetry to estimate energy balance and methane emissions**

Kristin E. Hales ¹
¹Texas Tech University

9:30 a.m. 92 **Utilizing buccal swabs as a substitute for ruminal fluid for characterizing the microbiome of Angus bulls**

Madison M. Dycus ¹, Utsav Lamichhane ¹, Jeferson M. Lourenco ¹
¹University of Georgia

9:45 a.m. **Ruminant Nutrition I: Fermentation and Methanogenesis Break**

10:00 a.m. 93 **Ruminal archaea and bacteria metatranscriptomic responses to supplementation in steers fed low-quality forage**

Alyson B. Fontenot¹, Laura Z. Holland², Jodi R. Cox¹, Taylor A. Falk², Sapna Chitlapilly Dass¹, Matthew R. Dunn², Brigid R. Arciero², Lauren E. Fitch², Tryon A. Wickersham¹
¹Texas A&M University, ²Arkea Bio Corp.

10:15 a.m. 94 **Associative effects of two potent anti-methanogenic Moringa oleifera accessions mixed at various proportions on in vitro rumen fermentation and methane inhibition**

Addisu Endalew Zeru¹, Abubeker Hassen Imamu², Zeno Apostolides³, Julius Tjelele⁴
¹PhD student, ²Department of Animal Science, University of Pretoria, ³Emeritus Professor, ⁴JTjelele@arc.agric.za

10:30 a.m. 95 **Temporal patterns of enteric gas production from cattle in response to ruminal infusions of synthetic bromoform**

Wouter Muizelaar¹, Kelly Nichols², Hassan Z. Taweel³, Harmen van Laar¹, Jan Dijkstra⁴, Javier Martín-Tereso⁵
¹Wageningen Livestock Research, ²Trouw Nutrition, ³ForFarmers, ⁴Wageningen University and Research, ⁵Trouw Nutrition R&D

10:45 a.m. 96 **Using greenhouse gas flux to estimate forage dry matter intake in ad-libitum fed replacement heifers**

Emma A. Briggs¹, Andrew P. Foote¹, Paul A. Beck¹, Ryan R. Reuter¹, Megan M. Rolf², David L. Lalman¹
¹Oklahoma State University, ²Kansas State University

11:00 a.m. 97 **Influence of cashew nutshell extract (CNSE) on enteric methane emission, feeding behavior, and nutrients digestibility in beef steers receiving a finishing diet**

Wilmer Cuervo¹, Federico Tarnonsky², Ignacio Fernandez-Marenchino², Araceli B. Maderal², Andres Fernandez-Lehman¹, Federico Podversich², Tessa M. M. Schulmeister², Lucas Gonzalez³, Cristian Erazo-Mendez¹, Nicolas DiLorenzo¹
¹University of Florida, ²North Florida Research and Education Center, University of Florida, Marianna, FL 32446, ³EEA INTA Gral. Villegas

11:15 a.m. 403 **Impact of lysine, methionine, and histidine deficiencies on gene expression and upstream transcriptional regulators in bovine mammary epithelial cells: an RNA-sequencing analysis**

Boning Li¹, David Innes², Eduardo S. Ribeiro¹, Sergio Burgos³, John Cant²
¹University of Guelph, ²Centre for Nutrition Modelling, Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada, ³McGill University

Production, Management and Environment I: Feeding and Feedstuffs

Chair: Matt Hersom, Clemson University

8:15 AM - 10:00 AM

Glen 208/209

8:15 a.m. 59 **Feeding behavior in divergent residual enteric methane emissions steers during the backgrounding and finishing phases**

Juan de J. Vargas ¹, Diego Manriquez ², Maya Swenson ², Pedro H V Carvalho ³, Kimberly R. Stackhouse-Lawson ⁴, Sara E. Place ²

¹North Florida Research and Education Center, University of Florida, Marianna, FL 32446,

²Colorado State University AgNext and Department of Animal Sciences, ³AgNext.CSU,

⁴AgNext at Colorado State University

8:30 a.m. 60 **Effects of a calcareous marine algae on dry matter intake, water intake, rumen temperature, rumen pH and average daily gain of grain-fed steers during a heat wave**

Stephanie L. Sammes ¹, John B. Gaughan ², Shane O'Connell ³, Angela Lees ²

¹Feedworks Australia, Lancefield, Vic., Australia, 3435, ²School of Agriculture and Food Sustainability, The University of Queensland, Gatton, Qld., Australia, 4343, ³Celtic Sea Minerals, Marigot Research Centre, Tralee, Co, Kerry, Ireland, V92 N6C8

8:45 a.m. 61 **Effects of a calcareous marine algae on blood biochemistry during a heat wave in grain-fed steers**

Stephanie L. Sammes ¹, John B. Gaughan ², Shane O'Connell ³, Angela Lees ²

¹Feedworks Australia, Lancefield, Vic., Australia, 3435, ²School of Agriculture and Food Sustainability, The University of Queensland, Gatton, Qld., Australia, 4343, ³Celtic Sea Minerals, Marigot Research Centre, Tralee, Co, Kerry, Ireland, V92 N6C8

9:00 a.m. 62 **Relationship between feed efficiency and reproductive measures in beef heifers**

John B. Hall ¹, Maggie K. Bloomsburg ¹, Jim E. Sprinkle ¹, Sidney E. Stratton ¹, James B. Glaze ¹

¹University of Idaho

9:15 a.m. 63 **Impacts of protein supplementation frequency on animal performance, rumen fermentation and methane emission from growing beef cattle**

Aklilu W. Alemu ¹, Alan D. Iwaasa ¹

¹Agriculture And Agri-food Canada

9:30 a.m. 64 **Effects of alternative finishing methods on performance and carcass quality of beef feeder steers**

Michelle Johnson ¹, Cody Gruber ¹, Cody Shelton ², Richard C. Jones ², Grayson Gourley ², Daniel Rivera ², Kelly R. Vierck ¹, Daniel Rivera ²

¹University of Arkansas, ²University of Arkansas Division of Agriculture

9:45 a.m. 65 **Metagenomic analysis of ensiled grocery food waste**
Emmanuel Bumunang¹, Vicky Garcia-Rodriguez², Rhoda Bukola², Vinicius Silva-Castro³,
Rahat Zaheer⁴, Tim A. McAllister⁵, Kim Stanford²
¹agr/gc, ²University of Lethbridge, ³Federal University of Mato Grosso, ⁴Agriculture and Agri-
Food Canada, ⁵Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of
Animal Science

Beef Species I: Growth and Development

Chair: Jhones Sarturi, Texas Tech University

8:30 AM - 9:45 AM

Glen 201/202

8:30 a.m. 50 **Awardee Talk: The role of non-traditional inheritance patterns among
Bos indicus-Bos taurus crosses for global beef value chain considerations**

Andy D. Herring¹, James O. Sanders¹, Clare A. Gill¹, Penny K. Riggs¹, David R. Riley¹

¹Texas A&M University

9:00 a.m. 51 **Lean meat yield of Angus, Brahman and Charolais grain fed steers**

Jillian EM Burgess¹, Jose A. Imaz², Luciano A. Gonzalez¹

¹The University of Sydney, ²Department of Primary Industries (DPI)

9:15 a.m. 52 **Differences in body composition measurements for developing Angus
heifers**

Sarah L. Phelps¹, Garland Dahlke¹, Mary E. Reynolds¹, Patrick B. Wall¹, Miranda
Culbertson¹

¹Iowa State University

9:30 a.m. 53 **Relationship of Angus yearling bull pulmonary arterial pressure
estimates with birth weight, gestation length and growth traits**

Kaylen A. Stearns¹, Hannah DelCurto-Wyffels¹, Sam Wyffels¹, Taylre Sitz², Lauren Bigler¹,
Timothy DelCurto¹

¹Montana State University, ²Sitz Angus

Physiology and Endocrinology I

Chair: Kolapo Ajuwon, Purdue University

8:30 AM - 9:45 AM

Telus 101/102

8:30 a.m. 98 **Differential gene expression of the endocannabinoid system in bovine
tissues**

Coral Kent-Dennis¹, James L. Klotz¹

¹USDA-ARS, FAPRU

8:45 a.m. 99 **The Effects of β -Caryophyllene on Butyrate Utilization and Metabolism in Caco 2 cells**

Hannah B. Scroggins¹, Coral Kent-Dennis², John May¹, James L. Klotz², David L. Harmon³

¹University of Kentucky, ²USDA-ARS, FAPRU, ³Department of Animal and Food Sciences, University of Kentucky

9:00 a.m. 100 **Impact of luteal blood perfusion and estrus expression on pregnancy rates of beef cows exposed to embryo transfer**

Lucas Melo Goncalves¹, Samir Burato¹, Madison Walker¹, Greg Clements², Shane Morgan³, Lucas Neira⁴, Pedro Fontes⁵

¹The University of Georgia, ²Dogwood Genetics, ³Senior Embryologist, ⁴Ranch Manager, ⁵University of Georgia

9:15 a.m. 101 **5-HT4 receptor-mediated vasorelaxation occurs through a cyclic mononucleotide-dependent mechanism in the isolated bovine lateral saphenous vein**

Ronald J. Trotta¹, David L. Harmon², James L. Klotz³

¹University of Kentucky, ²Department of Animal and Food Sciences, University of Kentucky, ³USDA-ARS, FAPRU

9:30 a.m. 102 **Combination and individual vaccines for bovine viral diarrhea virus and infectious bovine rhinotracheitis effects on reproductive cyclicity and immune response**

Sarah Blaske¹, Jaclyn N. Ketchum¹, Lacey K. Quail¹, Ana Clara Mattos², Alexandria P. Snider³, Chloey P. Carson⁴, Charles R. Long⁵, George A. Perry⁴

¹Department of Animal Science, Texas A&M University, College Station, TX, ²Animal Reproduction Department, University of São Paulo, Pirassununga, SP, Brazil, ³USDA-ARS, US Meat Animal Research Center, ⁴Texas A&M AgriLife Research and Extension Center, Overton, TX, ⁵Texas A&M AgriLife Research

Animal Breeding and Genetics I: Genetics of Novel Traits

Chair: Christopher Ashwell, West Virginia University

8:30 AM - 11:00 AM

Macleod C

8:30 a.m. 82 **CANCELED - Linear mixed models for dissecting social and direct genetic effects of automatic feeder visit sequences**

Andrea N. Nunez¹, Juan P. Steibel¹, Ching-Yi Chen², Justin W. Holl²

¹ISU, ²Genus PIC

8:45 a.m. 83 **Genotype-by-environment interaction with high-dimensional environmental data: an example in pigs**

Fernando Bussiman¹, Daniela Lourenco¹, Ching-Yi Chen², Justin W. Holl², Ignacy Misztal¹, Zulma G. Vitezica³

¹University of Georgia, ²Genus PIC, ³INRAE, GenPhySE

9:00 a.m. 84 **Low-cost machine learning algorithms to predict growth and carcass traits in pigs**

Masum Billah ¹, Matias Bermann ¹, Ching-Yi Chen ², Eric Psota ², Justin W. Holl ², Ignacy Misztal ¹, Daniela Lourenco ¹

¹University of Georgia, ²Genus PIC

9:15 a.m. 85 **Genomic regions associated with electronic measures indicative of structural soundness in pigs**

Gary A. Rohrer ¹, Lexi Ostrand ², Lea A. Rempel ¹, Brittney N. Keel ¹, Ty B. Schmidt ², Benny E. Mote ³

¹USDA-ARS US Meat Animal Research Center, ²University of Nebraska, ³University of Nebraska-Lincoln

9:30 a.m. **Animal Breeding and Genetics I: Genetics of Novel Traits Break**

9:45 a.m. 86 **Awardee Talk: Improving climatic resilience in pigs through genomics: from trait definition and genetic modeling to biological validation**

Luiz F. Brito ¹, Jay S. Johnson ²

¹Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA,

²University of Missouri

10:15 a.m. 87 **Estimation of genetic parameters for activity levels in North American Holstein cattle**

Caitlin N. Moulder ¹, Jacob M. Maskal ¹, Kirby Kalbaugh ², Hendyel Pacheco ¹, Jacquelyn Boerman ¹, Luiz F. Brito ¹

¹Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA,

²Agriculture Information Technology, Purdue University, West Lafayette, IN, 47907, USA

10:30 a.m. 88 **The impact of trait measurement error on quantitative genetic analysis**

Ye Bi ¹, Yijian Huang ², Gota Morota ¹

¹Virginia Tech, ²Smithfield Premium Genetics

10:45 a.m. 89 **Streamlining the acquisition and analysis of digital images for the assessment of horn fly abundance**

Amanda M. Warner ¹, Aaron Tani ¹, Samuel E. Aggrey ¹, Thirimachos Bourlai ¹, Romdhane Rekaya ¹

¹University of Georgia

CSAS Graduate Student Oral Competition: MS
Chair: Stephanie Terry, Agriculture and Agri-Food Canada
8:30 AM - 11:15 AM
Telus 108/109

8:30 a.m. 499 **Effect of adding plant extracted hydrolysable tanning and saponin combination to prairie blend pelleted feed products on accumulative gas production kinetics and methane emission in ruminant systems**

Taufiq Hidayat¹, María E. Rodríguez Espinosa¹, H. (Bart) A. Lardner², Rex N. Newkirk¹, Peiqiang Yu³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan, ASAS, CSAS, ADSA

8:45 a.m. 500 **Effect of different iron sources on growth performance, gut health, and microbiota in nursery pigs**

Zhen Cai¹, Shunshun Jin¹, Joshua Gong², Moussa Diarra², C. Martin Nyachoti¹, Joshua Jendza³, Chengbo Yang¹

¹University of Manitoba, ²Agriculture and Agri-Food Canada, ³QualiTech LLC

9:00 a.m. 501 **The effect of dietary camelina, flaxseed, and canola oil supplementation on skin fatty acid profile, inflammation and immune responses in healthy adult horses**

Samantha Hartwig¹, Scarlett Burron¹, Taylor Richards¹, Alexandra Rankovic¹, David W.L. Ma¹, Wendy Pearson¹, Jennifer L. Ellis¹, Dave J. Seymour², Anna K. Shoveller¹

¹University of Guelph, ²Trouw Nutrition R&D

9:15 a.m. 502 **Cat and mouse: The effect of consuming four different diet formants (intact mice, raw, canned wet and kibble) on energy expended to consume a meal and immediately post-prandial in domestic cats**

Stephanie K. Gwynne¹, Kim Boersma², Guido Bosch², Bonne Beerda², Alexandra Rankovic¹, Dave J. Seymour³, Anna K. Shoveller¹

¹University of Guelph, ²Wageningen University & Research, ³Trouw Nutrition R&D

9:30 a.m. 503 **Selection signatures in a prolific meat sheep breed**

Julia L. Rodrigues¹, Larissa Graciano Braga², Donagh P. Berry³, Marcos E. Buzanskas⁴, Danísio P. Munari⁵, Flávio S. Schenkel¹

¹University of Guelph, ²State University of São Paulo / University of Guelph, ³Teagasc, ⁴São Paulo State University (UNESP) - Botucatu, ⁵São Paulo State University (UNESP) - Jaboticabal

9:45 a.m. **CSAS Graduate Student Oral Competition: MS Break**

10:00 a.m. 504 **Relationship between vaginal microbiota and reproductive efficiency in dairy cows**

Erika J. Félix Santiago¹, Delia X. Vega Manríquez², Milagros González Hernández², Jorge Flores Sánchez², Andrea García Mendoza³, Cesar A. Rosales Nieto⁴

¹Universidad Autónoma de San Luis Potosí, ²Universidad Autónoma de San Luis Potosí,

³Facultad de Agronomía y Veterinaria de la Universidad Autónoma de San Luis Potosí,

⁴texas state university

10:15 a.m. 505 **Utilizing porcine hepatocyte cultures to test the effect of short chain fatty acids on androstenone metabolism**

Austin J. Lawson ¹, Christine Bone ¹, E. James Squires ¹

¹University of Guelph

10:30 a.m. 506 **Residual feed intake and thermotolerance in grazing lactating first-calf beef heifers: Effects on metabolism, performance, rumen temperature, and activity behavior**

Maria Camila Londono-Mendez ¹, Sergio David Lasso-Ramirez ¹, Vanesa Ramirez-Sepulveda ¹, Carolyn J. Fitzsimmons ¹, Graham Plastow ², Edward bork ³, John A. Basarab ³, Gleise Medeiros da Silva ¹

¹University of Alberta, ²Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, ³Department of Agriculture, Food and Nutritional Science, University of Alberta

10:45 a.m. 507 **Effects of simple and complex polycrop mixtures on forage yield and quality, beef cow performance, and methane emissions**

Shelby Robinson ¹, Gabriel O. Ribeiro ², Kathy A. Larson ³, H. (Bart) A. Lardner ²

¹Department of Animal and Poultry Science, Univeristy of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan

11:00 a.m. 508 **Effects of starch content of the concentrate on growth performance, temperament and carcass traits of finishing bison.**

Maitê Dias Gomes de Almeida ¹, Oscar Lopez-Campos ², Nuria Prieto ², Gregory Penner ³, Gabriel O. Ribeiro ⁴, Diego Moya ⁵

¹Western College of Veterinary Medicine, University of Saskatchewan, ²Agriculture and Agri-Food Canada, Lacombe Research and Development Centre, ³University of Saskatchewan, ⁴Department of Animal and Poultry Science, University of Saskatchewan, ⁵Western College of Veterinary Medicine, University of Saskatchewan.

Meat Science and Muscle Biology

Chair: Min Du, Washington State University

8:30 AM - 11:15 AM

Macleod B

8:30 a.m. 73 **Awardee Talk: Recent updates in dark-cutting beef color research**

Ranjith Ramanathan ¹, Keayla M. Harr ¹, Frank Kiyimba ², Morgan Pfeiffer ¹, Gretchen G. Mafi ¹

¹Department of Animal and Food Science, Oklahoma State University, ²Oklahoma State University

9:00 a.m. 74 **Comparison of certified Arouquesa PDO beef vs standard crossbred beef: A proteomic analysis**

Laura Sacarrão-Birrento¹, Sara Schlosser², Ebrahim Razzazi-Fazeli², Cátia F. Martins¹, Susana P. Alves³, Carlos A. Venâncio⁴, Ingrid Miller⁵, André M. de Almeida¹

¹LEAF - Linking Landscape, Environment, Agriculture and Food Research center, TERRA, Instituto Superior de Agronomia, University of Lisbon, Lisboa, Portugal, ²VetCore Facility for Research, University of Veterinary Medicine Vienna, Austria, ³CIISA - Centre for Interdisciplinary Research in Animal Health, AL4AnimalS, Faculty of Veterinary Medicine, University of Lisbon, Lisboa, Portugal, ⁴ECAV and CECAV, Universidade Trás-os Montes e Alto Douro (UTAD), Vila Real, Portugal, ⁵Institute of Medical Biochemistry, University of Veterinary Medicine Vienna, Austria

9:15 a.m. 80 **Empowering informed choices: how computer vision can assist consumers in making decisions about meat quality**

Guilherme Menezes¹, Dante Junior², Rafael Ferreira¹, Dario Oliveira¹, Julcimara Araujo³, Marcio S. Duarte⁴, Joao R. R. Dórea¹

¹University of Wisconsin, ²University of Guelph, ³University of Vicoso, ⁴Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada

9:30 a.m. 76 **Camera vision grading and objective tenderness outcomes of steers fed lubabegron fumarate for the final 56 d of the feeding period**

Wilsey M. Wendler¹, Ty Lawrence¹, Michael S. Davis², Phil J. Rincker³, Nathan Pyatt³, Wally Koers²

¹West Texas A&M University, ²Bos Technica Research Services, ³Elanco Animal Health

9:45 a.m. 77 **Differences in carcass quality and meat quality between cattle of different breed types**

Bryce W. Roholt¹, Zachary C. Crump¹, Chandler Stafford¹, Lillian Okamoto¹, Anthony F. Alberto¹, Ryan A. Spurling¹, Sulaiman Matarneh¹, Kara J. Thornton-Kurth¹

¹Utah State University

10:00 a.m. **Meat Science and Muscle Biology Break**

10:15 a.m. 78 **Prolonged heat stress impact on molecular responses of skeletal muscle and growth performance in finishing beef steers**

Erika P. Eckhardt¹, Jongkyoo Kim¹

¹Michigan State University

10:30 a.m. 79 **Microbiological effects of control measures during pork production**

Xianqin Yang¹, Hui Wang¹, Frances Tran¹, Tim A. McAllister², Kim Stanford³

¹Agriculture and Agri-Food Canada, ²Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ³University of Lethbridge

10:45 a.m. 82 **Impact of visual dark-cutting severity and wet aging on the bloom and retail color stability of beef longissimus lumborum steaks**

Keayla M. Harr¹, Madelyn Scott¹, Sunil More², Gretchen G. Mafi¹, Morgan Pfeiffer¹, Ranjith Ramanathan¹

¹Department of Animal and Food Science, Oklahoma State University, ²Department of Veterinary Pathobiology, Oklahoma State University

11:00 a.m. 81 **Evaluating the metabolome of beef carcasses with varied Longissimus lumborum color**

Thomas W. Dobbins ¹, Manuel S. Hernandez ¹, Samantha N. Barker ¹, J Chance Brooks ¹, Dale R. Woerner ¹, Mark F. Miller ¹, Nicholas C. Hardcastle ², Jerrad F. Legako ¹
¹Texas Tech University, ²Cargill Protein

ASAS-WSASAS Beef Species Symposium: New perspectives on trace mineral nutrition to beef cattle - Sponsored by Selko Feed Additives

Chairs: Reinaldo Cooke, Department of Animal Science, Texas A&M University;
Jeff Heldt, Selko USA
8:30 AM - 5:00 PM
Telus 104/105/106

8:30 a.m. **ASAS-WSASAS Beef Species Symposium Introduction**

8:35 a.m. 16 **Overview of trace minerals and considerations in defining their requirements**

Jerry W. Spears ¹
¹North Carolina State University

9:10 a.m. 20 **Trace metal homeostasis in growing cattle**

Jean-Baptiste Daniel ¹, Javier Martín-Tereso ¹
¹Trouw Nutrition R&D

9:25 a.m. 27 **Effects of particle size and trace mineral source on vitamin stability in premix**

Davi Brito De Araujo ¹, Gavin M. Boerboom ¹, Ronald Busink ², Jeroen Grandia ²
¹Selko Feed Additives, Nutreco Nederland, ²Trouw Nutrition, Nutreco Nederland

9:40 a.m. 19 **Strategies to Optimize the Trace Mineral Status of Weaned Beef Calves**

John Arthington ¹
¹Department of Animal Sciences - University of Florida

10:15 a.m. **ASAS-WSASAS Beef Species Symposium Break I**

10:30 a.m. 24 **Maternal supplementation with different sources of trace minerals to beef cattle and its effects on postweaning responses of the offspring.**

Vinicius Alves Cruz ¹, Rodrigo Marques ¹, Keenan Kvamme ², Arnaldo Cintra Limede ¹, Makayla A. Ogg ², Sarah McCoski ², Christian Posbergh ², Amanda N. Bradbery ³, Vitor RG Mercadante ⁴, Shea Mackey ⁵, Autumn Pickett ⁵, Reinaldo F. Cooke ⁵, Chance G. Farmer ⁶, Jeff S. Heldt ⁷

¹School of Animal Sciences, Virginia Polytechnic Institute and State University, ²Department of Animal and Range Sciences, Montana State University, ³Montana State University, ⁴Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences, ⁵Department of Animal Science, Texas A&M University, ⁶Selko, ⁷Selko USA

10:45 a.m. 21 **Trace mineral nutrition for grain-fed feedlot cattle**

Huey Yi Loh¹, Meghan P. Thorndyke¹, Tyler A. Thomas¹, Alexandra Miller², Julia Baroni Alves², John J. Wagner², Terry E. Engle³

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

³Department of Animal Sciences, Colorado State University

11:20 a.m. 18 **Impacts of supplementing sulfate vs. hydroxychloride sources of Cu, Mn, and Zn on heifer growth performance and physiology during feed restriction and high-starch challenge periods**

Isabella Souza¹, Philippe Moriel², Gabriel Monar¹, Pedro Lima³, Andre Carvalho⁴, Guilherme Oliva¹, Karolina Augusto⁵, Marco de Felício Porcionato⁵, Davi Brito De Araujo⁶, Jose Vasconcelos¹

¹Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista,

²University of Florida, IFAS - Range Cattle Research & Education Center, ³Unicesumar,

⁴Centro Universitário do Vale do Araguaia, ⁵Trouw Nutrition Brazil, ⁶Selko Feed Additives, Nutreco Nederland

11:35 a.m. 22 **Effects of trace mineral source and chromium propionate supplementation on rumen fermentation, growth performance, and carcass characteristics in finishing beef steers**

Jeff S. Heldt¹, Huey Yi Loh², Jerry W. Spears³, Karen Lloyd³, Terry E. Engle⁴

¹Selko USA, ²Colorado State University, Department of Animal Sciences, ³North Carolina State University, ⁴Department of Animal Sciences, Colorado State University

11:50 a.m. **ASAS-WSASAS Beef Species Symposium Lunch Break**

2:00 p.m. 23 **Physiological and health implications of trace mineral nutrition**

Rodrigo Marques¹

¹School of Animal Sciences, Virginia Polytechnic Institute and State University

2:35 p.m. 25 **Copper, manganese, and zinc source and concentration in free-choice mineral supplements influence on production throughout three cow-calf production cycles.**

Chance G. Farmer¹, Terry E. Engle², Jerry W. Spears³, Jeff S. Heldt⁴

¹Selko, ²Department of Animal Sciences, Colorado State University, ³North Carolina State University, ⁴Selko USA

2:50 p.m. 363 **Effects of supplementation of vitamin B complex on the performance of beef calves during a 42-day preconditioning program**

Erica Ferri¹, Aline Rezende¹, Ana Laura Ramalho¹, Carlos Eduardo Dos Santos¹, Matheus Ferreira², Jeff S. Heldt³, Chance G. Farmer⁴, Juliana Ranches¹

¹Oregon State University, ²Louisiana State University, ³Selko USA, ⁴Selko

3:05 p.m. 26 **Trace Minerals to Improve Bull Fertility**

Pedro Fontes¹

¹University of Georgia

3:40 p.m. **ASAS-WSASAS Beef Species Symposium Break II**

4:00 p.m. 17 **Effects of trace mineral source on dry matter digestibility of silage and mineral absorption**

Fernando P. de Paula Leonel¹, Davi Brito De Araujo², Maria Eduarda L. Resende¹, Guilherme C. Leitão¹, Cícero M. Vieira Neto¹, Bruna C. Braga¹, Tiago O. Simões¹, Luis Felipe C. Lacerda e Souza¹, Luis Eduardo Costa Cação Freitas¹, Geraldo L. Correa de Souza¹

¹Federal University of São João del Rei - UFSJ, ²Selko Feed Additives, Nutreco Nederland

4:15 p.m. 28 **Integrating homeostasis in practical mineral supplementation recommendations**

Javier Martín-Tereso¹, Jean-Baptiste Daniel¹

¹Trouw Nutrition R&D

Nonruminant Nutrition/Swine Species Symposium: Nutrition Beyond Growth (Sustainability, Health)

Chairs: Aileen Joy Mercado, Purina Animal Nutrition;
Eric Weaver, South Dakota State University

8:30 AM - 5:00 PM

Glen 206

8:30 a.m. **Nonruminant Nutrition/Swine Species Symposium Introduction**

8:35 a.m. 31 **Sustainable Livestock, Sustainable Future: Why we need a toolkit of solutions to improve sustainability in Animal Agriculture**

Frank Mitloehner¹

¹University of California, Davis

9:15 a.m. 43 **Approaches for improving nitrogen utilization efficiency and environmental sustainability of pork production systems**

Gerald C. Shurson¹, Pedro E. Urriola², Zhaohui Yang³, Brian J. Kerr⁴

¹University of Minnesota, ²University of Minnesota College of Food, Agricultural and Natural Resource Sciences, ³Nutribins, ⁴USDA

9:55 a.m. **Nonruminant Nutrition/Swine Species Symposium Break I**

10:10 a.m. 45 **Doing more with less, sustainable pork and crop production**

Jay D. Moore¹

¹New Fashion Pork

10:50 a.m. 44 **On Farm Engagement in Environmental Sustainability Initiatives**

Erin Cortus¹

¹University of Minnesota

11:30 a.m. **Nonruminant Nutrition/Swine Species Symposium Lunch Break**

2:05 p.m. 46 **Feeding the weaned pig gut and beyond with non-nutritional additives**

Yanhong Liu¹

¹University of California, Davis

2:35 p.m. 47 **Dietary amino acid and protein content and effects on pig health and growth**

Daniel A. Columbus ¹

¹Prairie Swine Centre, Inc.

3:05 p.m. 48 **Dietary functional fiber properties for improved health and disease outcomes in pigs**

Ruurd T. Zijlstra ¹

¹University of Alberta

3:35 p.m. **Nonruminant Nutrition/Swine Species Symposium Break II**

3:50 p.m. 49 **Crossing-talk between micronutrient and macronutrient metabolism: Implication in health and disease**

Xin Gen Lei ¹

¹Cornell University

4:20 p.m. **Nonruminant Nutrition/Swine Species Symposium Panel Discussion**

Animal Health Symposium: Microbiome influences in inflammation and immunity

Chair: Holly Neibergs, Washington State University

9:00 AM - 12:15 PM

Glen 203/204

9:00 a.m. **Animal Health Symposium Introduction**

9:05 a.m. 38 **Early microbial interactions shape subsequent disease resilience in pigs**

Benjamin Willing ¹

¹University of Alberta

9:35 a.m. 39 **Microbiome, metabolomics, epigenetics and beef quality in grass-fed Angus cattle**

Jose Carrillo ¹, Jianan Liu ¹, Yanghua He ¹, Robert W. Li ², Tad Sonstegard ², Kohn Richard ¹, Jiuzhou Song ³

¹University of Maryland, ²USDA-ARS, ³University of Maryland

10:10 a.m. 40 **The gut microbiota modifies host-parasite interactions**

Robert W. Li ¹, Fang Liu ², Gloria Solano-Aguilar ¹, Joseph F. Urban ¹

¹USDA-ARS, ²USDA

10:45 a.m. **Animal Health Symposium Break**

11:00 a.m. 41 **Exploring the impact of the intestinal microbiota in health and disease**

Lautaro Rostoll Cangiano ¹

¹University of Wisconsin–Madison

11:35 a.m. 42 **Remodeling intestinal barrier damage and gut microbiome by bioengineered probiotics**

Arun K. Bhunia¹, Nicholas L.F. Gallina¹, Ruth C. Martinez¹, Timothy A. Johnson¹
¹Purdue University

Horse Species

Chair: Tayler Hansen, Trouw Nutrition
10:00 AM - 11:30 AM
Glen 201/202

10:00 a.m. 54 **Development of an equine metabolism model to describe post-absorptive nutrient dynamics**

Emily M. Leishman¹, Priska Darani², Sharifa Darani², Scott Cieslar², Jennifer L. Ellis¹
¹University of Guelph, ²Mad Barn Inc.

10:15 a.m. 55 **Establishing grain-based modified protocols for re-feeding malnourished horses**

Ariane Tabari Bardassi¹, Jamie A. Boyd¹, Hugo Santos¹, Zach A. Dodson², Laura Patterson Rosa³
¹Sul Ross State University, ²Alpine Small Animal Practice, ³Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Long Island University

10:30 a.m. 56 **Establishing grain-based modified protocols for the nutritional and physical reconditioning of malnourished horses.**

Ariane Tabari Bardassi¹, Jamie A. Boyd¹, Hugo Santos¹, Zach A. Dodson², Laura Patterson Rosa³
¹Sul Ross State University, ²Alpine Small Animal Practice, ³Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Long Island University

10:45 a.m. 57 **In vitro degradation kinetics of protein and starch from equine feedstuffs (corn, beet pulp, oat hulls, soybean meal, whey, timothy, and alfalfa hay)**

Cara L. Cargo-Froom¹, Matthew Nosworthy², Priska Darani³, Sharifa Darani³, Scott Cieslar³, Jennifer L. Ellis¹
¹University of Guelph, ²Agriculture and Agri-Food Canada, ³Mad Barn Inc.

11:00 a.m. 58 **Awardee Talk: A decade of discovery in horse pasture utilization**

Krishona Martinson¹
¹University of Minnesota

**Physiology and Endocrinology II - Supported in honor of Dr. L.E. Casida
by Fred and Alice Stormshak**

Chair: Wellison Diniz, Auburn University

10:00 AM - 11:45 AM

Telus 101/102

10:00 a.m. 103 **Integration of omics studies identifies molecular signatures associated with uterine function in beef cattle**

Nicholas C. Kertz ¹, Priyanka Banerjee ², Juliana Afonso ³, Paul W. W. Dyce ², Wellison Jarles Da Silva Diniz ²

¹Texas A&M University, ²Auburn University, ³Brazilian Agricultural Research Corporation - Embrapa Southeastern Livestock

10:15 a.m. 104 **Non-invasive pregnancy diagnosis in holstein dairy cows using computer vision analysis of thermal images**

Hector Javier Perez Marquez ¹, Allan Schaefer ², Clover Bench ³

¹RB research; University of Alberta, ²Animal Inframetrics Inc., ³University of Alberta

10:30 a.m. 105 **Fetal hypothyroidism dysregulates local hepatic and renal renin-angiotensin systems in a temporal manner**

Alyssa A. Smith ¹, Kaylyn Rudy ¹, J. Alex A. Pasternak ¹

¹Purdue University

10:45 a.m. 106 **Exposure to ergot alkaloids and heat stress alter pulmonary arterial pressure and nutritional intake in beef heifers**

Edwin Benjamin Rajo ¹, Andrew R. Weaver ¹, Carrie L. Pickworth ¹, Derek Foster ¹, Daniel H. Poole ¹

¹North Carolina State University

11:00 a.m. 107 **Intrauterine infusions of Flunixin Meglumine on gestational day 30 resulted in pregnancy loss in beef cows.**

Brette Poliakiwski ¹, Damon Smith ¹, Odile Polanco Jiménez ¹, Musah Muntari ¹, Cliff C. Lamb ², Ky G. Pohler ¹

¹Texas A&M University, ²Agri-Life Research, Texas A&M University

11:15 a.m. 149 **Awardee Talk: Pelvic organ prolapse in sows: Causes and risk factors**

Jason W. Ross ¹

¹Iowa State University

Production, Management and Environment II: Models

Chair: Matt Hersom, Clemson University

10:15 AM - 12:15 PM

Glen 208/209

10:15 a.m. 66 Australian decision support tools for prediction of ruminant performance – current tools and potential applications

James C.H Dougherty ¹, Adam C. Liedloff ², Lucy J. Watt ³, Thomas Keogh ⁴, Dean T. Thomas ¹, V. Hutton Oddy ⁵

¹CSIRO Agriculture & Food, ²CSIRO Environment, ³CSIRO Agriculture and Food, ⁴CSIRO Livestock & Agriculture, ⁵New South Wales Department of Primary Industries

10:30 a.m. 67 Precision identification and weight assessment of cattle using supervised machine learning on body surface keypoints

Guilherme Menezes ¹, Ariana Negreiro ¹, Rafael Ferreira ¹, Shogo Higaki ¹, Enrico Casella ², Anderson Alves ³, Joao R. R. Dórea ¹

¹University of Wisconsin, ²Pennsylvania State University, ³University of Georgia

10:45 a.m. 68 Wildfire smoke simulations and the effects of smoke exposure on cattle acute phase protein response.

Aline Rezende ¹, Erica Ferri ¹, Ana Laura Ramalho ¹, Carlos Eduardo Dos Santos ¹, Matheus Ferreira ², Pedram Rezamand ³, Amy Skibieli ³, Katherine Wollstein ¹, Jenifer Cruickshank ¹, Juliana Ranches ¹

¹Oregon State University, ²Louisiana State University, ³University of Idaho

11:00 a.m. 69 The Holos model for estimating greenhouse gases and soil carbon – characterizing regionalized beef farm model systems

Sarah Pogue ¹, Roland Kroebe ¹, Pamela Mantle ¹, Steven Kega ¹, Aklilu W. Alemu ², Kim H. Ominski ³, Marcelle Moreira dos Santos ⁴, Shakila Ekanayaka Mudiyansele ⁵, Jayakrishnan Nair ⁶, Aaron McPherson ¹, Tim A. McAllister ⁷

¹Agriculture and Agri-Food Canada, ²Agriculture And Agri-food Canada, ³University of Manitoba, ⁴n/a, ⁵Farm Credit Canada, ⁶Southern Illinois University Carbondale, ⁷Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science

11:15 a.m. 70 Evaluation of nutritional monitoring techniques for beef cattle grazing Texas gulf coast rangelands

Jessica Dudak ¹, Barbara Rodrigues ², Camille Carey ³, Taylor Winkler ², Christopher McCoy ², Douglas R. Tolleson ⁴

¹Texas A&M Grazingland Animal Nutrition Lab, Texas A&M Agrilife Research, ²Grazingland Animal Nutrition Laboratory, Texas A&M AgriLife Research, ³Texas A&M University, ⁴Texas A & M AgriLife Research - Sonora

11:30 a.m. 71 An electronic device for enteric methane emissions monitoring

Sebastian Bedoya Mazo ¹, Luisa Fernanda Moreno Pulgarín ¹, John Fredy Ramirez Agudelo ¹, José Fernando Guarín Montoya ¹, Pablo Guarnido-Lopez ², Hector M. Menendez ³

¹Universidad de Antioquia, ²Texas A&M university, ³South Dakota State University, Department of Animal Science

11:45 a.m. 72 **Environmental impacts associated with the removal of productivity enhancing technologies from three different post-weaning feed management strategies in Saskatchewan: A case study**

Sydney Fortier¹, Tim A. McAllister², Deanne Fulawka³, Getahun Legesse⁴, Genet Mengistu⁵, Isaac Aboagye⁶, H. (Bart) A. Lardner⁷, Mario Tenuta³, Kim H. Ominski³
¹Beef Cattle Research Council, ²Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ³University of Manitoba, ⁴Manitoba Agriculture, Primary Agriculture Branch, ⁵CanFax Research Services, ⁶Agriculture and Agri-Food Canada, Swift Current Research and Development Centre, ⁷Department of Animal and Poultry Science, University of Saskatchewan

12:00 p.m. 451 **Establishing producer research sites for the development of beef and bison climate-smart agriculture**

Dalen Zuidema¹, Kristi M. Cammack¹, Amanda Blair¹, Hector M. Menendez², Jameson R. Brennan¹, Christopher Graham¹, Rachel A. Short¹
¹South Dakota State University, ²South Dakota State University, Department of Animal Science

**Ruminant Nutrition/Forages and Pastures Symposium:
Microbial efficiency in high forage diets**

Chair: Brandon Smith, Auburn University

1:45 PM - 4:30 PM

Macleod D

1:45 p.m. **Ruminant Nutrition/Forages and Pastures Symposium Introduction**

1:50 p.m. 179 **Charting the evolution of rumen microbial models from past to present**

Luis O. Tedeschi¹, Jordan M. Adams², Mingyung Lee², Keara O'Reilly², Pablo Guarnido-Lopez³, Luiz Fernando Dias Batista²

¹Texas A&M university, department of Animal Science, ²Texas A&M University, ³Texas A&M university

2:35 p.m. 178 **Programing the rumen microbiome to optimize microbial efficiency in high forage diets**

Tim A. McAllister¹, Robert J. Gruninger², Stephanie A. Terry², Ajay Badhan², Yue Wang³, Leluo Guan⁴

¹Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ²Agriculture and Agri-Food Canada, ³University of British Columbia, ⁴Faculty of Land and Food Systems, The University of British Columbia

3:20 p.m. **Ruminant Nutrition/Forages and Pastures Symposium Break**

3:35 p.m. 180 **Rumen Microbial Crude Protein Synthesis in High Forage Diets**

Nicolas DiLorenzo¹

¹University of Florida

Ruminant Nutrition II: Supplements and Additives

Chair: Kristen Johnson, Washington State University

1:45 PM - 5:00 PM

Macleod B

1:45 p.m. 122 **Impact of an active-dry yeast (*Saccharomyces cerevisiae* CNCM I-1077) delivered via free-choice mineral on growth parameters of beef cow-calf pairs grazing native rangelands**

Paige R. Adams¹, Melissa L. Jolly-Breithaupt¹, Clothilde Villot², Mark Spare³, Kip Karges¹
¹Lallemand Animal Nutrition, ²Lallemand SAS, ³Ashland Veterinary Center

2:00 p.m. 123 **Effects of a *Saccharomyces cerevisiae* based direct-fed microbial on performance, health, and rumen bacterial community of newly weaned beef steers during a 56-d receiving period**

Emily Treon¹, Taylor S. Sidney¹, Godstime A. Taiwo¹, Modoluwamu Idowu¹, Yarahy Leal¹, Deborah Ologunagba¹, Ibukun M. Ogunade¹
¹West Virginia University

2:15 p.m. 128 **Bromoform metabolites from *Asparagopsis taxiformis*: Formation and impact on in vitro rumen fermentation parameters and microbial composition dynamics**

Wouter Muizelaar¹, Jens J. Sloth², Arvid Fromberg², Maike J. Brask³, Brecht Bruneel⁴, Marleen H.P.W. Visker⁵, Jan Dijkstra⁶
¹Wageningen Livestock Research, ²National Food Institute, Technical University Denmark, ³Arla Foods, ⁴Orffa Additives, ⁵FrieslandCampina, ⁶Wageningen University and Research

2:30 p.m. 125 **Could yeast derivatives change beef cattle water intake in different scenarios?**

William Reis¹, Melina A. Bonato¹, Rodrigo D L Pacheco², Nelcino F. de Paula³, Fernando Augusto Souza¹
¹ICC Animal Nutrition, ²Campanelli Innovation Center, ³Federal University of Mato Grosso

2:45 p.m. 126 **The inclusion of *Aspergillus oryzae* prebiotic counteracts the drop on neutral detergent fiber digestibility associated with increased intake level, on corn silage and sorghum silage-based diets.**

Federico Podversich¹, Araceli B. Maderal¹, Juan de J. Vargas¹, Ignacio Fernandez-Marenchino¹, Federico Tarnonsky¹, Wilmer Cuervo², Camila Gomez¹, Tessa M. M. Schulmeister¹, Fernando Bargo³, Ignacio R. Ipharraguerre⁴, Nicolas DiLorenzo²
¹North Florida Research and Education Center, University of Florida, Marianna, FL 32446, ²University of Florida, ³EPG – FAUBA, Universidad de Buenos Aires, Buenos Aires, Argentina. Biozyme, Inc., St. Joseph, MO, USA, ⁴Institute of Human Nutrition and Food Science, University of Kiel

3:00 p.m. 134 **Effects of different feed additives to beef cattle in a commercial feedyard: productive performance**

Lucas S. Rabelo¹, Sergio E. M. Pellizzer², Alexandre Perdigão¹, Victor Carvalho³, Tiago S. S. Acedo¹, Fernando F. Machado¹, Alexandre B. Oliveira², Isabelle E. Matos⁴

¹dsm-firmenich, ²Feedyard Fazenda Conforto, Goiás, Brazil, ³dsm-firmenich, Department of Innovation and Applied Science, São Paulo, Brazil, ⁴Federal University of Mato Grosso do Sul, Brazil

3:15 p.m. **Ruminant Nutrition II: Supplements and Additives Break**

3:30 p.m. 124 **Effects of *Saccharomyces cerevisiae* and dietary type offered to beef cattle on intake, feeding behavior, nutrient digestibility, and ruminal fermentation**

Beatriz Q. Queiroz Dos Reis¹, Jhones O. Sarturi¹, Kaliiu Silva², Kip Karges², Bradley J. Johnson¹, Barbara Rodrigues³, Marie Goulais¹

¹Texas Tech University, ²Lallemand, ³Grazingland Animal Nutrition Laboratory, Texas A&M AgriLife Research

3:45 p.m. 133 **Effect of feeding two different feed additives (Prime Force and Optipartum C+) on finishing cattle performance and carcass characteristics**

Sofia Suarez Lorences¹, Rebecca L. McDermott¹, Josh R. Benton¹, Willard Lemaster², Robert G. Bondurant², James C. MacDonald¹, Galen E. Erickson¹

¹University of Nebraska-Lincoln, ²Furst-McNess Company

4:00 p.m. 130 **Meta-analysis of the Impact of Quebracho and Chestnut Tannin Extract Supplementation on the Growth Performance in Growing and Finishing Beef Cattle**

Mingyung Lee¹, Marcelo Q. Manella², Olivier Desrues³, Luis O. Tedeschi⁴

¹Texas A&M University, ²SilvaTeam Brasil, ³Silvateam S.p.A, ⁴Texas A&M university, department of Animal Science

4:15 p.m. 131 **Effects of biochar type and inclusion level on in vitro gas production dynamics**

Jordan M. Adams¹, Daisy Gonzalez¹, Eunsung Lee², Jeff A. Brady¹, Luis O. Tedeschi³

¹Texas A&M University, ²Texas A&M AgriLife Research, ³Texas A&M university, department of Animal Science

4:30 p.m. 132 **Evaluation of a phytogetic feed additive containing garlic, clove, and capsicum oleoresin on the health and performance of newly-received, high-risk calves**

Blake K. Wilson¹, Natally Owen¹, Jeff S. Heldt²

¹Oklahoma State University, ²Selko USA

4:45 p.m. 129 **CANCELED - The effect of adding different levels of Bromoform on enteric methane, and rumen fermentation using continuous culture system in vitro.**

Mohamed Embaby¹, Grace Handlos¹, Jayakrishnan Nair², Amer AbuGhazaleh¹

¹SIUC, ²Southern Illinois University Carbondale

Animal Behavior and Well-Being Symposium: Heat stress and its impact on animal production and welfare - Sponsored by Temple Grandin Appreciation Club

Chair: Brenda Alexander, University of Wyoming

1:45 PM - 5:15 PM

Glen 208/209

1:45 p.m. **Animal Behavior and Well-Being Symposium Introduction**

1:50 p.m. 141 **Genomic selection for heat stress resilience in pigs: Advancements, applications, and challenges**

Jay S. Johnson ¹, Luiz F. Brito ²

¹University of Missouri, ²Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA

2:35 p.m. 142 **Programming effects of early-life exposure to heat stress in cattle**

Jimena Laporta ¹

¹University of Wisconsin-Madison

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

3:25 p.m. 143 **Short- and long-term effects of heat stress in cow-calf pairs adapted to tropical and subtropical regions**

Philippe Moriel ¹, Vinicius S. Izquierdo ¹, Joao M. B. Vendramini ¹

¹University of Florida, IFAS - Range Cattle Research & Education Center

4:20 p.m. 144 **Assessing economic implications of thermal stress of Bos Indicus and Bos Taurus species during finishing in northern Colorado**

John Ritten ¹, Ashley K. Schilling-Hazlett ², Kimberly R. Stackhouse-Lawson ³, Sara E. Place ⁴, Pedro H V Carvalho ⁵

¹AgNext/Colorado State University, ²AgNext/CSU, ³AgNext at Colorado State University,

⁴Colorado State University AgNext and Department of Animal Sciences, ⁵AgNext.CSU

Horse Species Symposium: Recent Advances in the Equine Microbiome

Chair: Amanda Bradbery, Montana State University

1:45 PM - 5:15 PM

Glen 201/202

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

1:50 p.m. 145 **Utilization of 16s sequencing data and physiological measurements to produce a comparative analysis of the equine microbiome**

Robert D. Jacobs ¹, Bipin Rimal ¹, Manohar M. Lahoti ¹, Morghan Bowman ¹, Mary Beth Gordon ¹

¹Purina Animal Nutrition

2:35 p.m. 146 **The effects of antimicrobials and antimicrobial associated diarrhea on the fecal microbiome of the horse.**

Carolyn E. Arnold¹

¹Texas Tech University School of Veterinary Medicine

3:20 p.m. **Horse Species Symposium Break**

3:35 p.m. 147 **The 'horse-side' of host-microbe interactions and gastrointestinal homeostasis in the equine hindgut**

Stephen J. Coleman¹, Cameron Moss¹, Amber Wilson¹, Kailee Reed¹, Kaysie Jennings¹, Isabelle Kunz¹

¹Colorado State University

4:20 p.m. 148 **The equine dermal microbiome: State of the science**

Erin B. Perry¹

¹Southern Illinois University

Poster Session LBI

2:00 PM - 3:00 PM

Exhibit Hall C

2:00 p.m. PSLBI-2 **Alberta lamb producer's sheep/goat vegetation management accreditation course**

Andrea M. Hanson¹, Cailey BM Church¹, Susan Markus¹, Aspen McTaggart¹

¹Lakeland College

2:00 p.m. PSLBI-16 **Arginine requirements of young adult and senior Labrador retrievers**

Sarah M. Dickerson¹, Claire L. Timlin¹, Jason W. Fowler¹, CRAIG N. COON²

¹Four Rivers Kennel, ²Four Rivers Kennel, LLC

2:00 p.m. PSLBI-28 **Assessing the impact of a potential canine vaccine for the control of Chagas Disease**

EDEM FIATSONU¹

¹Texas A&M University

2:00 p.m. PSLBI-14 **Assessment of the effective tissue concentrations of injectable lidocaine and a lidocaine-impregnated latex band for castration in calves and lambs**

Nick Allan¹, Joe Ross¹, Steven Roche², Kendall Beaugrand¹, Crystal Schatz¹, Ann Hammad³, Brenda Ralston⁴, Andrea M. Hanson⁴, Merle Olson⁵

¹Chinook Contract Research Inc., ²ACER Consulting Ltd., ³Chinook Contract Research Inc, ⁴Lakeland College, ⁵AVL/Solvvet

2:00 p.m. PSLBI-13 **Characterizing the seminal microbiota in mature rams managed on divergent planes of nutrition, and in their male offspring**

Justine Kilama¹, Devin B. Holman², Kerri A. Bochantin-Winders¹, Jennifer L. Hurlbert¹, Friederike Baumgaertner¹, Chris S. Schauer¹, Carl R. Dahlen¹, Samat Amat¹

¹North Dakota State University, ²Agriculture Agri-Food Canada, Lacombe Research and Developmental Center

2:00 p.m. PSLBI-7 **Coating extruded kibble with increasing levels of free fatty acids does not decrease palatability or impact e-nose odor profiles**

CRAIG N. COON¹, Fiona B. Mccracken², Claire L. Timlin³, Jason W. Fowler³, Patrick M. Skaggs³, Sarah M. Dickerson³

¹Four Rivers Kennel, LLC, ²Four Rivers Kennel LLC, ³Four Rivers Kennel

2:00 p.m. PSLBI-20 **Dynamic response of piglets fed different sources and levels of fiber during an enterotoxigenic Escherichia coli (ETEC) challenge in the post-weaning transition**

Spenser L. Becker¹, Amanda J. Gearhart², Morgan Schaeperkoetter², Kyle Coble², Charles V. Maxwell³, Tsung Cheng Cheng Tsai³, Pete Wilcock¹, Virginie Blanvillain¹

¹AB Vista, ²JBS Live Pork, ³University of Arkansas

2:00 p.m. PSLBI-8 **Effect of sunflower (Tithonic diversifolia) extract on growth performance and serum antioxidant enzymes of broiler chickens**

Funmilola Ogunkunle¹, Oluwatooyin Alade², NATHANIEL OGUNKUNLE³

¹McNathan Farms, ²National Biotechnology Research Development Agency, ³Alabama A & M University

2:00 p.m. PSLBI-15 **Effects of heat shock protein 70 on cell viability and protective capacity of serum against histone cytotoxicity**

Sara C. Gurule¹, Luis Ochoa¹, Marcy Ward¹, Sergio A. Soto-Navarro², Jennifer A. Gifford¹, Craig A. Gifford¹

¹New Mexico State University, ²Department of Animal and Range Sciences; New Mexico State University

2:00 p.m. PSLBI-10 **Effects of mid-gestational nutrient restriction on maternal and neonatal body weights in goats**

Jerome C. Peel¹, Gemechu Dinegdie¹, Adel Ghnenis¹

¹Langston University

2:00 p.m. PSLBI-23 **Effects of peri-castration pain management strategies on feed and water intake, performance, and blood cortisol levels of weaned beef steers**

Andrea K. Brandner¹, Cody Wright¹, Ana Clara B. Menezes¹

¹South Dakota State University

2:00 p.m. PSLBI-29 **Gene expression patterns in liver tissue proximal to abscesses in cattle**

Emilie C. Baker¹, Ty E. Lawrence¹

¹West Texas A&M University

2:00 p.m. PSLBI-22 **Identifying plasma metabolites influencing body weight in Salmonella challenged growing pigs: A machine learning approach**

Graziela Alves da Cunha Valini¹, Luciano Hauschild², Aline Remus³

¹AAFC and UNESP, ²São Paulo State University - School of Agricultural and Veterinary Sciences, ³Agriculture and Agri-Food Canada (AAFC)

2:00 p.m. PSLBI-4 **Influence of gender on animal science research funding from the National Institute of Food and Agriculture**

Angelica G. Van Goor¹, Emma Moran¹, Charlotte Kirk-Baer², Robbin Shoemaker¹, Mark A. Mirando¹, Parag Chitnis³

¹USDA-National Institute of Food and Agriculture, ²USDA-National Resources Conservation Services, ³University of Wyoming

2:00 p.m. PSLBI-21 **Interactive effects of dietary betaine supplementation and soybean hulls inclusion on growth performance and carcass composition of young growing pigs**

Valesca Lima¹, Milena Rodrigues¹, Kallita Cardoso¹, Mariana Lacerda¹, Amoracyr C. Nuñez¹, Saimon Sousa¹, Carla Leite¹, Luiz F. Brito², Allan P. Schinckel³, Aline Silve Mello Cesar⁴, José Stringhini¹, Vivian V. Almeida¹

¹Federal University of Goiás, ²Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA, ³Purdue University, ⁴Faculty of Animal Science and Food Engineering (FZEA), University of São Paulo, Pirassununga, Brazil

2:00 p.m. PSLBI-18 **Isoleucine requirements of young adult and senior Labrador retrievers**

Sarah M. Dickerson¹, Mary E. Fuqua¹, Tanya Webb¹, Claire L. Timlin¹, Fiona B. Mccracken², Jason W. Fowler¹, CRAIG N. COON³

¹Four Rivers Kennel, ²Four Rivers Kennel LLC, ³Four Rivers Kennel, LLC

2:00 p.m. PSLBI-24 **Optimizing crop byproduct inclusion in beef cattle diets; utilization of wheat straw to improve operational economics and oilseed screenings as protein supplements.**

Beatriz J. Montenegro¹, Gregory B. Penner², H. (Bart) A. Lardner³, Kathy A. Larson¹, John J. McKinnon³, Darryl Gibb⁴, Tim A. McAllister⁵, Gabriel O. Ribeiro³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, Editor-in-chief Canadian Journal of Animal Science, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴Cattle Health, ⁵Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science

2:00 p.m. PSLBI-26 **Purebred-crossbred genetic parameters for sow pelvic organ prolapse**

Ching-Yi Chen¹, Pieter Knap¹, Adria Bhatnagar¹, Justin W. Holl¹, Shogo Tsuruta², Daniela Lourenco², Ignacy Misztal²

¹Genus PIC, ²University of Georgia

2:00 p.m. PSLBI-11 **Relevance of mitochondrial-mediated apoptotic processes in color and oxidative stabilities of five different beef muscles**

Jin-Kyu Seo¹, Christina Ferreira¹, Bruce Cooper¹, Brad H. B. Kim²

¹Purdue University, ²Purdue Univ.

2:00 p.m. PSLBI-27 **Rumen microbiome dynamics in feedlot steers receiving free-choice garlic-infused mineral supplements**

Devin B. Holman¹, Katherine E. Gzyl², Arun Kommadath³, Tim A. McAllister⁴, Emmanuel Gonzalez⁵, Obioha N. Durunna⁶

¹Agriculture Agri-Food Canada, Lacombe Research and Developmental Center, ²Agriculture and Agri-Food Canada, ³Agriculture and Agri-food Canada, ⁴Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ⁵University of McGill, ⁶Lakeland College

2:00 p.m. PSLBI-5 **Ruminal papillae morphology of beef on dairy heifers with abscessed or non-abscessed livers**

Beatriz Reis¹, Jhones O. Sarturi¹, Dale R. Woerner¹, Bradley J. Johnson¹, Barbara Rodrigues², kaliu Silva³, Taylee Velasquez¹, Reese Wilson¹, Bharathwaj Popellae¹, Otavio France⁴

¹Texas Tech University, ²Grazingland Animal Nutrition Laboratory, Texas A&M AgriLife Research, ³Lallemand, ⁴Texas Tech University

2:00 p.m. PSLBI-30 **SARS-CoV-2 Screening and Detection: Assessment of surrogate virus neutralization test (svNT) diagnostic appropriateness in multispecies SARS-CoV-2 virus screening and detection**

Erin A. Posey¹, Melinda Jenkins-Moore¹, Rachel M. Tell¹, Kristina Lantz¹, Mia Kim Torchetti¹

¹National Veterinary Services Laboratories, Veterinary Services, Animal and Plant Health Inspection Service, US Department of Agriculture

2:00 p.m. PSLBI-12 **Screening and isolation of Fusobacterium necrophorum and Fusobacterium varium from seminal, and vagino-uterine microbiota of healthy cattle and sheep**

Justine Kilama¹, Carl R. Dahlen¹, Mina Abbas², Xiaorong Shi², T. G. Nagaraja², Samat Amat¹

¹North Dakota State University, ²Kansas State University

2:00 p.m. PSLBI-1 **Stepwise approach applied to metabolites related to residual feed intake in Angus cattle**

Alanne Tenório Nunes¹, Francisco José de Novais², Camila Aparecida Faleiros¹, Gabriela Marques Marcilli¹, Mirele Daiana Poleti¹, José Bento Sterman Ferraz¹, Heidge Fukumasu¹

¹University of Sao Paulo, ²Department of Agriculture, Food and Nutritional Science, University of Alberta

2:00 p.m. PSLBI-25 **Students' perceptions of an artificial intelligence photo generation tool in upper-level animal science curriculum**

Carly Hoffmann¹, Stanley F. Kelley¹, Kristin Nicholson¹

¹Sam Houston State University

2:00 p.m. PSLBI-9 **The growth performance and total tract starch digestibility of finishing Nelore bulls fed flint corn-based diets are improved by the corn processing method and urea source**

Igor Gomes Fávero ¹, Ana Carolina Oliveira Santos ¹, Gabriela D. Rezende ¹, José Maria de Oliveira Júnior ¹, Stefânia Priscila Souza ¹, Priscilla Teixeira ¹, Javier Martín-Tereso ², Erick D. Batista ³

¹Universidade Federal de Lavras, ²Trouw Nutrition R&D, ³UFLA

2:00 p.m. PSLBI-3 **The use of meloxicam oral suspension (15 mg/mL) to control post-partum pain and inflammation in dairy cattle following dystocia**

Andrea M. Hanson ¹, Brenda Ralston ¹

¹Lakeland College

2:00 p.m. PSLBI-17 **Total sulfur amino acid requirements across the canine life cycle in Labrador Retrievers using the indicator amino acid oxidation (IAAO) technique**

Sarah M. Dickerson ¹, Claire L. Timlin ¹, Fiona B. Mccracken ², Jason W. Fowler ¹, CRAIG N. COON ³

¹Four Rivers Kennel, ²Four Rivers Kennel LLC, ³Four Rivers Kennel, LLC

2:00 p.m. PSLBI-6 **Unveiling the gut mycobiota of pasture- and conventionally-raised pigs**

Carolyn Scott ¹, Angela Ibe ¹, Katherine E. Gzyl ², Devin B. Holman ³, Ahmad Taheri ¹

¹Red Deer Polytechnic, ²Agriculture and Agri-Food Canada, ³Agriculture Agri-Food Canada, Lacombe Research and Developmental Center

2:00 p.m. PSLBI-19 **Utilization of infrared thermography as a non-invasive method for assessing short-term heat stress in Florida Cracker sheep**

Sola Ikuejamoye-Omotore ¹, Makenzie Harrison ¹, Anijia Mills-Widemon ¹, Zaira M. Estrada Reyes ¹, Thomas H. Terrill ²

¹North Carolina Agricultural and Technical State University, ²Fort Valley State University

Animal Breeding and Genetics II: Statistical Methods for Genetic Analysis

Chair: Gota Morota, Virginia Tech

2:00 PM - 4:30 PM

Macleod C

2:00 p.m. 114 **Accuracy of genomic predictions using single and multiple-trait machine learning methods in Canadian beef cattle population**

Hongwei Li ¹, Yining Wang ², Michael Vinsky ², Tiago Valente ³, John A. Basarab ⁴, Changxi Li ⁵

¹Department of Agricultural, Food and Nutritional Science, University of Alberta, ²Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, ³Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, ⁴Department of Agriculture, Food and Nutritional Science, University of Alberta, ⁵Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, and Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta

2:15 p.m. 115 **Confidence intervals for validation statistics with data truncation in genomic prediction**

Matias Bermann¹, Andres Legarra², Alejandra Alvarez Munera¹, Ignacy Misztal¹, Daniela Lourenco¹

¹University of Georgia, ²Council on Dairy Cattle Breeding (CDCB)

2:30 p.m. 116 **Contribution of X-chromosome to the genetic variance of litter size and stillbirth in pigs**

Renata Veroneze¹, Ching-Yi Chen², Justin W. Holl², Ignacy Misztal³, Matias Bermann³, Daniela Lourenco³

¹Universidade Federal de Viçosa / University of Georgia, ²Genus PIC, ³University of Georgia

2:45 p.m. 117 **Population structure and genetic diversity of U.S. Polypay Sheep in the National Sheep Improvement Program**

Carrie S. Wilson¹, Jessica L. Petersen², Luiz F. Brito³, Brad A. Freking⁴, Sara M. Nilson⁵, Ronald M. Lewis⁵

¹USDA-ARS-RSPER, ²University of Nebraska-Lincoln, ³Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA, ⁴USDA, ARS, USMARC, ⁵University of Nebraska - Lincoln

3:00 p.m. 118 **DHGLMF90: A software tool using double hierarchical generalized linear models for estimating the genetic heterogeneity of residual variance**

Alejandra Alvarez Munera¹, Matias Bermann¹, Noelia Ibáñez Escriche², Cristina Casto Rebollo², Ignacy Misztal¹, Daniela Lourenco¹

¹University of Georgia, ²Institute for Animal Science and Technology, Universitat Politècnica de València

3:15 p.m. **Animal Breeding and Genetics II: Statistical Methods for Genetic Analysis Break**

3:30 p.m. 119 **Awardee Talk: Decoding genomic predictions and genome-wide association in large populations**

Daniela Lourenco¹, Matias Bermann¹, Alberto Cesarani², Shogo Tsuruta¹, Ignacy Misztal¹

¹University of Georgia, ²University of Sassari

4:00 p.m. 120 **Cross-validation of breeding values and future phenotypes for heifer pregnancy in Red Angus cattle using the LR method**

Lane K. Giess¹, Scott E. Speidel¹, Lindsay R. Upperman², Ryan J. Boldt³, Wade R. Shafer³, R. Mark Enns¹

¹Colorado State University, ²Red Angus Association of America, ³International Genetic Solutions

4:15 p.m. 121 **Copy number variation: From mapping to variance components in Holsteins**

Giovanni C. Ladeira¹, Pablo J. J. Pinedo², Jose E. E.P. Santos¹, William W. W. Thatcher¹, Fernanda M. M. Rezende¹

¹University of Florida, ²Colorado State University

CSAS Graduate Student Session I

Chair: Renée Petri, AAFC

2:00 PM - 4:30 PM

Telus 108/109

2:00 p.m. 479 **Pain control for the castration of newborn bull calves by elastration**

Mariah Crevier¹, Derek B. Haley¹, Jeffrey Rau², Jessica Gordon³

¹Dept. of Population Medicine, Ontario Veterinary College, Campbell Centre for the Study of Animal Welfare, University of Guelph, ²Campbell Centre for the Study of Animal Welfare, University of Guelph, Dept. of Health Sciences, Ruminant Field Services, Ontario Veterinary College, ³Dept. of Large Animal Clinical Science, Michigan State University

2:15 p.m. 480 **The effect of parity on the quality of colostrum, internal parasite load, and postnatal development of Holstein calves.**

Andrea García Mendoza¹, Milagros González Hernández², Delia Xochil Vega Manríquez³, Erika J. Félix Santiago⁴, Cesar A. Rosales Nieto⁵, Maria del Refugio Perez Barba⁶

¹Facultad de Agronomía y Veterinaria de la Universidad Autónoma de San Luis Potosí,

²Universidad Autónoma de San Luis Potosí, ³Facultad de agronomía y Veterinaria de la

Universidad Autónoma de San Luis Potosí, ⁴Universidad Autónoma de San Luis Potosí,

⁵texas state university, ⁶Facultad de Ciencias Químicas de la Universidad Autónoma de San Luis Potosí

2:30 p.m. 481 **Impacts of breeding method on metabolic profile, progesterone level, and pregnancy rates in dairy goats**

Ramya Sri Kolikapongu¹, Sharath Chandra Namani², Miller Schauston², Mahipal Singh², Brou Kouakou², Adel R. Moawad²

¹Fort Valley State University, ²Fort Valley State University

2:45 p.m. 482 **Using growth implants in suckling beef calves enhanced vaccine response against Infectious Bovine Rhinotracheitis.**

Sergio David Lasso-Ramirez¹, Diego Moya², H. (Bart) A. Lardner³, Maria Camila Londono-Mendez¹, Kaitlyn Nielsen⁴, Cabri Tanchak⁴, Gleise Medeiros da Silva¹

¹University of Alberta, ²Western College of Veterinary Medicine, University of

Saskatchewan., ³Department of Animal and Poultry Science, University of Saskatchewan,

⁴University of Saskatchewan

3:00 p.m. 483 **DMI, gastrointestinal tract fermentation and permeability, and white blood cell responses in beef heifers provided post-ruminal yeast cell wall extract following feed restriction.**

Wyatt D. Armes¹, Clothilde Villot², Eric Chevaux², Philip Griebel³, Timothy Mutsvangwa¹, Natacha Hogan¹, Gregory Penner⁴

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

³Vaccine and Infectious Disease Organization, University of Saskatchewan, ⁴University of

Saskatchewan

3:15 p.m. **CSAS Graduate Student Session I Break**

3:30 p.m. 484 **Exploring fear in client-owned dogs: Insights from behavioural testing, owner surveys, and biomarker validation**

Rachel Strassburger¹, Scarlett Burron¹, Kiara Gagliardi¹, Taylor Lantz¹, Alexandra Harlander¹, Anna K. Shoveller¹
¹University of Guelph

3:45 p.m. 485 **Impact of annual and perennial forage systems on forage biomass and quality, steer performance, and enteric methane emissions.**

Jourdyn Sammons¹, Daalkhajjav Damiran¹, Crystal Rinas², Bobbi Helgason³, Breeanna Kelln⁴, H. (Bart) A. Lardner⁵

¹Department of Animal and Poultry Science, College of Agriculture and Bioresources, University of Saskatchewan, ²Department of Civil, Geological and Environmental Engineering, College of Engineering, University of Saskatchewan, ³Department of Soil Science, College of Agriculture and Bioresources, University of Saskatchewan, ⁴Department of Plant Sciences, College of Agriculture and Bioresources, University of Saskatchewan, ⁵Department of Animal and Poultry Science, University of Saskatchewan

4:00 p.m. 486 **Evaluation of beef heifers fed four different diets when selected for divergent digestible fibre intake**

Megan M. Dubois¹, Gregory Penner¹, H. (Bart) A. Lardner², Wade Abbott³, Robert J. Gruninger³, Gabriel O. Ribeiro²

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

4:15 p.m. 487 **Rumen degradation, N-To-Energy Synchronization, and Intestinal Digestion Study in dairy cows: Effect of oat varieties and types (feed type vs. milling type)**

Ganqi Deng¹, David Christensen¹, H. (Bart) A. Lardner², Peiqiang Yu³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan, ASAS, CSAS, ADSA

Physiology and Endocrinology III

Chair: Kendall Swanson, North Dakota State University

2:00 PM - 4:45 PM

Telus 101/102

2:00 p.m. 108 **Early colostrum uptake by the newborn requires prepartum initiation of lactogenesis in ungulate species - Sponsored by EAAP**

Rupert M. M. Bruckmaier¹, Josef J. Gross²

¹Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bremgartenstr. 109a, 3001 Bern, Switzerland, ²University of Bern, Vetsuisse Faculty, Veterinary Physiology

2:40 p.m. 109 **Dam and calf influences on colostrum yield and quality in beef cattle**

Allison M. Meyer¹, Colby A. Redifer², Abigail R. Rathert-Williams³

¹Division of Animal Sciences, University of Missouri, ²University of Missouri, ³Division of Animal Sciences, College of Agriculture, Food and Natural Resources, University of Missouri

2:55 p.m. 110 **Effects of different carbohydrates replacing dietary lactose on metabolism of milk-fed calves**

Georg Bierlein ¹, Rupert M. M. Bruckmaier ², Josef J. Gross ¹

¹University of Bern, Vetsuisse Faculty, Veterinary Physiology, ²Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bremgartenstr. 109a, 3001 Bern, Switzerland

3:10 p.m. **Physiology and Endocrinology III Break**

3:25 p.m. 111 **Factors affecting transfer of passive immunity in beef calves**

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

¹Division of Animal Sciences, University of Missouri, ²Division of Animal Sciences, College of Agriculture, Food and Natural Resources, University of Missouri

3:40 p.m. 112 **Effects of maternal body condition on colostrum, foal weight, and foal IgG concentration**

Cheyenne S. Summers ¹, Nicole M. Tillquist ¹, Terry E. Engle ², Nicholas M. Barnello ¹, Santhi Priya Voggu ¹, Amanda S. Reiter ¹, Kristen E. Govoni ¹, Steven A. Zinn ¹, Sarah A. Reed ¹

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

3:55 p.m. 113 **What drives the response of beef cows to short periods of undernutrition? - Sponsored by EAAP**

Isabel Casasús ¹, Karina Orquera-Arguero ², Daniel Villalba ³, Javier Ferrer ⁴, Mireia Blanco ²

¹CITA-Aragón, ²Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA),

³Universitat de Lleida. Department de Ciència Animal, ⁴CITA de Aragón-IA2

**Meat Science and Muscle Biology Symposium:
Genetic and epigenetic impacts on intramuscular adipocyte development**

Chair: Min Du, Washington State University

2:00 PM - 5:15 PM

Glen 203/204

2:00 p.m. 135 **Meat Science and Muscle Biology Symposium Introduction**

2:05 p.m. 136 **Focusing on the impacts of early nutrition on intramuscular adipocyte development of calves**

Marcio de Souza Duarte ¹

¹University of Guelph

2:45 p.m. 137 **Possible mechanisms underlying enhanced intramuscular adipogenesis in Wagyu cattle**

Min Du ¹, Xing Fu ²

¹Washington State University, ²Louisiana State University

3:30 p.m. **Meat Science and Muscle Biology Symposium Break**

3:45 p.m. 138 **Regulation of post protein translational modification in adipogenesis and fat accumulation in pigs**

Jingdong Yin ¹

¹China Agricultural University

4:30 p.m. 139 **Metabolic regulation of intramuscular adipose tissue development**

Stephen B. Smith ¹

¹Texas A&M University

Poster Session LBII

3:30 PM - 4:30 PM

Exhibit Hall C

3:30 p.m. PSLBII-22 **Antioxidant potential and in vitro digestibility of two varieties of industrial hemp (*cannabis sativa*) supplemented in beef cattle diet**

NATHANIEL OGUNKUNLE ¹, Mariam Yakubu ², Monya Simpson ², Judith Boateng ²

¹Alabama A & M University, ²Alabama A&M University

3:30 p.m. PSLBII-16 **Assessing endotoxin or *Escherichia coli* vaccine administration during gestation as a means to alter postnatal immune function in pigs**

Nicole C. Burdick Sanchez ¹, Thomas W. Dobbins ², Isabella Murphy ³, Samantha N. Barker ², Colten W. Dornbach ², Kallie D. Childress ², Zach S. McDaniel ², Maddie S. Grant ⁴, Ty M. Mitchell ⁵, Kristin E. Hales ², Rand R. Broadway ⁶, William T. Oliver ⁷, Amanda K. Lindholm-Perry ⁷, Jerrad F. Legako ², Amy L. Petry ³

¹USDA-ARS, ²Texas Tech University, ³University of Missouri, Division of Animal Science,

⁴Texas Tech University, Department of Animal and Food Sciences, ⁵Michigan State

University, College of Veterinary Medicine, Department of Large Animal Clinical Sciences,

⁶Livestock Issues Research Unit, ⁷USDA-ARS, U.S. Meat Animal Research Center

3:30 p.m. PSLBII-13 **Bioinformatics of rumen fluid from steers fed alfalfa-bermudagrass mixtures in the Deep South**

Mason Blinson ¹, Peyton Zessin ¹, S. Leanne L. Dillard ¹, Kimberly Kim Mullenix ¹

¹Auburn University

3:30 p.m. PSLBII-26 **Butyrate receptor gene expression in myeloid cells of the lower porcine gastrointestinal tract**

Sage Becker ¹, Adrienne Shircliff ², Crystal Loving ³

¹Iowa State University and USDA-NADC-ARS, ²Microscopy Services Laboratory, USDA-

NADC-ARS, ³Food Safety and Enteric Pathogens Unit, USDA-NADC-ARS

3:30 p.m. PSLBII-12 **Cloning and analysis of target-specific crispr RNA and screening primers to create β -lactoglobulin knock-out goat fibroblast cell lines for nuclear transfer.**

Mahipal Singh ¹

¹Fort Valley State University

3:30 p.m. PSLBII-23 **Effects of alternative production systems on growth and circulating blood profiles in Berkshire grower pigs**

Nina Hollomon¹, Derrick J. Coble¹

¹North Carolina Agricultural and Technical State University

3:30 p.m. PSLBII-28 **Effects of dietary protein manipulation on greenhouse gases and ammonia emissions from feedlot beef steers**

Sebastian E. Mejia Turcios¹, Sharissa Anderson¹, Mathew Klein¹, Conor McCabe¹, Yongjing Zhao², Yuee Pan², Kate Cowles³, Aimee Hafra³, Anna R. Taylor³, William Kolath³, Frank M. Mitloehner²

¹UC Davis CLEAR Center, ²University of California, Davis, ³Cargill Inc.

3:30 p.m. PSLBII-29 **Effects of heat stress mitigation methods on growth performance, environmental, and economic outcomes of feedlot cattle raised in a hot climate**

Sebastian E. Mejia Turcios¹, Alan Rotz², John J. McGlone³, Carlos Rivera⁴, Frank M. Mitloehner⁵

¹UC Davis CLEAR Center, ²USDA/Agricultural Research Service, ³Texas Tech University, ⁴Sukarne, ⁵University of California, Davis

3:30 p.m. PSLBII-19 **Effects of high-forage backgrounding duration on dry matter intake during the early finishing phase**

Pauliane Pucetti¹, Sebastiao De Campos Valadares Filho², Julia Travassos da Silva¹, Isabelle Pinheiro Siqueira², Renata Pereira Pacheco², Livia Moreira Gandra², Kendall C. Swanson³

¹North Dakota State University, ²Universidade Federal de Viçosa, ³Department of Animal Sciences, North Dakota State University

3:30 p.m. PSLBII-24 **Effects of maintaining Berkshire grower pigs in alternative production systems on circulating cytokine profiles**

Nina Hollomon¹, Derrick J. Coble¹

¹North Carolina Agricultural and Technical State University

3:30 p.m. PSLBII-1 **Enhancing cattle health and performance through targeted supplement optimization and evaluation**

Andrea M. Hanson¹, Kyleigh Magotiaux¹, Brenda Ralston¹

¹Lakeland College

3:30 p.m. PSLBII-20 **Estimation of genetic parameters for methane emissions and residual feed intake in Nellore cattle**

Roberto D. Sainz¹, Fernando S. Baldi², Larissa B. Temp², Luciano B. Ribeiro³

¹University of California, Davis, ²State University of São Paulo, ³Rancho da Matinha

3:30 p.m. PSLBII-8 **Evaluation of the in vitro ruminal methane production in heifers fed high-forage or high-concentrate diets during entire pregnancy**

Godson Aryee¹, Robin C. Anderson², Joel S. S. Caton¹, Kendall C. Swanson³, Carl R. Dahlen¹, Samat Amat¹

¹North Dakota State University, ²United States Department of Agriculture, Agricultural Research Service, Food and Feed Safety Research Unit, ³Department of Animal Sciences, North Dakota State University

3:30 p.m. PSLBII-9 **Further evaluation of monensin and protein supplementation on in situ degradability of low-quality forage fed to cattle**

Halie West¹, Jamie Foster², Clint A. Loest³, Joshua Solis¹, Javier Martinez¹, Natasha L. Mast⁴

¹Texas A&M University - Kingsville, ²Texas A&M AgriLife Research, ³New Mexico State University, ⁴Texas A&M University Kingsville

3:30 p.m. PSLBII-2 **Impact of controlled feeding on enteric methane production and animal performance**

Carlee M. Salisbury¹, Zachary K. Smith², Logan R. Thompson¹

¹Kansas State University, ²South Dakota State University

3:30 p.m. PSLBII-25 **Impact of strain and sex on hematological and serum biochemical characteristics of broiler chickens in Ikorodu, Lagos, Nigeria**

Olugbenga A. Anjola¹, Murisiku Onigemo², Peter Agbaye², Rafiu Asafa², Olawale Ishola², Khadijah Agbalaya², Lateef Tijani², Yusuf Oso²

¹Aberystwyth University/Lagos State University of Science and Tech, ²Lagos State University of Science & Technology

3:30 p.m. PSLBII-14 **Impacts of limited feeding high-concentrate diets to beef heifers during the first 180 d of gestation on feeding behavior, carcass characteristics, and gastrointestinal tract morphometrics**

Matheus Carlis¹, German D. D. Ramirez-Zamudio², Kathryn RM Slavick³, Brooklyn Kuzel³, Jennifer L. Hurlbert³, Godson Aryee³, Justine Kilama³, Gabriela Magossi³, Rodrigo S. Goulart⁴, Joel S. S. Caton³, Kendall C. Swanson⁵, Samat Amat³, Carl R. Dahlen³

¹University of São Paulo (USP)/North Dakota State University (NDSU), ²University of São Paulo/North Dakota State University, ³North Dakota State University, ⁴University of São Paulo, ⁵Department of Animal Sciences, North Dakota State University

3:30 p.m. PSLBII-5 **Impacts of residual feed intake measured as a heifer in drylot on mature cows and calves grazing native pasture.**

Francisco José de Novais¹, Hailey Bolen², Valentine Udeh³, Sydney Lopes³, Temitope Oloyede³, Leluo Guan⁴, Changxi Li⁵, John A. Basarab¹, Carolyn J. Fitzsimmons⁶, Edward bork¹

¹Department of Agriculture, Food and Nutritional Science, University of Alberta, ²Agriculture and Agri-Food Canada, ³Faculty of Agricultural, Life & Environmental Sciences, University of Alberta, Canada, ⁴Faculty of Land and Food Systems, The University of British Columbia, ⁵Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, ⁶University of Alberta

3:30 p.m. PSLBII-3 **Influence of iron supplementation on insulin and glucose dynamics in horses**

Cassandra R. Gluck¹, Shannon E. Pratt-Phillips¹

¹North Carolina State University

3:30 p.m. PSLBII-27 **Investigating the emergence of antimicrobial resistance in *Mycoplasma bovis* from feedlot cattle**

Sara Andres-Lasheras¹, Rahat Zaheer¹, Antonio Ruzzini², Murray D. Jelinski², Tim A. McAllister³

¹Agriculture and Agri-Food Canada, ²University of Saskatchewan, ³Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science

3:30 p.m. PSLBII-6 **Measuring greenhouse gas emissions from biogas facility as manure treatment and comparing with 2006 IPCC guideline calculation**

Geunwoo Park¹, Dongwoo Kim¹, Kyu-Hyun Park¹

¹Kangwon National University

3:30 p.m. PSLBII-7 **Meta-analysis of the whole-body microbiota in cattle**

Godson Aryee¹, Devin B. Holman², Samat Amat¹

¹North Dakota State University, ²Agriculture Agri-Food Canada, Lacombe Research and Developmental Center

3:30 p.m. PSLBII-10 **Mitigation of sanitary challenge effects in growing pigs through extra supply of functional amino acids**

Ismael França¹, Giulia Stephanie Cubas Paulino¹, Graziela Alves da Cunha Valini², Pedro Righetti Arnaut¹, Antônio Diego Brandão Brandão Melo¹, Danilo Alves Marçal¹, Henrique Gastmann Gastmann Brand³, John K. Htoo⁴, Luciano Hauschild¹

¹São Paulo State University - School of Agricultural and Veterinary Sciences,, ²AAFC and UNESP, ³Evonik Brasil Ltda, ⁴Evonik Operations GmbH

3:30 p.m. PSLBII-11 **Predicting carcass chemical composition of crossbred bulls using Dual Energy X-Ray Absorptiometry (DXA) scanning of different carcass sections**

Julia Travassos da Silva¹, Sebastiao De Campos Valadares Filho², Pauliane Pucetti¹, Livia Moreira Gandra², Mariana Guimarães Pereira², Eduardo Dias de Carvalho³, Kendall C. Swanson⁴, Erica Beatriz Schultz³, Mario Luiz Chizzotti³

¹North Dakota State University, ²Universidade Federal de Viçosa, ³Universidade Federal de Vicos, ⁴Department of Animal Sciences, North Dakota State University

3:30 p.m. PSLBII-17 **Supplementation with organic versus inorganic selenium during pregnancy to support ewe and lamb health**

Nicole Moran¹, Rebecka Sadler¹, Umesh K. Shandilya¹, Niel A. Karrow¹

¹University of Guelph

3:30 p.m. PSLBII-30 **The effect of different soybean meal batches and protease supplementation on nutrient utilization by broiler chickens**

Vivian Vieira¹, Isabella de C. Dias², Ana C. B. Doi², Guilherme F. Deda², Ítalo S. R. Pereira², Suzete P. de M. Neta², Ananda P. Felix², Alex Maiorka²

¹Member of CSAS / Federal University of Parana , ²Federal University of Parana

3:30 p.m. PSLBII-4 **The effect of standardized ileal digestible sulfur amino acid intake during late gestation on gilt whole-body nitrogen retention and subsequent litter performance**

Cristhiam J. Munoz Alfonso ¹, Lee-Anne Huber ², Crystal L. Levesque ³

¹University of Guelph, ²University of Guelph - Department of Animal Biosciences (OAC),

³South Dakota State University

3:30 p.m. PSLBII-15 **The impacts of phyto-chemo-immuno therapeutic agents on cure of Bovine brucellosis**

Muhammad Kaleem ¹

¹Cholistan University of Veterinary and Animal Sciences, Bahawalpur, Pakistan

3:30 p.m. PSLBII-18 **Transcriptomic comparison of embryonic tissues between high and low fertility sired pregnancies**

Odile Polanco Jiménez ¹, Gabriela Melo ¹, Sofia Ortega ², Ramiro V. Oliviera Filho ¹,

Gessica Franco ¹, Ronaldo Cerri ³, Ky G. Pohler ¹, Jose Luiz M. Moraes Vasconcelos ⁴

¹Texas A&M University, ²University of Wisconsin-Madison, ³University of British Columbia,

⁴São Paulo State University

Tuesday, July 23, 2024

Poster Session I

7:00 AM - 8:15 AM

Exhibit Hall C

7:00 a.m. PSI-24 **Acute and chronic stress response following weaning and transportation in the average piglet**

Isabel Turner ¹, Alyssa A. Smith ¹, Kaylyn Rudy ¹, Dayeon Jeon ¹, Brian T. Richert ¹, J. Alex A. Pasternak ¹

¹Purdue University

7:00 a.m. PSI-9 **An evaluation of cow activity traits during the breeding season to determine the effect on conception method.**

Jason P. Dubowsky ¹, Amelia R. G. Katz ¹, Julie M. Huzzey ², Zachary D. McFarlane ¹

¹California Polytechnic State University, San Luis Obispo, ²Department of Animal Science, California Polytechnic State University

7:00 a.m. PSI-17 **Anti-endotoxin immunoglobulin Y (IgY) time course of oral passive transfer and impacts on growth performance in foals**

Mckenzie J. Mork ¹, Matthew B. Conrad ¹, Alexis Trauner ¹, Jason Hull ², Michelle Hawkins ², Brian Robley ², Phillip Larson ², Amanda N. Bradbery ¹

¹Montana State University, ²Camas Inc.

7:00 a.m. PSI-12 **Comparison of body composition ultrasound versus carcass collection data, Warner-Bratzler shear force and ether extract testing on Beefmaster Steers.**

Ainslea E. Fuqua¹, Ty E. Lawrence¹, David G. Lust¹, Tommy L. Perkins¹

¹West Texas A&M University

7:00 a.m. PSI-7 **Creation of gene-edited pigs for functional analysis of growth hormone receptor promoters in swine**

Alicia N. Denton¹, Caroline G. Lucas¹, Timothy J. Safranski¹, Randall S. Prather¹, Kevin D. Wells¹, Diana Canaveral Restrepo¹, Matthew C. Lucy¹

¹University of Missouri

7:00 a.m. PSI-27 **Dietary supplementation of betaine and an antioxidant blend improved feed efficiency in commercially housed fattening pigs under heat stress conditions**

Atta Kofi Agyekum¹, Stephanie Torrey¹, Francis Simard², Mohsen Abedin¹

¹Trouw Nutrition North America, ²Trouw Nutrition Canada

7:00 a.m. PSI-6 **Early life programming of the bovine jejunum function in response to maternal vitamin and mineral supplementation**

Audrey J. Craner¹, Carl R. Dahlen², Jennifer L. Hurlbert², Ana Clara B. Menezes³, Priyanka Banerjee¹, Friederike Baumgaertner², Kerri A. Bochantin-Winders², Samat Amat², Kevin K. Sedivec⁴, Kendall C. Swanson⁵, Wellison Jarles Da Silva Diniz¹

¹Auburn University, ²North Dakota State University, ³South Dakota State University, ⁴NDSU,

⁵Department of Animal Sciences, North Dakota State University

7:00 a.m. PSI-28 **Effect of supplementing a Bacillus spp. based probiotic on intestinal tight junction proteins expression and abundance of selected microorganisms in heat stressed pigs**

Fernanda González¹, Adriana Morales¹, Angélica Morales², Alan Valle¹, S. María S. Mendoza³, John K. Htoo⁴, Miguel Cervantes¹

¹Universidad Autónoma de Baja California, ²UABC, ³Evonik Corporation, ⁴Evonik Operations GmbH

7:00 a.m. PSI-11 **Effect of thymol on forage utilization, rumen fermentation, and rumen microorganisms in beef steers**

Emma Fukuda¹, Yuan Lu¹, Russell Jessup², Merritt L. Drewery¹

¹Texas State University, ²Texas A&M University

7:00 a.m. PSI-3 **Effects of a Retinoid X Receptor agonist on primary ovine satellite cells**

Taya J. Blad¹, Amy S. Wanguba¹, Jesus A. Rojas-Reyes¹, Amaia Cariaga¹, Courtney Rivera¹, Jenee S. Odani¹, Caleb C. Reichhardt¹

¹University of Hawaii at Manoa

7:00 a.m. PSI-30 **Effects of high canola meal diet with acidifiers supplementation on cecal microbiota of nursery pigs**

Katlyn A. McClellan¹, Emily Fowler¹, Jorge Y. Perez-Palencia¹, Benoit St-Pierre¹, Crystal L. Levesque¹, Jinsu Hong²

¹South Dakota State University, ²University of Minnesota

7:00 a.m. PSI-26 **Effects of particle size and enzyme supplementation on the energy value of field peas fed to growing pigs**

Alicia Olivo¹, Shiven Patel¹, Rob Patterson², C. Martin Nyachoti¹

¹University of Manitoba, ²CBS Bio Platforms Inc.

7:00 a.m. PSI-29 **Enhancing growth performance and reducing environmental impact with dietary protease supplementation in growing pigs fed high and low density diets**

Glenmer B. Tactacan¹, Olufemi O. Babatunde¹, Ludovic Lahaye¹

¹Jefo Nutrition, Inc.

7:00 a.m. PSI-22 **Evaluating colonization success of Bacteroidetes from different host origin in broiler chickens**

Usha Sivakumar Sharma¹, Camila S Marcolla¹, Benjamin Willing¹

¹University of Alberta

7:00 a.m. PSI-10 **Evaluation of factors influencing conception rate within a fixed-time artificial insemination protocol using sex-sorted semen**

Emily E. Efird¹, Jeremy G. Powell², Charles R. Looney³, Tommy L. Perkins¹

¹West Texas A&M University, ²University of Arkansas System, Division of Agriculture, Department of Animal Science, ³University of Arkansas

7:00 a.m. PSI-16 **Evaluation of protein quality of defatted black soldier fly (*Hermetia illucens*) larvae meal compared to traditional protein sources for dogs and cats**

Julio Mito¹, Pamela L. Utterback², Carl M. Parsons¹, Sean Madison³, Jennifer Adolphe⁴, Maria R.C. de Godoy¹

¹University of Illinois Urbana-Champaign, ²University of Illinois, ³Innovafeed, ⁴ADM

7:00 a.m. PSI-19 **Functional rumen microbiological characteristics of conventionally versus artificially reared triplet Polypay lambs from birth to weaning**

Katherine G. Purvis¹, Jennifer R. Weinert-Nelson², Donald G. Ely¹, Michael D. D. Flythe³, John May¹, Tracy A. Hamilton¹, Jessica L. Ferrell², Whitney Leann Jacks¹, Matthew C. Hamilton¹, Brittany E. Davis²

¹University of Kentucky, ²USDA-ARS, ³United States Department of Agriculture, Agricultural Research Service, Forage-Animal Production Research Unit

7:00 a.m. PSI-1 **Genetic and non-genetic factors influencing beef cattle attractiveness to horn fly**

Luana Alvares¹, Elizabeth A. Shannon¹, Nicole B. Blake¹, Fred M. Cone¹, Grace Meyer¹, Valentina E. Santacruz¹, Paige R. Scullin¹, Olivia G. Brown¹, Castle J. Cavender¹, Giovanni C. Ladeira¹, Fernanda M. M. Rezende¹

¹University of Florida

7:00 a.m. PSI-23 **Growth implants can lower enteric methane emissions intensity from finishing beef cattle.**

Maya Swenson ¹, Sara E. Place ²

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

7:00 a.m. PSI-25 **Improvements in the jejunal villus morphometry and increases in the number of goblet cells with the addition of humic substances from vermicompost in weaned pigs**

Alexander Agredo-Palechor ¹, SERGIO GOMEZ-ROSALES ², Maria de Lourdes Angeles ², Alejandra Perez-Alvarado ², Gerardo Mariscal-Landin ²

¹FESC-UNAM, ²INIFAP

7:00 a.m. PSI-8 **Inflammatory cytokine concentrations and gene expression in mature and aging sedentary horses**

Adrianna N. DiSilvestro ¹, Lauren T. Wesolowski ¹, Pier L. Semanchik ¹, Jessica L. Simons ¹, Lee Seward ², Christina Beer ², Lisa Barnes ², Sarah H. White-Springer ¹

¹Texas A&M University and AgriLife Research, ²LifeVantage Corporation

7:00 a.m. PSI-18 **Intra-articular triamcinolone acetonide administration does not affect microbial culture or synovial fluid volume in young, exercising Quarter Horses**

Lauren R. Pavel ¹, Jessica L. Leatherwood ¹, Cecilia R. Gualandri ¹, Brittany L. Paris ², Carolyn E. Arnold ³, Kati G. Glass ⁴, Maggie M. Carter ², James M. George ², Paige K. Linne ², Rafael E. Martinez ¹, Grace E. Moore ², Holly Spooner ⁵, Amanda N. Bradbery ⁶

¹Tarleton State University, ²Texas A&M University, ³Texas Tech University School of Veterinary Medicine, ⁴Texas A&M University School of Veterinary Medicine & Biomedical Sciences, ⁵Cargill, Inc., ⁶Montana State University

7:00 a.m. PSI-21 **Limited impact of hypothyroidism on porcine fetal growth during mid to late gestation**

Kaylyn Rudy ¹, Alyssa A. Smith ¹, Bea Cabot ¹, J. Alex A. Pasternak ¹

¹Purdue University

7:00 a.m. PSI-2 **Molecular mechanisms regulating feed efficiency and muscle growth in beef cattle**

Sophia Ascolese ¹, Phillip R. Myer ¹, Jonathan E. Beever ², Troy N. Rowan ², Sonia Moisa ¹, Taylor Ault-Seay ¹, Madison T. Henniger ¹

¹University of Tennessee, ²University of Tennessee - Knoxville

7:00 a.m. PSI-20 **Red clover as a functional feed: Effects on feed efficiency of finishing ram lambs**

Macy E. Ragsdale ¹, Donald G. Ely ¹, Jennifer R. Weinert-Nelson ², Tracy A. Hamilton ¹, Katherine G. Purvis ¹, Alayna A. Jacobs ¹, Matthew C. Hamilton ¹, Whitney Leann Jacks ¹, Sydney Davis ¹, Amanda Bauman ¹, Brittany E. Davis ²

¹University of Kentucky, ²USDA-ARS

7:00 a.m. PSI-14 **Serum energy metabolite and mineral concentrations in a contemporary flock of Western white-faced ewes during the periparturient period**
Dylan M. Laverell¹, Tom W. Murphy², Terry E. Engle³, Aaron J. Kersh¹, Joe B. Mills¹, Whit C. Stewart¹

¹Department of Animal Science, University of Wyoming, ²USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, ³Department of Animal Sciences, Colorado State University

7:00 a.m. PSI-4 **The effects of Total Equine™ grain containing Ascophyllum nodosum seaweed extract and chelated minerals on cecal digestibility during the recovery period of recovering, malnourished horses.**

Jamie A. Boyd¹, Ariane Tabari Bardassi¹, Janette Martinez¹, Jaqueline Martinez¹, L. Patterson Rosa²

¹Sul Ross State University, ²Long Island University

7:00 a.m. PSI-13 **The impact of divergent nutritional planes on systemic immune status in mature bulls**

Holly E. Hamilton¹, Elizabeth Shepherd², Saulo M. Zoca¹, Carl R. Dahlen³, Alexandria P. Snider⁴, Kyle J. McLean²

¹University of Tennessee, ²Department of Animal Science, University of Tennessee Institute of Agriculture, ³North Dakota State University, ⁴USDA-ARS, US Meat Animal Research Center

7:00 a.m. PSI-15 **Validation of a rapid test to evaluate humoral immunity in Labrador Retrievers across multiple life stages**

Fiona B. Mccracken¹, Sarah M. Dickerson², Patrick M. Skaggs², Claire L. Timlin², Jason W. Fowler², CRAIG N. COON³

¹Four Rivers Kennel LLC, ²Four Rivers Kennel, ³Four Rivers Kennel, LLC

Sustainability Symposium: Addressing the true costs, industrial pressures, and real-world applications of sustainability in the livestock industries - Sponsored by Novus

Chairs: James Oltjen, University of California, Davis;

Aimee Wertz-Lutz, Devenish Animal Nutrition

8:00 AM - 11:30 AM

Glen 206

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

Kristen A. Johnson¹

¹Washington State University

8:20 a.m. 173 **The who, what, and why of Scope 3: The corporate animal agriculture sustainability journey**

Christie Chavis¹

¹Altru Group

9:10 a.m. 175 **Corporate drivers of sustainability and implications for the business case to make changes based on sustainability opportunities**

David Dayhoff¹

¹dsm-firmenich Animal Nutrition & Health

10:00 a.m. **Sustainability Symposium Break**

10:15 a.m. 15 **Direction of Product Innovation and Implementation to Address Livestock Sustainability Goals**

Cameron A. Olson¹

¹Elanco Animal Health

11:05 a.m. **Sustainability Symposium Panel Discussion**

Ruminant Nutrition III: Intake and Efficiency

Chair: David Harmon, Department of Animal and Food Sciences, University of Kentucky

8:00 AM - 12:00 PM

Macleod B

8:00 a.m. 177 **Awardee Talk: Residual feed intake in beef cattle: Biological basis and effect on response to dietary supplementation of rumen bypass protein**

Modoluwamu Idowu¹, Ibukun M. Ogunade¹, Taylor S. Sidney¹

¹West Virginia University

8:30 a.m. 187 **Exploring Deep Shotgun Sequencing to Understand the Rumen Microbial Function in Angus Bulls with Divergent RFI EPD.**

Taylor S. Sidney¹, Godstime A. Taiwo¹, Emily Treon¹, Ibukun M. Ogunade¹

¹West Virginia University

8:45 a.m. 188 **Prediction of individual grazing beef cattle dry matter intake.**

Nathan Blake¹, Matthew Walker¹, Eswar ArunKumar Kalaga¹, Domingo Mata-Padrino¹, Ida Holaskova¹, Matthew E. Wilson²

¹West Virginia University, ²Davis College, West Virginia University

9:00 a.m. 189 **Association of the liver phosphoproteome with divergent dry matter intake in finishing beef steers**

Mindy E. King¹, Carlee M. Newcomb¹, Abigail R. Rathert-Williams², Matthew R. Beck³, Darren E. Hagen¹, Steven D. Hartson¹, Andrew P. Foote¹

¹Oklahoma State University, ²Division of Animal Sciences, College of Agriculture, Food and Natural Resources, University of Missouri, ³USDA-ARS

9:15 a.m. 190 **Implementation of an updated beef energetics and body composition model in the Crop Livestock Enterprise Model (CLEM)**

James C.H Dougherty¹, Thomas Keogh², Adam C. Liedloff³, Dean T. Thomas¹

¹CSIRO Agriculture & Food, ²CSIRO Livestock & Agriculture, ³CSIRO Environment

9:30 a.m. **Ruminant Nutrition III: Intake and Efficiency Break**

9:45 a.m. 191 **Awardee Talk: Characterizing biological processes influencing the efficiency of nutrient utilization in growing cattle**

Keara O'Reilly¹, Gordon E. Carstens¹

¹Texas A&M University

10:15 a.m. 192 **Prediction of fecal starch content of fattening cattle using near-infrared spectroscopy and machine learning**

Masaya Matamura¹, Hirotaka Naito¹, Atsushi Hashimoto¹, Makoto Kondo¹

¹Graduate School of Bioresources, Mie University, Japan

10:30 a.m. 193 **Evaluation of in-dwelling pH monitoring technologies**

Colton Weir¹, Zach M. Duncan¹, Tyler Spore², Mark Corrigan³, Evan C. Titgemeyer¹, William Ellis¹, William R. Hollenbeck¹, Dale A. Blasi¹

¹Kansas State University, ²Innovative Livestock Services, Inc., ³Axiota Animal Health

10:45 a.m. 194 **Evaluation of a method to optimise diets of individual dairy cows to maximise income over feed cost**

David Innes¹, Braeden Fieguth¹, Patty Kedzierski¹, John Cant¹

¹Centre for Nutrition Modelling, Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada

11:00 a.m. 195 **Effect of selection for growth and maternal influence on crossbred Angus heifer development**

Mariana E. Garcia-Ascolani¹, Emma A. Briggs¹, Samuel R. Talley¹, Megan M. Rolf², Paul A. Beck¹, David L. Lalman¹

¹Oklahoma State University, ²Kansas State University

11:15 a.m. 196 **Metabolic characteristics and truly digestible nutrient supply to dairy cows: Effect of oat varieties and types (feed type vs. milling type)**

Ganqi Deng¹, David Christensen¹, H. (Bart) A. Lardner², Peiqiang Yu³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan, ASAS, CSAS, ADSA

11:30 a.m. 197 **Hepatic mRNA expression of innate and adaptive immune genes in beef steers with divergent Residual Body Weight Gain.**

Deborah Ologunagba¹, Modoluwamu Idowu¹, Godstime A. Taiwo¹, Taylor S. Sidney¹, Emily Treon¹, Francisca Eichie¹, Ibukun M. Ogunade¹

¹West Virginia University

11:45 a.m. 399 **Effect of feeding palm oil products on finishing cattle performance, carcass characteristics, and methane production**

Anna M. Kobza¹, Rebecca L. McDermott¹, Josh R. Benton¹, Mitch M. Norman¹, Long Zou², James C. MacDonald¹, Galen E. Erickson¹

¹University of Nebraska-Lincoln, ²Bunge Creative Solutions

Poster Session II
8:30 AM - 9:30 AM
Exhibit Hall C

8:30 a.m. PSII-13 **Analysis of variation characteristics within genes associated with temperament traits in horses**

Jae-Young Choi¹, Yong-Jun Kang¹, In-Cheol Cho¹, Hyeonah Kim¹

¹Subtropical Livestock Research Institute, National Institute of Animal Science, RDA

8:30 a.m. PSII-14 **Climate and conception: Investigating the resilience of equine embryo survival to ambient temperatures in southeast texas**

Karla V. Flores¹, Kyle Stutts¹, Nair Shyam¹, Madison K. Blythe¹, Rafael E. Martinez², Tatum B. Nelson¹

¹Sam Houston State University, ²Tarleton State University

8:30 a.m. PSII-15 **Comparative analysis of equine diets on growth metrics and economic feasibility**

Madison K. Blythe¹, Mark J. Anderson¹, Tatum B. Nelson¹, Karla V. Flores¹, Marcy M. M. Beverly¹, Stanley F. Kelley¹, Rafael E. Martinez²

¹Sam Houston State University, ²Tarleton State University

8:30 a.m. PSII-28 **Comparative analysis on dietary Quillaja Saponin and/or phytase additive on growth performance, nutrient digestibility, fecal gas emission, and carcass grade in growing- finishing pigs**

Tian Xiang Li¹, Kye Jin Lee¹, In Ho Kim¹

¹Dankook University

8:30 a.m. PSII-10 **Comparison of short- and long-term equine interaction for promoting perceived skill development, stress reduction, and self-perception within college students**

Emma Farnlacher¹, Cassidy McCullough¹, Molly Nicodemus², Molly Friend³, Clay A. Cavinder¹, Katie Holtcamp¹, Dean Jousan¹

¹Mississippi State University, ²Animal & Dairy Sciences, Mississippi State University, ³The Pennsylvania University

8:30 a.m. PSII-25 **Cysteine utilization for liver taurine and intestinal glutathione production is affected by weaning in pigs**

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

¹Auburn University

8:30 a.m. PSII-7 **Development and assessment of a mobility scoring system for beef cattle**

Paula Olivares Guzman¹, Karen S. Schwartzkopf-Genswein², Danisa Bescucci², Jose Ortiz Guluarte², Hardeep S. Ryait¹, Majid Mohajerani³, Robert Sutherland¹, Joyce Van Donkersgoed⁴

¹University of Lethbridge, ²Agriculture and Agri-Food Canada, ³McGill University, ⁴Dr. Joyce Van Donkersgoed Inc

8:30 a.m. PSII-27 **Dietary fibre fractions supplementation modulates pro-inflammatory cytokines, hindgut ammonia-nitrogen concentration, and diarrhea severity of nursery pigs**

Taiwo J. Erinle¹, Olufemi O. Babatunde², John K. Htoo³, Maria Mendoza⁴, Daniel A. Columbus¹

¹Prairie Swine Centre, Inc., ²Jefo Nutrition, Inc., ³Evonik Operations GmbH, ⁴Evonik Corporation

8:30 a.m. PSII-2 **Does environmental feeder enrichment for weaned pigs drive feeder usage and improve final body weight?**

Daytona Fortney¹, Emiline R. Sundman¹, Nicholas K. Gabler¹, Suzanne T. Millman², Anna K. Johnson³

¹Iowa State University, ²Veterinary Diagnostic & Production Animal Medicine and Biomedical Sciences, Iowa State University, ³Animal Science, Iowa State University

8:30 a.m. PSII-16 **Effect of dietary β -mannanase on growth performance, immune organ weight, and intestinal morphology of broiler chickens: A meta-analysis**

Hyun Woo Kim¹, Ji Hye Lee¹, Jae-Hwan Lee², Dong Yong Kil¹

¹Department of Animal Science and Technology, Chung-Ang university, ²CTCBIO, Inc.

8:30 a.m. PSII-17 **Effect of dietary β -mannanase supplementation on energy and nutrient utilization in diets fed to broiler chickens: A meta-analysis**

Hyun Woo Kim¹, Ji Hye Lee¹, Jae-Hwan Lee², Dong Yong Kil¹

¹Department of Animal Science and Technology, Chung-Ang university, ²CTCBIO, Inc.

8:30 a.m. PSII-19 **Effect of dietary supplementation of xylanase alone or combination of xylanase and β -glucanase on growth performance and intestinal measurements in broiler chickens**

Ji Hye Lee¹, Deok Yun Kim¹, Hyun Woo Kim¹, Damee Park², Min Ah Park², Dong Yong Kil¹

¹Department of Animal Science and Technology, Chung-Ang university, ²Animal Nutrition, BIO, CJ Cheiljedang

8:30 a.m. PSII-3 **Effect of environmental enrichment on pig average daily feed intake and average daily gain in the early nursery phase.**

Daytona Fortney¹, Emiline R. Sundman¹, Nicholas K. Gabler¹, Suzanne T. Millman², Anna K. Johnson³

¹Iowa State University, ²Veterinary Diagnostic & Production Animal Medicine and Biomedical Sciences, Iowa State University, ³Animal Science, Iowa State University

8:30 a.m. PSII-20 **Effect of increasing glycine equivalent in low crude protein diets on growth performance in broiler chickens raised under multiple stress conditions**

Ji Hye Lee¹, Hyun Woo Kim¹, Deok Yun Kim¹, Dong Yong Kil¹

¹Department of Animal Science and Technology, Chung-Ang university

8:30 a.m. PSII-29 **Effect of Schizochytrium sp. on production performance, egg quality and ALA & DHA deposition in egg yolk of Hailan-grey laying hens**

Xiao-fei Chen ¹, Jun-hui Xie ¹, Bai-shun Hu ¹, Yun-fen Zhu ¹, Rong Li ¹, Hong Chen ²

¹Enshi Autonomous Prefecture Academy of Agricultural Sciences, ²Hubei Key Laboratory of Lipid Chemistry and Nutrition

8:30 a.m. PSII-5 **Effect of short-term feeding of hemp (Cannabis sativa) on stress biomarkers in weaned beef calves**

NATHANIEL OGUNKUNLE ¹, Monya Simpson ², Felix U. Samuel ², kendra Jones ², Joshua Herring ², Gamal Eden AbdelRahim ²

¹Alabama A & M University, ²Alabama A&M University

8:30 a.m. PSII-24 **Effect of supplemental guanidinoacetic acid in low energy diets with different forms of pellet and mash on growth performance, intestinal morphology and some blood attributes in broiler chickens**

Majid Toghyani ¹, Teysir Ali Hossein ¹, Mehdi shahsavan ²

¹Isfahan (Khorasgan) Branch, Islamic Azad University, ²Department of Animal Science, Food Science and Animal Science Faculty, Agricultural Sciences and Natural Resources University of Khuzestan

8:30 a.m. PSII-26 **Effects of diquat injection on growth performance and blood and liver redox status in growing pigs**

Shengfa Liao ¹, Emmanuel O. Oladejo ¹, John K. Htoo ²

¹Mississippi State University, ²Evonik Operations GmbH

8:30 a.m. PSII-22 **Effects of protease supplementation on ileal digestibility of amino acids in pulse grains fed to growing pigs**

Jinyoung Lee ¹, Rob Patterson ², C. Martin Nyachoti ¹

¹University of Manitoba, ²CBS Bio Platforms Inc.

8:30 a.m. PSII-23 **Egg production and quality in older Lohmann LSL lite hens in response to rearing space allowance and provision of omega-3 fatty acids and yeast bioactives from placement through to 17 weeks of age**

Junhyung Lee ¹, Veronica Cheng ¹, Elijah Kiarie ¹

¹University of Guelph

8:30 a.m. PSII-30 **Exploring the prebiotic potential of enzymatically released bioactive components from canola fibre on growth performance and gut health of broiler chickens and weaned piglets**

Yanxing Niu ¹, Bogdan A. Slominski ¹, C. Martin Nyachoti ¹, Rob Patterson ², Anna Rogiewicz ¹

¹University of Manitoba, ²CBS Bio Platforms Inc.

8:30 a.m. PSII-4 **How to define good mothering ability using computer vision of free farrowing sows?**

Huaigang Lei ¹, Lisette van der Zande ², Eli Grindflek ², Madison Hildebrand ³, Gabriel Dallago ³

¹Topigs Norsvin Canada Inc., ²Topigs Norsvin, ³University of Manitoba

8:30 a.m. PSII-9 **Impact of exercise on blood metabolites and other health parameters during the reconditioning of emaciated stock-type horses.**
Ashley M. Maldonado ¹, Jamie A. Boyd ¹, Ariane Tabari Bardassi ¹, Laura Patterson Rosa ²
¹Sul Ross State University, ²Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Long Island University

8:30 a.m. PSII-21 **Metabolites of Kazachstania slooffiae reduce tight junction integrity in piglet intestinal epithelial cells**
KaLynn Harlow ¹, Katie Summers ², Israel Rivera ², Olga Postnikova ², Timothy Ramsay ², Cary P. Davies ²
¹ORISE at USDA-ARS, ²USDA-ARS

8:30 a.m. PSII-18 **Prematurity alters nutrient signaling and protein synthesis in skeletal muscle of neonatal piglets**
Ki Beom Jang ¹, Agus Suryawan ¹, Marta L. Fiorotto ¹, Teresa A. Davis ¹
¹USDA/ARS Children's Nutrition Research Center, Department of Pediatrics, Baylor College of Medicine

8:30 a.m. PSII-11 **Temporal variables of the four-beat stepping gaits of the Mountain Pleasure Horse**
Molly Nicodemus ¹, Ed North ², Robert Culwell ³, Sierra Ellsworth ⁴, Toree Williams ⁵
¹Animal & Dairy Sciences, Mississippi State University, ²University of Mississippi Medical Center, ³East Central Community College, ⁴Mississippi State University, ⁵Unity Environmental University

8:30 a.m. PSII-12 **The effect of the diffusion of geranium and clary sage essential oils on relaxation responses in horses**
Emma Kays ¹, Jennifer Moore ¹, Carol Vasco ¹
¹Midway University

8:30 a.m. PSII-8 **The effects of diet and finishing phase on the behavioral time budgets of feedlot cattle**
Rachael E. Coon ¹, Cassandra B. Tucker ²
¹Faculty of Veterinary Medicine, University of Calgary, ²Center for Animal Welfare, University of California Davis

8:30 a.m. PSII-6 **Tick infestation and its implications on health and welfare of cattle under pastoral system in Nigeria**
Olufemi Mobolaji Alabi ¹, Oyekemi S. Alabi ², Taiwo Adeyanju ³, Mary-Ann Ajayi ³
¹Bowen University iwo Nigeria, ²Ministry of Education, Osun State, NIGERIA, ³Bowen University

8:30 a.m. PSII-1 **Weaning as prenatal stress: preliminary study on indicators of calf resiliency**
Christy Goldhawk ¹, Karin Orsel ¹, Edmond A. Pajor ²
¹University of Calgary, ²Faculty of Veterinary Medicine, University of Calgary

Production, Management and Environment III: Reproduction and Genetics

Chair: Matt Hersom, Clemson University

8:30 AM - 9:45 AM

Glen 208/209

8:30 a.m. 182 **Converting spring-born heifers into a summer-calving herd increases subsequent cow longevity and productivity**

Travis Mulliniks¹, Tim Goodnight², Jacki A. Musgrave², Kacie L. McCarthy³

¹Oregon State University, ²University of Nebraska, ³University of Nebraska - Lincoln

8:45 a.m. 183 **Comparison of presynchronization and OvSynch protocols following Fixed-time breeding in lactating dairy cattle**

Abid Hussain Shahzad¹, Raafia Safdar Blouch², Shaista Abbas³, Sayyed Aun Muhammad³, Irem Anwar², Ali Abbas², Mazhar Abbas³

¹University of Veterinary and Animal Sciences, Lahore, ²Livestock and Dairy Development, Punjab, ³University of Veterinary and Animal Sciences, Lahore-54000

9:00 a.m. 184 **Effects of cattle hide color and changing environmental conditions at northern latitudes on feeder cattle performance and behavior**

Katrina J. Schlagel¹, Hannah DelCurto-Wyffels², Timothy DelCurto², Megan L. Van Emon², Darrin L. Boss¹, Sam Wyffels²

¹Northern Agricultural Research Center, ²Montana State University

9:15 a.m. 185 **Effect of synchronized fixed-time AI and non-pregnant heifer delayed feedlot entry on reproductive performance and system economics**

Douglas G. Landblom¹, Lauren L. Hanna², Byron Parman², George A. Perry³, Steve Paisley⁴, Songul Senturklu⁵

¹NDSU Dickinson Research Extension Center, ²North Dakota State University, ³Texas A&M AgriLife Research and Extension Center, Overton, TX, ⁴University of Wyoming, ⁵Canakkale Onsekiz Mart University

9:30 a.m. 186 **Evaluating the interaction between divergent genomic selection for heat stress tolerance in the F1 generation and in utero heat stress on piglet growth performance following weaning and transport.**

Rick O. Hernandez¹, Luiz F. Brito², MaryKate H. Byrd¹, Jacob Musa¹, Francesco Tiezzi³, Christian Maltecca⁴, Jay S. Johnson⁵

¹Purdue University, ²Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA, ³University of Florence, ⁴North Carolina State University, ⁵University of Missouri

Small Ruminant I

Chair: Christian Posbergh, Department of Animal and Range Sciences,
Montana State University

8:30 AM - 9:45 AM

Macleod E1

8:30 a.m. 206 **Effects of breed type and days on trial on feeding behavior in growing goats fed a total mixed diets using GrowSafe feeding technology**

Negusse F. Kidane ¹, Merrick E. Irvin ², William B. Foxworth ¹, Gordon E. Carstens ², Scott D. Horner ¹, Keara O'Reilly ²

¹Prairie View A&M University, ²Texas A&M University

8:45 a.m. 207 **Efficacy of sheep and goats during intensive grazing for the control of field bindweed (*Convolvulus arvensis*)**

Ryan A. Spurling ¹, Brandi L. Olsen ¹, Sarah K. Stroud ¹, Eric T. Thacker ¹, Kara J. Thornton-Kurth ¹, Shane A. Hill ², Chad M. Page ¹

¹Utah State University, ²Utah Division of Wildlife Resources

9:00 a.m. 208 **Assessment of a new oral neonatal supplement for lambs**

Brenda J. Ralston ¹, Andrea M. Hanson ¹, Denis Nagel ², Kendall Beaugrand ³, Crystal Schatz ³, Joe Ross ³, Merle Olson ², Nick Allan ³

¹Lakeland College, ²AVL/Solvvet, ³Chinook Contract Research Inc.

9:15 a.m. 209 **Prevalence of subclinical selenium deficiency in Oregon grazing sheep using whole blood analysis**

Daniella Hasan ¹, Massimo Bionaz ¹

¹Oregon State University

9:30 a.m. 210 **Maternal dietary organic selenium improves selenium status in neonatal lambs compared to single maternal or neonatal injection of inorganic selenium**

Daniella Hasan ¹, Hunter Ford ¹, Massimo Bionaz ¹

¹Oregon State University

Forages and Pastures I: Forage Quality

Chair: Mary Drewnoski, University of Nebraska

8:30 AM - 10:00 AM

Telus 101/102

8:30 a.m. 224 **Yield and nutritive values of a polycrop and annual cereal monoculture used in winter swath grazing**

Somtochukwu Obiora ¹, H. (Bart) A. Lardner ², Janet Nowosad ³, Oluwatobi Oyedeji ⁴, Carien Vandenberg ³, Kathy A. Larson ¹, Breeanna Kelln ⁵, Obioha N. Durunna ³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³Lakeland College, ⁴Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5, ⁵Department of Plant Sciences, College of Agriculture and Bioresources, University of Saskatchewan

8:45 a.m. 218 **Comparison between vegetation indices to estimate biomass in cereal rye**

Pedro Henrique Jota Fernandes, Yijie Xiong, Shelby L. Davies-Jenkins, Biquan Zhao, Mary E. Drewnoski
University of Nebraska-Lincoln

9:00 a.m. 219 **Winter nutritional dynamics of Idaho fescue and bluebunch wheatgrass on a Montana foothill rangeland**

Noah G. Davis, Sam Wyffels, Timothy DelCurto
Montana State University

9:15 a.m. 223 **Exploring the relationship between corn grain yield and residue quantity and quality**

Mary E. Drewnoski, Kaylee Wheeler, Jessica Miller, Sadie Ference, Jay Parsons, Amanda Easterly, Daren Redfearn
University of Nebraska-Lincoln

9:30 a.m. 221 **Multivariate statistics as a quick tool to screen perennial forages for forage value**

Blasius N. Azuhwi¹, Akim Omokanye²

¹Peace Country Beef and Forage Association, ²University of Alberta, Peace country Beef and Forage Association

9:45 a.m. 222 **Validation of Brix for predicting sugar concentration of alfalfa and orchardgrass**

Kathy J. Soder¹, Eric D. Billman¹, Jeff Horst², Aimee Hafla³, Kristi Balk²

¹USDA-ARS, ²Agri-King, Inc., ³Cargill Animal Nutrition

Animal Breeding and Genetics III: Gene Discovery

Chair: Emily Leishman, University of Guelph

8:30 AM - 11:00 AM

Macleod C

8:30 a.m. 198 **Discovery of key functional SNP markers associated with feed efficiency in beef cattle**

Stephanie Lam¹, Leluo Guan², Graham Plastow³, Ángela Cánovas⁴

¹Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, ²Faculty of Land and Food Systems, The University of British Columbia, ³Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, ⁴University of Guelph, Centre for Genetic Improvement of Livestock

8:45 a.m. 199 **Awardee Talk: Insights into translational regulation through tRNA sequencing, RNA sequencing, and ribosome profiling**

Anna K. Goldkamp¹, Lillian Okamoto², Kara J. Thornton-Kurth², Darren E. Hagen¹

¹Oklahoma State University, ²Utah State University

9:15 a.m. 200 **Transcriptomics analyses of mink spleen infected by Aleutian Disease**

Gregory Bishop¹, Hossain Farid², Duy Ngoc Do², Younes Miar³

¹Department of Engineering, Dalhousie University, Truro, NS, Canada, ²Department of Animal Science and Aquaculture, Dalhousie University, ³Dalhousie University

9:30 a.m. 201 **Transcriptome analysis of bovine abomasal mucosa following experimental infection with *Ostertagia ostertagi***

Clarissa Boschiero, George E. Liu, Wenbin Tuo
USDA ARS

9:45 a.m. **Animal Breeding and Genetics III: Gene Discovery Break**

10:00 a.m. 205 **An autosomal recessive mutation in PYGM causes myophosphorylase deficiency in composite cattle**

Mackenzie C. Batt¹, Leila G. Venzor¹, Keri Gardner², Rachel R. Reith¹, Kelsey A. Roberts¹, Nicolas J. Herrera¹, Anna M. Fuller¹, Gary A. Sullivan¹, Travis Mulliniks³, Matthew L. Spangler¹, Stephanie J. Valberg², David J. Steffen¹, Jessica L. Petersen¹

¹University of Nebraska-Lincoln, ²Michigan State University, ³Oregon State University

10:15 a.m. 203 **Genome Wide Association Study for reduced dry period in dairy goats**

Bruno A. Galindo¹, Erin Massender², Isis C. Hermisdorff³, Flávio S. Schenkel⁴

¹University of Guelph - CGIL / State University of the Northern of Paraná - Brazil, ²AgSights,

³University of Guelph - CGIL, ⁴University of Guelph

10:30 a.m. 204 **Changes in DNA methylation five days after exposure to acute heat stress in beef cattle skeletal muscle**

Rachel R. Reith, Rachel Gibbs, Melanie R. White, Brooke L. Parrish, Anna M. Fuller, Ty B. Schmidt, Dustin T. Yates, Jessica L. Petersen
University of Nebraska-Lincoln

10:45 a.m. 202 **Longitudinal comparative transcriptomics of dairy cattle at different altitudes reveals unique mechanisms underlying plateau hypoxia adaptation**

Qianhai Fang, Hailiang Zhang, Yachun Wang
China Agricultural University

CSAS Graduate Student Oral Competition: PHD

Chair: Younes Miar, Dalhousie University

8:30 AM - 11:00 AM

Telus 108/109

8:30 a.m. 509 **Growth and health of Holstein and Holstein x Angus calves from birth to the end of the grower phase.**

Titouan Chapelain¹, Hannah McCarthy¹, Melinda Kovacs¹, David Innes², Katharine M. Wood¹, Marcio S. Duarte¹, David Renaud³, Michael A. Steele¹

¹Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada, ²Centre for Nutrition Modelling, Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada, ³Department of Population Medicine, University of Guelph, Guelph, ON, Canada

8:45 a.m. 510 **Utilizing python programming for modern genetic evaluation systems**

Kristin Lee ¹, Ricardo V. Ventura ², Flávio S. Schenkel ¹, Ángela Cánovas ³, Gordon Vandervoort ⁴

¹University of Guelph, ²Universidade de São Paulo, ³University of Guelph, Centre for Genetic Improvement of Livestock, ⁴AgSights

9:00 a.m. 511 **Assessing the carry-over effects of precision livestock technology on steer performance and carcass characteristics**

Elias R. Velasquez Moreno ¹, Hector M. Menendez ², Jameson R. Brennan ¹, Aletta L. Husmann ¹, Hadley Dotts ¹, Kenneth Olson ¹, Amanda Blair ¹, Krista Ehlert ¹, Tong Wang ¹, Joshua Leffler ¹, Walter Wafula ¹, Ira L. Parsons ¹, Pablo Guarnido-Lopez ³, Luis O. Tedeschi ⁴, Zachary K. Smith ¹

¹South Dakota State University, ²South Dakota State University, Department of Animal Science, ³Texas A&M university, ⁴Texas A&M university, department of Animal Science

9:15 a.m. 512 **Divergence of the sow vaginal microbiome based on fertility status**

Lauren A. Fletcher ¹, Xiaoshu Zhan ¹, Yashu Song ¹, Julang Li ¹

¹University of Guelph

9:30 a.m. 513 **Genomic landscape of adaptation in dairy cattle under selection in different environmental conditions**

Larissa Graciano Braga ¹, Danísio P Munari ², Tatiane C. CS Chud ³, Julia L. Rodrigues ⁴, Bacem Saada ⁴, Marco A Machado ⁵, João CC Panetto ⁵, Marcos G. B. VGB Silva ⁵, Flávio S. Schenkel ⁴

¹State University of São Paulo / University of Guelph, ²São Paulo State University (UNESP) - Jaboticabal, ³PEAK, URUS Group, ⁴University of Guelph, ⁵Embrapa Dairy Cattle

9:45 a.m. **CSAS Graduate Student Oral Competition: PHD Break**

10:00 a.m. 514 **Roles of core regulatory noncoding RNAs in bovine *Staphylococcus aureus* subclinical mastitis**

Faith A. Omonijo ¹, Mengqi Wang ¹, David Gagné ², Mario Laterrière ², Xin Zhao ³, Eveline M. Ibeagha-Awemu ¹

¹Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada,

²Quebec Research and Development Centre, Agriculture and Agri-Food Canada,

³Department of Animal Science, McGill University

10:15 a.m. 515 **Effects of *Bacillus licheniformis* HG76 on barrier function and inflammation in the intestinal epithelia cells and gut health of weaned piglets under enterotoxigenic *Escherichia coli* F4 infection**

Haoxiang Xu ¹, Joshua Gong ², Hai Yu ², Chengbo Yang ¹

¹University of Manitoba, ²Agriculture and Agri-Food Canada

10:30 a.m. 516 **Effects of increasing hybrid rye silage as a replacement for barley silage for growing beef heifers**

Fuquan ZHANG¹, Rebecca S. Brattain², Herman Wehrle³, Vern Baron⁴, Gabriel O. Ribeiro⁵, Gregory Penner¹

¹University of Saskatchewan, ²KWS Cereals USA, LLC., ³KWS Seeds Canada, ⁴AAFC-Lacombe Research and Development Centre, ⁵Department of Animal and Poultry Science, University of Saskatchewan

10:45 a.m. 517 **The effects of pellet starch concentration and allocation amount for Holstein cows in peak, mid, and late lactation in an automatic milking system**

Sophia Cattleya Dondé¹, Anna J. Schwank², Trevor DeVries², Renan C. da Silva³, Gregory Penner⁴

¹University of Saskatchewan, ²University of Guelph, ³Luiz de Queiroz College of Agriculture, ⁴University of Saskatchewan

Growth and Development Symposium: Impacts of micronutrient supplementation on skeletal muscle growth and development

Chair: Kara Thornton-Kurth, Utah State University

8:30 AM - 12:00 PM

Glen 203/204

8:30 a.m. **Growth and Development Symposium Introduction**

8:35 a.m. 169 **Vitamin and mineral supplementation to gestating beef heifers: Fetal physiology and metabolic programming**

Ana Clara B. Menezes¹, Kacie L. McCarthy², Wellison Jarles Da Silva Diniz³, Jennifer L. Hurlbert⁴, Kendall C. Swanson⁴, Lawrence P. P. Reynolds⁴, Kevin K. Sedivec⁵, Joel S. S. Caton⁴, Carl R. Dahlen⁴

¹South Dakota State University, ²University of Nebraska - Lincoln, ³Auburn University, ⁴North Dakota State University, ⁵NDSU

9:20 a.m. 170 **Understanding how zinc and manganese interact with the hormones found in anabolic implants to alter growth of bovine satellite cells**

Kara J. Thornton-Kurth¹, Anthony F. Alberto¹, Stephanie L. Hansen²

¹Utah State University, ²Iowa State University

10:05 a.m. **Growth and Development Symposium Break**

10:20 a.m. 171 **Examining the role of vitamin E in ruminant livestock growth and production**

Caleb C. Reichhardt¹

¹University of Hawaii at Manoa

11:05 a.m. 172 **Impact of maternal and postnatal 25-hydroxycholecalciferol supplementation on porcine and avian satellite cell mitotic activity and skeletal muscle growth characteristics**

Jessica D. Starkey¹

¹Auburn University

Companion Animal Symposium I: The Future is Functional: Functional Ingredients, Nutraceuticals, and Supplements for Companion Animals

Chair: James Templeman, Primal Pet Group

9:00 AM - 12:00 PM

Glen 201/202

9:00 a.m. **Companion Animal Symposium I Introduction**

9:15 a.m. 159 **The therapeutic potential of cannabinoids for companion animals**

Isabella Corsato Alvarenga ¹

¹International Flavors and Fragrances (IFF)

9:45 a.m. 160 **The past, present, and future of biotics in companion animal nutrition**

Kelly S. Swanson ¹

¹University of Illinois Urbana-Champaign

10:15 a.m. **Companion Animal Symposium I Break**

10:30 a.m. 162 **The role of functional amino acids in optimizing nutrition and health**

Anna K. Shoveller ¹, Daniel A. Columbus ²

¹University of Guelph, ²Prairie Swine Centre, Inc.

11:00 a.m. 163 **Affecting the senses: Impacts of pharmaceuticals and nutraceuticals on olfactory acuity**

Melissa Singletary ¹

¹Auburn University

11:30 a.m. **Companion Animal Symposium I Round Table Discussion**

Ruminant Nutrition Symposium: Microbial solutions in beef and dairy nutrition - Sponsored by Novonesis

Chair: Reinaldo Cooke, Department of Animal Science, Texas A&M University; Bruno Ieda Cappelozza, Novonesis

9:00 AM - 5:00 PM

Telus 104/105/106

9:00 a.m. **Ruminant Nutrition Symposium Introduction**

9:05 a.m. 152 **Overview of probiotic supplementation and opportunities to improve cow-calf production.**

Philippe Moriel ¹, Vinicius S. Izquierdo ¹, Cassio Brauner ², Joao M. B. Vendramini ¹

¹University of Florida, IFAS - Range Cattle Research & Education Center, ²University of Florida - Range Cattle Research & Education Center

9:40 a.m. 127 **Effects of maternal pre- and post-partum supplementation of a Bacillus-based DFM on plasma metabolome profile of Bos indicus-influenced heifers and their offspring**

Vinicius S. Izquierdo ¹, Bruno I. Cappelozza ², Angela M. Gonella-Diaza ³, Nadia Ashrafi ⁴, Romana A. Mimi ⁴, Stewart F. Graham ⁵, Joao M. B. Vendramini ¹, Philippe Moriel ¹

¹University of Florida, IFAS - Range Cattle Research & Education Center, ²Chr. Hansen A/S, ³University of Florida, North Florida Research and Education Center, ⁴Beaumont Research Institute & Corewell Health East William Beaumont University Hospital, ⁵Beaumont Research Institute & Oakland University-William Beaumont School of Medicine

9:55 a.m. 150 **Supplementing Bovacillus™ to high-risk cattle during a 90-d grazing period**

Reinaldo F. Cooke ¹, Shea Mackey ¹, Autumn Pickett ¹, Kelsey M. Harvey ², Brandi B. Karisch ³, Bruno I. Cappelozza ⁴

¹Department of Animal Science, Texas A&M University, ²Prairie Research Unit, Mississippi State University, ³Mississippi State University, ⁴Chr. Hansen A/S

10:10 a.m. **Ruminant Nutrition Symposium Break I**

10:35 a.m. 153 **Use of probiotics in feedlot diets**

Terry E. Engle ¹, Jennifer Schutz ², Bruno Ieda Cappelozza ²

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

11:10 a.m. **Exploring a novel direct-fed microbial for ruminants to mitigate in vitro Salmonella invasion and infection**

Giuseppe Copani ¹, Tine Thorup Moeller Knudsen ¹, Lena Catrine Capern ¹, Raphaelae Gresse ¹, Bruno Ieda Cappelozza ¹

¹Novonesis

11:25 a.m. 156 **Probiotics (direct fed microbials) and feed efficiency in dairy cows**

Alex Bach ¹

¹ICREA

12:00 p.m. **Ruminant Nutrition Symposium Lunch Break**

2:00 p.m. 155 **Modulating silage fermentation with microbial inoculants**

Luiz Ferraretto ¹

¹University of Wisconsin - Madison

2:35 p.m. 154 **Forage intake, digestibility, and ruminal fermentation characteristics of beef cows supplemented with a Bacillus-based probiotic.**

Rodrigo Marques ¹, Arnaldo Cintra Limede ¹, Vinicius Alves Cruz ¹, Makayla A. Ogg ², Iorrano A. Cidrini ³, Amanda Carolyn Marques de Queiroz ⁴, Fernando Cidrini ¹, Ismin Farias ¹, Aline Naime Naime Rodrigues ⁵, Alarissa motter ², Bruno Ieda Cappelozza ⁶

¹School of Animal Sciences, Virginia Polytechnic Institute and State University, ²Department of Animal and Range Sciences, Montana State University, ³Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), ⁴Department of Animal Science, São Paulo State University, ⁵Department of Animal Science, Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), Jaboticabal, São Paulo, Brazil, ⁶Novonesis

2:50 p.m. 151 **Microbial inoculant effects on cool- and warm-season grass silage**

Joao M. B. Vendramini ¹, Philippe Moriel ¹

¹University of Florida, IFAS - Range Cattle Research & Education Center

3:25 p.m. 157 **Microbial inoculant effects on limpgrass silage**

Joao V. Lazarin ¹, Joao M. B. Vendramini ², Philippe Moriel ², Bruno I. Cappelozza ³, Hiran da Silva ¹, Andre Miranda ¹, Debora Siniscalchi ⁴

¹University of Florida, ²University of Florida, IFAS - Range Cattle Research & Education Center, ³Chr. Hansen A/S, ⁴Sap Paulo State University

3:40 p.m. **Ruminant Nutrition Symposium Break II**

4:00 p.m. 220 **Effect of silage inoculants containing different combinations of homo- and heterofermentative strains on fermentation, aerobic stability, and hydrocyanic acid content of sorghum whole-plant silage**

Ivan Eisner ¹, Susanne Ohl ², Kristian L. Witt ³, Rafael C. Amaral ⁴

¹Chr. Hansen GmbH, ²Landwirtschaftsammer Schleswig Holstein, ³Chr. Hansen A/S, ⁴Product manager

4:15 p.m. 158 **Probiotics in silage production**

Luiz Gustavo Nussio ¹

¹University of São Paulo - Luiz de Queiroz College of Agriculture (Esalq)

4:50 p.m. **Ruminant Nutrition Symposium Closing**

Bruno Ieda Cappelozza ¹

¹Novonesis

Poster Session III

9:45 AM - 11:00 AM

Exhibit Hall C

9:45 a.m. PSIII-27 **Blood biochemistry, histology, and metabolomic profiling of contaminated with mycotoxin: A repeated dose oral toxicity study in rats**

Jin Young Jeong ¹, Seol Hwa Park ¹, Hwan Ku Kang ¹, minji Kim ¹

¹Animal Nutrition & Physiology Division, National Institute of Animal Science

9:45 a.m. PSIII-26 **Blood biochemistry, metabolomics profiling, and histology of contaminated with mycotoxin : acute dose exposure 30 days-repeated toxicity study in piglets**

Jin Young Jeong ¹, minji Kim ¹, Hwan Ku Kang ¹, Seol Hwa Park ¹

¹Animal Nutrition & Physiology Division, National Institute of Animal Science

9:45 a.m. PSIII-9 **Cannabinoid uptake and depletion in blood plasma of cattle fed hemp leaves**

Greyson Fruge ¹, Geraldine Magnin ², Michael Kleinhenz ³, Russell Jessup ³, Brian Bruner ¹, Merritt L. Drewery ¹

¹Texas State University, ²Kansas State University, ³Texas A&M University

9:45 a.m. PSIII-5 **Characteristics of in-vitro digestibility of forage selected by cattle supplemented with crude glycerin while grazing wheat pasture**

Vinicio Carrera ¹, Sara E. Campa-Madrid ¹, Naomi Lucero ², Kate E. Ropp ¹, Sergio A. Soto-Navarro ¹

¹Department of Animal and Range Sciences; New Mexico State University, ²New Mexico State University

9:45 a.m. PSIII-14 **Cotton gin byproduct in growing diets for beef steers**

Michael J. Huggins ¹, Matt H. Poore ¹, Deidre Harmon ¹

¹North Carolina State University

9:45 a.m. PSIII-8 **CRISPR editing of IGF2 and MSTN to enhance productivity**

Rebecca H. Finchum ¹, Anna C. Dilger ², Jonathan E. Beever ³

¹University of Tennessee, Knoxville, ²University of Illinois Urbana-Champaign, ³University of Tennessee - Knoxville

9:45 a.m. PSIII-30 **Development of an Application Programming Interface (API) to automate downloading and processing of precision livestock data**

Ira L. Parsons ¹, Jameson R. Brennan ¹, Meredith A. Harrison ², Hector M. Menendez ³

¹South Dakota State University, ²C-Lock Inc., ³South Dakota State University, Department of Animal Science

9:45 a.m. PSIII-22 **Downregulations in the expression of insulin-like growth factor binding proteins in a temporal model of in utero hypothyroidism**

Alyssa A. Smith ¹, Kaylyn Rudy ¹, J. Alex A. Pasternak ¹

¹Purdue University

9:45 a.m. PSIII-12 **Dynamics of neonatal dairy calf behaviors and their association with early gut microbiota**

Jalyn G. Hawkins ¹, Shelby Carpenter ¹, James Brett ¹, Chuan-yu Hsu ¹, Marcus McGee ¹, Trent Smith ¹, Amanda Stone ², Peixin Fan ¹

¹Mississippi State University, ²SCS Global Services

9:45 a.m. PSIII-18 **Effects of dietary exogenous fibrolytic enzymes on ruminal degradation kinetics of beef steers offered a high- and low-quality feedlot growing diets**

BHARATHWAJ POLEPALLE ¹, Jhones O. Sarturi ¹, Beatriz Q. Queiroz Dos Reis ¹

¹Texas Tech University

9:45 a.m. PSIII-19 **Effects of insemination time and semen sorting on conception rate to AI in beef cattle**

Tyler A. Purvis ¹, Benjamin Crites ², Aaron Arnett ², Eric A. Vanzant ¹, Les H. Anderson ¹

¹University of Kentucky, ²ST Genetics

9:45 a.m. PSIII-7 **Effects of *Saccharomyces cerevisiae* fermentation product on total tract digestibility, ruminal fermentation, and plasma metabolome of beef steers fed a finishing diet**

Anjan Dhungana¹, Oluwaseun Odunfa¹, Daniel Woods¹, Anthony Osterman¹, Ibukun M. Ogunade², Ilkyu Yoon³, Yun Jiang¹

¹School of Agriculture and Natural Resources, Kentucky State University, ²West Virginia University, ³Diamond V

9:45 a.m. PSIII-16 **Evaluating human injury risk during interactions with unhealthy Holstein cows**

Makenzie C. Melby¹, Elena Austin², John Swain¹, Nancy Irlbeck³, Amber Adams-Progar¹

¹Washington State University, ²University of Washington, ³Washington State University, Department of Animal Science

9:45 a.m. PSIII-29 **Evaluating the efficacy of bioelectrical impedance analysis using machine learning models for the classification of parasitized goats**

Thomas H. Terrill¹, Aftab Siddique¹, Tharun Tej Erukulla¹, Phaneendra Batchu¹, Sai Chelkapally¹, Davia Brown¹, Kensley Stegall¹, Govind Kannan¹, Ajit Mahapatra¹, Sudhanshu Panda², Eric Morgan³, Jan van Wyk⁴

¹Fort Valley State University, ²University of North Georgia, ³Queen's University Belfast, ⁴University of Pretoria

9:45 a.m. PSIII-3 **Evaluation of low-cost cow-side tests in developing a selective dry cow therapy program**

Carmen M. Burner¹, Todd R. Callaway¹, Valerie E. Ryman¹

¹University of Georgia

9:45 a.m. PSIII-28 **Evaluation of tissue and plasma meloxicam concentrations using a microneedle patch for drug delivery**

Kirsten A. Midkiff¹, Katherine Miranda-Munoz¹, Robin A. Cheek¹, Tsung Cheng Cheng Tsai¹, Misty Bear², Kushan Kompalage³, Ryan Tucker³, Christopher Culbertson³, Hans F. Coetzee², Elizabeth B. Kegley⁴, Jorge Almodovar⁵, Jeremy G. Powell⁴

¹University of Arkansas, ²Kansas State University College of Veterinary Medicine, ³Kansas State University, ⁴University of Arkansas System, Division of Agriculture, Department of Animal Science, ⁵University of Maryland Baltimore County

9:45 a.m. PSIII-2 **Exploring differential gene expression and pathways associated with pregnancy outcomes in beef heifers**

Tristan C. Brown¹, Priyanka Banerjee¹, Soren P. Rodning¹, Paul W. W. Dyce¹, Wellison Jarles Da Silva Diniz¹

¹Auburn University

9:45 a.m. PSIII-4 **Exploring the behavioral effects of glycerol supplementation in ruminally cannulated cows grazing wheat pasture**

Sara E. Campa-Madrid¹, Vinicio Carrera¹, Naomi Lucero², Kate E. Ropp¹, Micah Funk², Andres Ricardo Perea³, Maximiliano J. Spetter², Sergio A. Soto-Navarro¹

¹Department of Animal and Range Sciences; New Mexico State University, ²New Mexico State University, ³New Mexico State University - INTA EECT Yuto, Argentina

9:45 a.m. PSIII-15 **Feeding patterns of yearling Angus bulls based on feed efficiency metrics**

Amelia R. G. Katz ¹, Julie M. Huzzey ², Jason P. Dubowsky ¹, Zachary D. McFarlane ¹

¹California Polytechnic State University, San Luis Obispo, ²Department of Animal Science, California Polytechnic State University

9:45 a.m. PSIII-10 **Flaxseed oil-based supplement alters water consumption and plasma fatty acid profile of beef heifers**

Kendal L. Green ¹, Madison Kovarna ², Ana Clara B. Menezes ², Ethan Schlegel ³, Cody Wright ², Zachary K. Smith ², Jessica Drum ²

¹SDSU, ²South Dakota State University, ³New Generation Supplements

9:45 a.m. PSIII-23 **Identifying genes associated with the retinol biosynthesis pathway in corpora lutea of cyclic and pregnant gilts**

Matthew D. Stuehr ¹, Rebecca K. Poole ¹, Jeffrey Wiegert ¹, Kyle J. Hickman-Brown ¹, Fuller Bazer ²

¹Texas A&M University, ²Professor

9:45 a.m. PSIII-25 **Isolation of a deoxynivalenol (DON)-degrading microbial consortia from soil**

Emmanuel Bumunang ¹, Trevor Alexander ², Benjamin Ellert ³, Long Jin ⁴

¹agr/gc, ²Agriculture and Agri-Food Canada, ³Agriculture and Agri-Food Canada (AAFC), ⁴AAFC

9:45 a.m. PSIII-11 **Long-term effects of intra-articular lipopolysaccharide on markers of inflammation and cartilage metabolism in young Quarter Horses**

Cecilia R. Gualandri ¹, Jessica L. Leatherwood ¹, Brittany L. Paris ², Grace E. Moore ², Lauren R. Pavel ¹, Carolyn E. Arnold ³, Kati G. Glass ⁴, Paige K. Linne ², Maggie M. Carter ², James M. George ², Rafael E. Martinez ¹, Tryon A. Wickersham ², Amanda N. Bradbery ⁵

¹Tarleton State University, ²Texas A&M University, ³Texas Tech University School of Veterinary Medicine, ⁴Texas A&M University School of Veterinary Medicine & Biomedical Sciences, ⁵Montana State University

9:45 a.m. PSIII-6 **Multi-sire artificial insemination of beef heifers in the Nebraska Sandhills effect on pregnancy rate compared to single-sire insemination**

Dempster M. Christenson ¹

¹West Central Research, Extension, and Education Center

9:45 a.m. PSIII-17 **Relationship of toll-like receptor abundance in the boar reproductive tract with dihydrotestosterone prior to attainment of puberty**

Olivia J. Ognibene ¹, Brooke McAnally ¹, Rebecca K. Poole ¹, Jeffrey Wiegert ¹

¹Texas A&M University

9:45 a.m. PSIII-24 **Skeletal muscle antioxidant activity increases over time in beef steers and is greater in Angus compared to Brahman**

Brooke D. Williams¹, Adrianna N. DiSilvestro², Lauren T. Wesolowski², Pier L. Semanchik², Jessica L. Simons², Chloey P. Carson³, Audrey L. Earnhardt-San², David R. Riley⁴, George A. Perry³, Charles R. Long⁵, Ronald D. Randel⁵, Thomas H. Welsh⁶, Sarah H. White-Springer²

¹Texas A&M University AgriLife Research, ²Texas A&M University and AgriLife Research, ³Texas A&M AgriLife Research and Extension Center, Overton, TX, ⁴Texas A&M University, ⁵Texas A&M AgriLife Research, ⁶Texas A&M University System

9:45 a.m. PSIII-1 **The effects of maternal diet on ram lamb reproductive characteristics**

Nicholas M. Barnello¹, Nicole M. Tillquist¹, Amanda S. Reiter¹, Mia Y. Kawaida², Rachael E. Gately³, Santhi Priya Voggu¹, Rachel E. Carter¹, Zongliang C. Jiang², Steven A. Zinn¹, Sarah A. Reed¹, Kristen E. Govoni¹

¹University of Connecticut, ²University of Florida, ³Tufts University

9:45 a.m. PSIII-20 **The effects of vitamin E and/or C on parasite burden in hair sheep**

Jesus A. Rojas-Reyes¹, Taya J. Blad¹, Amy S. Wanguba¹, Janae S. Bulosan¹, Jenee S. Odani¹, Caleb C. Reichhardt¹

¹University of Hawaii at Manoa

9:45 a.m. PSIII-13 **Uncovering the genetic basis of cleft palate in Boer goats**

Kenzy Hoffmann¹, Jonathan E. Beever², Troy N. Rowan²

¹University of Tennessee, ²University of Tennessee - Knoxville

9:45 a.m. PSIII-21 **Variation in mitochondrial genes involved in oxidative phosphorylation in cattle**

Lauren E. Seier¹, Mackenzie C. Batt², Anna M. Fuller², Dustin T. Yates¹, Kristi Montooth¹, Jessica L. Petersen²

¹University of Nebraska - Lincoln, ²University of Nebraska-Lincoln

Small Ruminant II

Chair: Christian Posbergh, Department of Animal and Range Sciences,
Montana State University

10:00 AM - 11:45 AM

Macleod E1

10:00 a.m. 211 **United States Department of Agriculture National Animal Health Monitoring System Goat 2019 study: Regional Prevalence of Gastrointestinal Nematodes and Lungworms in the United States**

James Miller¹, Ryan Avery², Natalie Urie³, Matthew Branan³, Joan M. Burke⁴

¹Louisiana State University, ²USAID, ³USDA NAHMS, ⁴USDA, ARS, Dale Bumpers Small Farms Research Center

10:15 a.m. 212 **Accuracy of genomic prediction for indicator traits of resistance to gastrointestinal nematode parasites in grazing Arcott Rideau sheep**

Samla M F Cunha ¹, Flávio S. Schenkel ², Ivan Carvalho Filho ³, Ángela Cánovas ⁴

¹University of Guelph, Department of Animal Biosciences, Centre for Genetic Improvement of Livestock, ²University of Guelph, ³Programa de Melhoramento Genético Geneplus - Embrapa, ⁴University of Guelph, Centre for Genetic Improvement of Livestock

10:30 a.m. 213 **Lipopolysaccharide-induced alterations in the liver metabolome of St. Croix and Suffolk sheep**

Samanthia R. Johnson ¹, Kelsey L. Bentley ¹, Scott Bowdridge ¹, Ibukun M. Ogunade ¹

¹West Virginia University

10:45 a.m. 214 **Immuno-detection and stability of SARS-CoV-2 in milk from white-tailed deer**

Hannah Raso ¹, Wraylyn Smith ¹, Lorena Tobar ¹, Diya Reddy ¹, Jenny Johnson ¹, Andrew Biesemier ², Rubin Harvey ³, Dominic S. Raso ³, Carla V. Finkelstein ⁴

¹Molecular Diagnostics Laboratory, Fralin Biomedical Research Institute at VTC,

²Department of Pathology, University of Virginia, ³Pathology Consultants of Central Virginia,

⁴Molecular Diagnostics Laboratory, Fralin Biomedical Research Institute at VTC / Integrated Cellular Responses Laboratory, Fralin Biomedical Research Institute at VTC / Department of Biological Sciences, Virginia Tech

11:00 a.m. 215 **Tracking growth performance and insulin response on fourth-month-old maternal heat-stressed lambs**

Andrea P. Rios ¹, Ela Fuentevilla ¹, Duarte E. Diaz ¹, Sean Limesand ¹

¹University of Arizona

11:15 a.m. 216 **Using GPS collars and vaginal temperature sensors for characterizing rangeland usage and climatic stress in sheep**

John H. Bergeron ¹, Scott Huber ¹, Tracy Shane ¹, Luiz F. Brito ², Robert Washington-Allen ¹, Andrew Hess ¹

¹University of Nevada, Reno, ²Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA

11:30 a.m. 217 **Effect of within-litter competition on lamb survivability**

Carrie S. Wilson ¹, J. Bret B. Taylor ², Natalie Cherry ²

¹USDA-ARS-RSPER, ²USDA, ARS, RSPER

Poster Session IV
11:15 AM - 12:30 PM
Exhibit Hall C

11:15 a.m. PSIV-6 **Blood biomarkers of oxidative stress in offspring from dams infected with bovine viral diarrhea virus during late-term gestation.**

Erlene Chek¹, Huey Yi Loh¹, Hana Van Campen², Jess N. Kincade², Thomas R. Hansen², Terry E. Engle³

¹Colorado State University, ²Department of Biomedical Sciences, Colorado State University,

³Department of Animal Sciences, Colorado State University

11:15 a.m. PSIV-13 **Changes in Interferon- γ and Tumor necrosis factor- α in the vaginal environment of cattle during early gestation**

Makala L. Utai¹, Mary A. Leach², Kyle J. McLean³

¹University of TN at Knoxville, ²University of Tennessee, Knoxville, ³Department of Animal Science, University of Tennessee Institute of Agriculture

11:15 a.m. PSIV-1 **Concentrations of follicle stimulating hormone and progesterone in female offspring born to ewes poorly fed during gestation**

Ariel A. Kuhl¹, Nicole M. Tillquist¹, Amanda S. Reiter¹, Mia Y. Kawaida², Morgan M. Dougherty¹, Nicholas M. Barnello¹, Sarah A. Reed¹, Kristen E. Govoni¹, Steven A. Zinn¹

¹University of Connecticut, ²University of Florida

11:15 a.m. PSIV-28 **Determination of the extent and rate of nutrient degradation of potato and other byproducts by rumen microorganisms in vitro**

Cassandra Smithyman¹, Keira Cruickshank¹, Mackenzie M. Smithyman¹, Boone H. Carter², Clint A. Loest¹

¹New Mexico State University, ²Performix Nutrition Systems

11:15 a.m. PSIV-15 **Effect of transient fetal bovine viral diarrhea virus infection on postnatal growth, estimated dry matter digestibility, glucose concentrations, and carcass characteristics.**

Alexandra C. Miller¹, Huey Yi Loh², Erlene Chek², Octavio Guimaraes¹, Tyler A. Thomas², Meghan P. Thorndyke¹, Hana Van Campen³, Jess N. Kincade³, Thomas R. Hansen³, Terry E. Engle⁴

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

³Department of Biomedical Sciences, Colorado State University, ⁴Department of Animal Sciences, Colorado State University

11:15 a.m. PSIV-4 **Effectiveness of maternal bovine appeasing substance on growth, physiological, and behavioral responses of high-risk stocker cattle**

Elle P. Johnston¹, Elizabeth B. Kegley², Jeremy G. Powell², Chantel Pennicott¹, Jana L. Reynolds¹, Robin A. Cheek¹, Shawna Weimer¹

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

11:15 a.m. PSIV-12 **Effects of creep-feeding supplementation on growth performance during the rearing and finishing phases of grazing Nellore young bulls**
Luciana Melo Sousa ¹, Marco de Felício Porcionato ², Anna Lidia Francino Francino Garcia ³, Fernanda Rigon ¹, Mateus José Inácio de Abreu ⁴, Flávio Dutra de Resende ⁵, Gustavo Rezende Siqueira ⁵

¹UNESP / APTA, ²Trouw Nutrition Brazil, ³Department of Animal Science, São Paulo State University "Júlio de Mesquita Filho" (UNESP), Jaboticabal, SP, Brazil, ⁴Department of Animal Science, São Paulo State University, ⁵Agência Paulista de Tecnologia dos Agronegócios (APTA), Colina, SP, Brazil

11:15 a.m. PSIV-8 **Effects of feeder lamb receiving protocols on lamb performance, feed efficiency and carcass characteristics as part of a lamb-value discovery program**
Joe B. Mills ¹, Dylan M. Laverell ¹, Aaron J. Kersh ¹, Josie N. Hernandez ¹, Elisabeth F. Dooley ¹, Paulo M. T. Lima ¹, John D. Scasta ², Hannah C. Cunningham-Hollinger ¹, Cody L. Gifford ¹, Whit C. Stewart ¹

¹Department of Animal Science, University of Wyoming, ²Department of Ecosystem Science and Management, University of Wyoming

11:15 a.m. PSIV-27 **Effects of organic complexed or inorganic trace mineral supplementation on cow performance and herd longevity**

Robin A. Cheek ¹, Elizabeth B. Kegley ², Jeremy G. Powell ²

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

11:15 a.m. PSIV-29 **Efficacy of a chute-side pregnancy test on early pregnancy determination in mature Rambouillet ewes**

Karime L. Luna ¹, Marcy Ward ¹, Molly M. Austin ¹, Jeffrey Dominguez Arellanes ¹, Luis Ochoa ¹, Sara C. Gurule ¹, Shaina Sirois ², Meghan May ², John Lawrence ², Eric J. Scholljegerdes ¹, Sergio A. Soto-Navarro ³, Jennifer A. Gifford ¹

¹New Mexico State University, ²IDEXX Laboratories, ³Department of Animal and Range Sciences; New Mexico State University

11:15 a.m. PSIV-24 **Evaluation of different colostrum feeding volumes on serum immunoglobulin G concentration and metabolic profiles of calves in high altitude area**

Yufei Jiang ¹, Demeng Mu ¹, Haitao Shi ¹, Xi Wang ¹

¹Southwest Minzu University

11:15 a.m. PSIV-26 **Extent of use of supplemental feeding in beef cattle operations across the Southeast: A report of the regional survey**

Lauren M. St. Andrew ¹, S. Leanne L. Dillard ¹, Kimberly Kim Mullenix ¹, W. Brandon B. Smith ¹

¹Auburn University

11:15 a.m. PSIV-2 **Gestational heat stress and its impact on placental weight, colostrum production, and milk production on Columbia-Rambouillet ewes**

Ela Fuentesvilla ¹, Andrea Rios ², Sean Limesand ², Duarte E. Diaz ¹

¹University of Arizona, ²School of Animal and Comparative Biomedical Sciences

11:15 a.m. PSIV-21 **Lipopolysaccharide (LPS) challenge alters the plasma metabolome of beef cattle**

Samantha N. Barker¹, Jeffery A. Carroll², Nicole C. Burdick Sanchez², Rand R. Broadway³, John T. Richeson⁴, Christopher Kerth⁵, Manuel S. Hernandez¹, Jerrad F. Legako¹

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

11:15 a.m. PSIV-30 **Moderate maternal nutrient restriction in beef heifers reduces fetal crown-rump length at day 35 of gestation**

Mikayla M. Faust¹, Kathlyn M. Hauxwell¹, Alison K. Ward², Carl R. Dahlen¹, Rebecca Swanson¹, Jessie G. Syring¹, Yssi L. Entzie¹, Layla King³, Jennifer L. Hurlbert¹, Joel S. S. Caton¹

¹North Dakota State University, ²University of Saskatchewan, ³University of Minnesota Crookston

11:15 a.m. PSIV-9 **Pedigree tracing to determine the origin of the golden coat phenotype within the Golden American Saddlebred horse**

Julius Culwell¹, Ed North², Molly Nicodemus³, Clay A. Cavinder¹, Toree Williams⁴
¹Mississippi State University, ²University of Mississippi Medical Center, ³Animal & Dairy Sciences, Mississippi State University, ⁴Unity Environmental University

11:15 a.m. PSIV-18 **Prevalence and concentrations of Fusobacterium necrophorum subsp. necrophorum in gut contents and tissues in steers with experimentally induced liver abscesses**

Mina Abbasi¹, Xiaorong Shi¹, Leigh Ann George¹, Alyssa Deters¹, Farinaz Baghaei Naeini¹, Zach S. McDaniel², Kallie D. Childress², Raghavendra G. Amachawadi¹, Kristin E. Hales², Rand R. Broadway³, Michael Galyean², Ty E. Lawrence⁴, T. G. Nagaraja¹

¹Kansas State University, ²Texas Tech University, ³Livestock Issues Research Unit, ⁴West Texas A&M University

11:15 a.m. PSIV-5 **Prioritizing candidate genes for seminal traits and residual feed intake in cattle: Integrating QTLome Analysis and RNAseq Datasets**

Emmanuel Garcia¹, Francisco Joel Jahuey-Martínez², Julissa Carrasco V², JOSE A A. MARTINEZ-QUINTANA³, Felipe A. RODRÍGUEZ-ALMEIDA²

¹Universidad Autónoma de Chihuahua, ²Universidad Autónoma de Chihuahua, ³Universidad Autónoma de Chihuahua, Facultad de Zootecnia y Ecología

11:15 a.m. PSIV-3 **Quantifying free choice mineral intake in a lamb feedlot setting: implications for cost of mineral supplementation**

Elisabeth F. Dooley¹, Aaron J. Kersh¹, Dylan M. Laverell¹, Joe B. Mills¹, John D. Scasta², Paulo M. T. Lima¹, Cody L. Gifford¹, Whit C. Stewart¹

¹Department of Animal Science, University of Wyoming, ²Department of Ecosystem Science and Management, University of Wyoming

11:15 a.m. PSIV-20 **Role of fecal metabolites in mediating the beneficial effects of purple potato on colitis**

Qi Sun¹, Shima Bibi¹, Alejandra Bravo Iniguez¹, Min Du¹, meijun Zhu¹

¹Washington State University

11:15 a.m. PSIV-14 **Short-term heat stress affects the plasma metabolome of Florida Cracker sheep**

Makenzie Harrison ¹, Anijia Mills-Widemon ¹, Sola Ikuejamoye-Omotore ¹, Zaira M. Estrada Reyes ¹, Ibukun M. Ogunade ², Andres Pech Cervantes ³, Thomas H. Terrill ⁴

¹North Carolina Agricultural and Technical State University, ²West Virginia University,

³University of Maryland Eastern Shore, ⁴Fort Valley State University

11:15 a.m. PSIV-17 **Studies on diarrhea and growth performance of early weaned piglets after supplementation with quebracho tannin product MGM-P**

Junyou LI ¹, Min MA ¹, Yuriko ENOMOTO ¹, Tomotsugu TAKAHASHI ¹, Kazuyuki UCHIDA ¹, James K. CHAMBERS ¹, Masayoshi Kuwahara ², Shin-Ichiro TAKAHASHI ¹

¹The University of Tokyo, ²Graduate School of Agricultural and Life Sciences, The University of Tokyo

11:15 a.m. PSIV-11 **The inhibitory activity of phyto-phenolic compounds on ammonia-producing ruminal bacteria**

Leah I. Ramos ¹, Maedean Cardenas ¹, Jourdan Lakes ², Jessica L. Ferrell ³, Michael D. D. Flythe ⁴, Natasha L. Mast ⁵

¹Texas A&M University - Kingsville, ²University of Kentucky, ³USDA-ARS, ⁴United States Department of Agriculture, Agricultural Research Service, Forage-Animal Production Research Unit, ⁵Texas A&M University Kingsville

11:15 a.m. PSIV-16 **The role of veterinary services on nutrition schemes, management, and health practices for sheep and goats in rural Ngaka Modiri Molema District Municipality, North West Province of South Africa.**

Gloria Mokolopi ¹, James W. Oguttu ¹

¹University of South Africa

11:15 a.m. PSIV-19 **The use of microencapsulated zinc oxide improves the growth performance and intestinal health of newly weaned piglets**

Olufemi O. Babatunde ¹, Glenmer B. Tactacan ¹, Marcia S. Vieira ¹, Ludovic Lahaye ¹, Mariana L. de Moraes ¹

¹Jefo Nutrition, Inc.

11:15 a.m. PSIV-10 **Thyroid hormone does not protect skeletal muscle mitochondrial function from heat stress in pigs**

Lauren T. Wesolowski ¹, Jamiann J. Kelly ¹, Melissa S. Roths ², Tori E. Rudolph ², Pier L. Semanchik ¹, Robert P. Rhoads ³, Lance H. Baumgard ², Joshua T. Selsby ², Sarah H. White-Springer ¹

¹Texas A&M University and AgriLife Research, ²Iowa State University, ³Virginia Polytechnic Institute and State University

11:15 a.m. PSIV-23 **Transcriptomic analysis revealed the mechanisms of resilience and susceptibility to nonalcoholic steatohepatitis in dairy goats under high-concentrate diet**

Yue Wang ¹, Xiaodong Chen ², Sharon A Huws ³, Shengru Wu ², Junhu Yao ², Leluo Guan ⁴

¹University of British Columbia, ²Northwest A&F University, ³Queen's University Belfast,

⁴Faculty of Land and Food Systems, The University of British Columbia

11:15 a.m. PSIV-22 **Use of a mixture of olive pomace extract, a palatability enhancer and tributyrin as feed additive on the recovery of unweaned dairy beef calves with pneumonia at farm arrival**

Sonia Marti ¹, Maria Devant ¹, Marta Blanch ²
¹IRTA-Ruminant Production, ²Lucta, S.A.

11:15 a.m. PSIV-25 **Utilization of rumen protected lysine and methionine in beef feedlot diets: impacts on steer performance**

Bryan W. Neville ¹, William T. Oliver ¹, Jim E. Wells ¹, Matt S. Crouse ¹, Amanda K. Lindholm-Perry ¹, Jennifer F. Thorson ¹, Larry A. Kuehn ¹, Harvey C. Freetly ¹
¹USDA-ARS, U.S. Meat Animal Research Center

11:15 a.m. PSIV-7 **Zoonotic transmission and analysis of SARS-CoV-2 in White-tailed Deer**

Hannah Raso ¹, Matthew Urbano ¹, Dzenis Mahmutovic ¹, Clinton Roby ¹, Katherine Brown ¹, Alessandro Ceci ¹, Lorena Tobar ¹, Rubin Harvey ², Misty Brumfield ², Dominic S. Raso ², Carla V. Finkielstein ³

¹Molecular Diagnostics Laboratory, Fralin Biomedical Research Institute at VTC, ²Pathology Consultants of Central Virginia, ³Molecular Diagnostics Laboratory, Fralin Biomedical Research Institute at VTC / Integrated Cellular Responses Laboratory, Fralin Biomedical Research Institute at VTC / Department of Biological Sciences, Virginia Tech

Poster Session V

1:15 PM - 2:30 PM
Exhibit Hall C

1:15 p.m. PSV-24 **Administering the maternal bovine appeasing substance before slaughter to improve carcass characteristics of finishing cattle**

Reinaldo F. Cooke ¹, Nicholas C. Kertz ¹, Autumn Pickett ², Shea Mackey ²
¹Texas A&M University, ²Department of Animal Science, Texas A&M University

1:15 p.m. PSV-13 **Betaine supplementation and nutrient restriction during gestation: Influences on growth in fetal sheep offspring**

Santhi Priya Voggu ¹, Nicole M. Tillquist ¹, Nicholas M. Barnello ¹, Amanda S. Reiter ¹, Mia Y. Kawaida ², Cheyenne S. Summers ¹, Sarah A. Reed ¹, Steven A. Zinn ¹, Kristen E. Govoni ¹

¹University of Connecticut, ²University of Florida

1:15 p.m. PSV-5 **Characterizing the activity of bovine Lactobacillus strains against the top 7 Shiga-toxin Producing Escherichia coli strains**

Yiran Ding ¹, dongyan Niu ¹, Tim A. McAllister ², Leluo Guan ³, Eduardo Cobo ¹
¹University of Calgary, ²Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ³Faculty of Land and Food Systems, The University of British Columbia

1:15 p.m. PSV-4 **Clodronate re-release in response to controlled exercise and bone stressors in juvenile horses**

Matthew B. Conrad ¹, Jessica L. Leatherwood ², Kati G. Glass ³, Carolyn E. Arnold ⁴, Brittany L. Paris ⁵, James M. George ⁵, Rafael E. Martinez ², Travis P. Mays ⁶, Amanda N. Bradbery ¹

¹Montana State University, ²Tarleton State University, ³Texas A&M University School of Veterinary Medicine & Biomedical Sciences, ⁴Texas Tech University School of Veterinary Medicine, ⁵Texas A&M University, ⁶Texas A&M Veterinary Medical Diagnostic Lab

1:15 p.m. PSV-17 **Disease surveillance in feedlot cattle via interactions with a novel cotton rope**

Emiline R. Sundman ¹, Grant A. Dewell ², Renee D. Dewell ³, Anna K. Johnson ⁴, Suzanne T. Millman ⁵

¹Iowa State University, ²Veterinary Diagnostic & Production Animal Medicine, Iowa State University, ³Center for Food Security and Public Health, Iowa State University, ⁴Animal Science, Iowa State University, ⁵Veterinary Diagnostic & Production Animal Medicine and Biomedical Sciences, Iowa State University

1:15 p.m. PSV-26 **Effect of addition of *Ascophyllum nodosum* and *Asparagopsis taxiformis*, alone or in combination, to an herbage-based diet on in vitro fermentation in continuous culture**

Danielle Andreen ¹, Eric D. Billman ¹, Andre F. Brito ², Kathy J. Soder ¹

¹USDA-ARS, ²University of New Hampshire

1:15 p.m. PSV-6 **Effect of Maternal undernutrition on gene expression related to immune system in spleen of Japanese Black (Wagyu) fetuses**

Taketo Haginouchi ¹, Yi Zhang ², Daichi Nishino ³, Ouanh Phomvisith ⁴, Takafumi Gotoh ⁴

¹Hokkaido university, ²Henan University of Science and Technology, ³Kyushu University, ⁴Hokkaido University

1:15 p.m. PSV-22 **Effects of corn silage particle size on eating behavior, performance, and carcass traits in finishing beef heifers**

Gabrielli da Costa ¹, Waldir Dias Jr. ¹, Edmilson Domingues ¹, Robson Ferreira ¹, Vinicius Vaz ¹, Thiago Bernardes ¹

¹Universidade Federal de Lavras

1:15 p.m. PSV-30 **Effects of divergent residual feed intake on performance, feed efficiency, feeding behavior and gaseous exchange in replacement beef heifers**

Zoe Adcock ¹, Keara O'Reilly ¹, Gordon E. Carstens ¹, Luis O. Tedeschi ², William E. Pinchak ¹, Ryon S. Walker ¹

¹Texas A&M University, ²Texas A&M university, department of Animal Science

1:15 p.m. PSV-21 **Effects of supplementation programs for cow-calf operations during the dry grazing period under tropical conditions**

Edmilson Domingues ¹, Hiam Giacomelli ¹, Luiz Griss ¹, Gustavo Alves ¹, Lucca Pereira ¹, Daniel R. Casagrande ¹, Mateus P. Gionbelli ¹, Thiago Bernardes ¹

¹Universidade Federal de Lavras

1:15 p.m. PSV-12 **Evaluating the effect of lyoprotectants in preserving community structure and bacterial viability in the lyophilized fecal community of pigs**

Paul Oladele¹, Timothy A. Johnson¹

¹Purdue University

1:15 p.m. PSV-15 **Evaluating the relationship between subcutaneous backfat thickness and sperm morphology in young beef bulls**

Molly S. Smith¹, Jorge Octavio Solano Aguilar¹, Grace Nyhuis¹, Francine M. Henry¹, Lawton Stewart¹, Jason Duggin¹, Pedro Fontes¹

¹University of Georgia

1:15 p.m. PSV-16 **Evaluation of upper respiratory and fecal microbiomes in neonatal beef calves**

Consuelo A. Sowers¹, Mackenzie M. Smithyman², Max Chung³, Matthew Scott³, Robert Valeris-Chacin³, Glenn C. Duff², John T. Richeson¹, Sarah Capik⁴

¹West Texas A&M University, ²New Mexico State University, ³Texas A&M University School of Veterinary Medicine and Biomedical Sciences, ⁴Tumbleweed Veterinary Services, PLLC

1:15 p.m. PSV-29 **In vitro digestibility and in situ degradability of lobster and mixed crab shell waste material**

Tess Stahl¹, Lydia Valentine², Alan Abend³, Tamanna Islam², Peter Erickson²

¹Rutgers University, ²University of New Hampshire, ³University of Massachusetts Boston

1:15 p.m. PSV-25 **Investigating the effects of Chromium Propionate supplementation on productive and reproductive performance of beef cows**

Trinity Vidlund¹, Camille Mitchell², Hannah Craun², John Currin³, Jamie L. Stewart³, Sherrie Clark³, Bailey Wolpert³, Tracey Redifer³, Vitor RG Mercadante⁴

¹Virginia Tech, ²Virginia Tech - School of Animal Sciences, ³Virginia Tech - VAMD College of Veterinary Medicine, ⁴Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences

1:15 p.m. PSV-8 **Investigation of a haplotype and eQTL analysis of the LCORL-NCAPG locus associated with increased lean growth in beef cattle**

Leif E. Majeres¹, Anna C. Dilger², Daniel W. Shike², Joshua C. McCann², Jon E. Beever¹

¹University of Tennessee Knoxville, ²University of Illinois Urbana-Champaign

1:15 p.m. PSV-3 **Lifetime plasma concentration of select trace minerals in broiler chickens hatched from broiler breeders fed hydroxychloride or organic sources of zinc, copper, and manganese**

Reza Bakhshalinejad¹, Stephanie Torrey², Elijah Kiarie¹

¹University of Guelph, ²Trouw Nutrition North America

1:15 p.m. PSV-28 **Liver abscess microbiota of beef cattle administered in-feed tylosin differ according to abscess size and fraction**

Robert J. Gruninger¹, Eóin O'Hara¹, Rahat Zaheer¹, Sara Andres-Lasheras¹, Tim A. McAllister²

¹Agriculture and Agri-Food Canada, ²Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science

1:15 p.m. PSV-27 **Optimizing corn silage utilization in beef feedlot diets: Evaluating the impact of exogenous glucoamylase addition on performance and digestibility**

Jon P. Schoonmaker¹, Lester Nolasco¹, Tyler J. Vincent¹, Rodrigo Torres¹

¹Purdue University

1:15 p.m. PSV-23 **Physiological status evolution of veal calves after reception period**

Marta Blanch¹, Jose J. Pastor¹

¹Lucta, S.A.

1:15 p.m. PSV-18 **Relationships between serum IGF1 and cortisol in growing steers to beef production and palatability**

Lauren T. Wesolowski¹, Pier L. Semanchik¹, Jessica L. Simons¹, Chloey P. Carson², Adrianna N. DiSilvestro¹, Audrey L. Earnhardt-San¹, David R. Riley³, George A. Perry², Charles R. Long⁴, Tanner J. Machado⁵, Ronald D. Randel⁴, Thomas H. Welsh⁶, Sarah H. White-Springer¹

¹Texas A&M University and AgriLife Research, ²Texas A&M AgriLife Research and Extension Center, Overton, TX, ³Texas A&M University, ⁴Texas A&M AgriLife Research, ⁵Texas A&M University-Kingsville, ⁶Texas A&M University System

1:15 p.m. PSV-2 **Rumen fluid metabolomics of dairy cows fed combinations of essential oil blend, onion peel extract and prebiotics using the RUSITEC system**

Joel O. Alabi¹, Micheal Wuaku¹, Chika C. Anotaenwere¹, Deborah O. Okedoyin², Kelechi A. Ike¹, Oludotun O. Adelusi¹, Uchenna Y. Anele²

¹North Carolina A&T State University, Greensboro, ²North Carolina Agricultural and Technical State University

1:15 p.m. PSV-11 **Significance of speciality protein ingredients in feeding programs for broiler chickens on nitrogen utilization and excretion- A meta-analyses**

Felix M. Njeri¹, Jennifer L. Ellis¹, Elijah Kiarie¹

¹University of Guelph

1:15 p.m. PSV-20 **Supplementation of an electrolyte solution improves water intake in receiving beef cattle under commercial feedlot conditions**

Dave J. Seymour¹, Isabela P. C. de Carvalho¹, Javier Martín-Tereso¹

¹Trouw Nutrition R&D

1:15 p.m. PSV-14 **The effects of calcium cyanamide on greenhouse gases, ammonia emissions, and the microbiome of dairy cattle lagoon water.**

Alice Rocha¹, Briana Morales², Hamed El Mashad², Yuee Pan², Yongjing Zhao², Frank M. Mitloehner²

¹University of California, ²University of California, Davis

PSV-1 Trio-binning Assemblies of the Duroc and Landrace swine breeds

Leland K. Ackerson¹, Kristen Kuhn², Cedric Gondro¹, Jicai Jiang³, Christian Maltecca³, Gary A. Rohrer⁴, Benjamin D. Rosen⁵, Timothy Smith², Christopher K. Tuggle⁶, Wen Huang¹

¹Department of Animal Science, Michigan State University, ²US Meat Animal Research Center, ³Department of Animal Science, North Carolina State University, ⁴USDA-ARS US Meat Animal Research Center, ⁵USDA Animal Genomics and Improvement Laboratory, ⁶Department of Animal Science, Iowa State University

1:15 p.m. **PSV-19 Uncovering breed-origin allele effects and their role in thermotolerance through genome-wide association study in Brangus cattle**

Gabriel A. Zayas¹, Camila Santos Rojas², Aakilah Hernandez³, Eduardo E. Rodriguez¹, Ashley Beard¹, Fahad Rafiq¹, Kaitlyn Sarlo Davila⁴, Raluca Mateescu¹

¹Department of Animal Sciences, University of Florida, ²University of Florida, ³Department of Animal Science, North Carolina State University, ⁴Ruminant Diseases and Immunology Research Unit, National Animal Disease Centers, United States Department of Agriculture

1:15 p.m. **PSV-10 Vaccination of beef cattle to reduce enteric methane emissions**

Musah Muntari¹, Brigid R. Arciero², Chene Kuhn¹, Kate Mulcock¹, Damon Smith¹, Brette Poliakiwski¹, Keara O'Reilly¹, Odile Polanco Jiménez¹, Jeff Bickmeier², Sara Kimler², John Sullivan², Zeljko Radulovic², Laura Z. Holland², Taylor A. Falk², Caitlin Allen², Lauren E. Fitch², James Spoonamore², Kristin J. Adolfsen², Gordon E. Carstens¹, Ky G. Pohler¹, Cliff C. Lamb³, Matthew R. Dunn²

¹Texas A&M University, ²Arkea Bio Corp., ³Agri-Life Research, Texas A&M University

**Animal Breeding and Genetics Symposium:
Genome-enabled optimization of deep phenotyping**

Chair: Gota Morota, Virginia Tech

1:30 PM - 5:00 PM

Macleod C

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

1:35 p.m. 309 **Synergistic optimization: utilizing genomic insights to enhance strategies for joint selective (deep) phenotyping and recursive creation of genomic reference populations - Sponsored by EAAP**

Nicolas Gengler¹, Alice Markey¹, Pauline Lemal², Yansen Chen², H el ene Wilmot², Martine Schroyen²

¹ULiege-GxABT, ²ULi ege-GxABT

2:20 p.m. 310 **Computer vision-based phenotyping: dealing with uncertainty in animal identification - Sponsored by EAAP**

Juan P. Steibel¹

¹ISU

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

3:20 p.m. 312 **Leveraging digital phenotyping from research to implementation: insights from a pig breeding company**

Ching-Yi Chen¹, Eric Psota¹, Bruno Valente¹, Pieter Knap¹, Justin W. Holl¹

¹Genus PIC

4:05 p.m. 313 **Many farmers want a prediction of future performance, not necessarily breeding potential**

Donagh P. Berry¹

¹Teagasc

4:50 p.m. **Animal Breeding and Genetics Symposium Discussion**

Ruminant Nutrition IV: Feedstuffs

Chair: Andrew Foote, Oklahoma State University

1:30 PM - 5:15 PM

Macleod B

1:30 p.m. 245 **The influence of deferment and season of use on beef cattle diet quality and composition following a rangeland wildfire**

Janessa A. Kluth¹, Noah G. Davis¹, Samuel Wyffels¹, Clayton Marlow¹, Lance Vermeire², Megan L. Van Emon¹, Makae Nack³, Taylre Sitz⁴, Thomas Hamilton¹, Jeremiah Peterson¹, Timothy DelCurto¹

¹Montana State University, ²USDA-ARS, ³Dawson Community College, ⁴Sitz Angus

1:45 p.m. 246 **The influence of supplemental alfalfa pellet levels on beef cattle grazing winter foothill rangelands.**

Thomas Hamilton¹, Sam Wyffels¹, Janessa A. Kluth¹, Jeremiah Peterson¹, Noah G. Davis¹, Timothy DelCurto¹

¹Montana State University

2:00 p.m. 247 **Interaction between colostrum and milk replacer supply on growth, development and fecal consistency of dairy surplus calves**

Juanita Echeverry Munera¹, Sonia Marti², Michael A. Steele³, Maria Devant², Javier Martín-Tereso¹, Leonel N. Leal¹

¹Trouw Nutrition R&D, ²IRTA-Ruminant Production, ³Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada

2:15 p.m. 248 **Impacts of sprouted barley on the performance and carcass traits in finishing Angus steers**

Zachary C. Crump¹, Anthony F. Alberto¹, Bailee Brown¹, Bryce W. Roholt¹, Lillian Okamoto¹, Kara J. Thornton-Kurth¹, Ryan A. Spurling¹, Robert Ward¹, Brady Blackett², Rob Harding², Sanjeewa Ranathunga²

¹Utah State University, ²Renaissance Ag, Vineyard, Utah, 84057, United States

249 Effects of sorghum silage kernel processing on growth performance and blood metabolites of beef heifers.

Federico Podversich ¹, Leandro O. Abdelhadi ², Federico Sanchez ³, Emmanuel Angeli ⁴, Gustavo J. Hein ⁴, Hugo H. Ortega ⁴, Nicolas DiLorenzo ⁵

¹North Florida Research and Education Center, University of Florida, Marianna, FL 32446,

²Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, Argentina, ³CLAAS Argentina, ⁴Facultad de Ciencias Veterinarias, Universidad Nacional del Litoral, Santa Fe, Argentina, ⁵University of Florida

2:45 p.m. 250 Effects of corn processing on growth performance, starch digestibility, and blood metabolites in receiving beef steers

Emma L. Rients ¹, Dathan T. Smerchek ¹, Stephanie L. Hansen ¹

¹Iowa State University

3:00 p.m. 251 Effect of diets containing soybean co-products formulated for developing heifers on reproductive efficiency

Kirsten A. Midkiff ¹, Elizabeth B. Kegley ², Robin A. Cheek ¹, Doug L. Galloway ¹, Jana L. Reynolds ¹, Alexis Harness ¹, Charles R. Looney ², Brittini P. Littlejohn ², Jeremy G. Powell ²

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

3:15 p.m. Ruminant Nutrition IV: Feedstuffs Break

3:30 p.m. 252 Evaluating the impact of inclusion of field pea (*Pisum sativum*) on rumen fermentation profile, production parameters, and composition of rumen bacterial community of dairy cattle

Arezoo Alizadeh ¹, Hooman Derakhshani ¹, Jan Cornelis Plaizier ¹

¹University of Manitoba

3:45 p.m. 253 Effect of dietary straw withdrawal in high-concentrate diets on efficiency, carcass performance, rumen characteristics and seized livers in dairy beef crossbred bulls housed with straw bedding

Lourdes Llonch ¹, Sonia Marti ¹, Marçal Verdú ², Joan Riera ³, Carles Medinya ⁴, Jordi Cucurull ², Maria Devant ¹

¹IRTA-Ruminant Production, ²bonÀrea Agrupa, ³Nanta S.A., ⁴Nutrición Animal S.L.

4:00 p.m. 254 Nutrient intake, rumen fermentation and growth performance of Hu sheep fed extruded rapeseed straw as a replacement for peanut vine

Junnan Ma ¹, Tao Ma ¹, Yan Tu ¹

¹Institute of Feed Research, Chinese Academy of Agricultural Sciences

4:15 p.m. 255 Awardee Talk: Nutritional management to optimize cow-calf production in Southeast

Vinicius S. Izquierdo ¹, Joao M. B. Vendramini ¹, Philippe Moriel ¹

¹University of Florida, IFAS - Range Cattle Research & Education Center

256 Evaluating the effect limit feeding yearling beef steers for 56 or 86 d of a 140-d finishing period on growth performance and carcass trait responses

Justin J. Delver¹, Warren C. Rusche¹, Logan R. Thompson², Forest L. Francis¹, Becca B. Grimes Francis³, Riley J. Leeson¹, Thiago L. Maia Ribeiro¹, Grace H. Olinger¹, Cassidy R. Ross¹, Zachary K. Smith¹

¹South Dakota State University, ²Kansas State University, ³Animal Science/ South Dakota State University

5:00 p.m. 257 Total degradable and undegradable protein and carbohydrate supply to dairy cows from the newly developed blended fat stimulated feed product in comparison with commercial protein and energy feeds

Umair Ihsan¹, Luciana Prates², Rex N. Newkirk¹, H. (Bart) A. Lardner³, María E. Rodríguez Espinosa¹, Peiqiang Yu⁴

¹University of Saskatchewan, ²Proveta Nutrition, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴University of Saskatchewan, ASAS, CSAS, ADSA

Growth and Development I

Chair: Kara Thornton-Kurth, Utah State University

1:45 PM - 3:30 PM

Glen 203/204

1:45 p.m. 278 Awardee Talk: A multi-perspective approach to understanding fundamental mechanisms that regulate growth and nutrient utilization in pigs

Kolapo M. Ajuwon¹

¹Purdue University

2:15 p.m. 282 Effects of granddam poor maternal nutrition during gestation on second generation offspring oxidative status in circulation and skeletal muscle

Amanda S. Reiter¹, Mia Y. Kawaida², Nicole M. Tillquist¹, Kristen E. Govoni¹, Steven A. Zinn¹, Sarah A. Reed¹

¹University of Connecticut, ²University of Florida

2:30 p.m. 280 AntagomiR-22-3p Injection alters miRNA expression and muscle fiber type of intrauterine growth restricted lambs

Susan K. Duckett¹, Maslyn A. Greene¹, Aliute NS Udoka-Johnson¹, Grayson Worley¹, James L. Klotz²

¹Clemson University, ²USDA-ARS, FAPRU

2:45 p.m. 281 Changes in satellite cell number in maternal and fetal muscle with 5-hydroxy tryptophan supplementation during late gestation

Aliute Nkoyo S. Udoka¹, Gabriella Iheanacho¹, Grayson Worley¹, James L. Klotz², Susan K. Duckett¹

¹Clemson University, ²USDA-ARS, FAPRU

3:00 p.m. 279 **Estimating the impact of genomic selection for thermotolerance and in utero heat stress on piglet body weight from birth to bacon**

Caitlyn Sullivan¹, Luiz F. Brito², Allan P. Schinckel¹, MaryKate H. Byrd¹, Rick O. Hernandez¹, Shelby L. Diggs¹, Christian Maltecca³, Francesco Tiezzi⁴, Jay S. Johnson⁵
¹Purdue University, ²Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA, ³North Carolina State University, ⁴University of Florence, ⁵University of Missouri

3:15 p.m. 283 **Investigating molecular changes in juvenile rainbow trout muscle hyperplasia and hypertrophy over time**

Aliute Nkoyo S. Udoka¹, Niklas Kronlein¹, Logan Griggs¹, Aubrey Schrimsher¹, Susan K. Duckett¹
¹Clemson University

Nonruminant Nutrition I: Dietary Interventions for Intestinal Health

Chair: Eric Weaver, South Dakota State University

1:45 PM - 5:00 PM

Macleod E1

1:45 p.m. 233 **Exploring the Impact of Intrauterine Growth Restriction on fecal microbiota and metabolome in pigs**

Roberta Ruggeri¹, Giuseppe Bee¹, Federico Correa², Paolo Trevisi², Catherine Ollangier¹
¹Agroscope, ²University of Bologna

2:00 p.m. 241 **Impact of benzoic acid supplementation in low-protein diets for starter pigs**

Paulo Azevedo¹, Jose Rodrigo Wever Urzua², Mary A. Crosby³, Alex Outlaw³, Haejin Kim³, Marko Rudar³
¹Auburn University, ²Zamorano University, ³Auburn University

2:15 p.m. 235 **Impact of yeast cell wall and probiotics on gut microbiota, immunity, and growth in weaned piglets.**

Fernando Augusto Souza¹, Melina A. Bonato¹, Soimer Omar Baldera Huamán², Cleandro A. Dias³, Marco Antonio Callegari³, Rafael Humberto Carvalho², Caio Abercio Silva²
¹ICC Animal Nutrition, ²State University of Londrina, ³Akei Animal Research

2:30 p.m. 236 **Increased dietary protein supports key metabolic and intestinal tissue functions in weaned pigs, without increasing gastrointestinal pathogen abundance**

Natalie E. Diether¹, Arun Kommadath², Janelle Fouhse³, Ruurd T. Zijlstra³, Paul Stothard⁴, Benjamin Willing³
¹Dalhousie University, ²Agriculture and Agri-food Canada, ³University of Alberta, ⁴Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta

2:45 p.m. 237 **Increasing the threonine-to-lysine ratio improves the growth performance of slow-growing pigs when fed with precision feeding techniques**

Pedro Righetti Arnaut ¹, Candido Pomar ², Luciano Hauschild ¹, Aline Remus ³
¹São Paulo State University - School of Agricultural and Veterinary Sciences,, ²Agriculture and Agri-Food Canada, ³Agriculture and Agri-Food Canada (AAFC)

3:00 p.m. 238 **Boosting post-weaning piglet's performance and uniformity with yeast extract supplementation**

Fernando Augusto Souza ¹, Melina A. Bonato ¹
¹ICC Animal Nutrition

3:15 p.m. **Nonruminant Nutrition I Break**

3:30 p.m. 239 **Growth performance and gut health indicators of Escherichia coli-challenged weaned pigs fed diets supplemented with Bacillus subtilis or Enterococcus faecium**

Tofuko A. Woyengo ¹, Nuria Canibe ¹, Balachandar Jayaraman ², John K. Htoo ²
¹Department of Animal and Veterinary Sciences, Aarhus University, ²Evonik Operations GmbH

3:45 p.m. 240 **Feed preference of weanling pigs fed diets containing extruded corn ground to different particle sizes**

Caleb M. Marshall ¹, Su A Lee ¹, Hans H. Stein ¹
¹University of Illinois at Urbana-Champaign

4:00 p.m. 244 **Comparative crude protein solubilization in yellow pea and fava bean protein concentrates in a simulated porcine gastric and intestinal digestion model**

Felix M. Njeri ¹, Mai Anh Ton Nu ², Hagen Schulze ³, Elijah Kiarie ¹
¹University of Guelph, ²AB Neo, AB Agri Ltd, ³Livalta/ AB Agri

4:15 p.m. 242 **Awardee Talk: Dietary supplementation of blends of organic acids and monoglycerides alleviated diarrhea and systemic inflammation of weaned pigs experimentally infected with enterotoxigenic Escherichia coli F18**

Sangwoo Park ¹, Ying Chen ², Ross Wolfenden ², Yanhong Liu ¹
¹University of California, Davis, ²Eastman Chemical Company

4:45 p.m. 243 **Sugar beet pulp (SBP) improves feed efficiency in nursery and finisher pigs as compared with wheat bran (WB)**

JYAO GUO ¹, Xule Liu ¹, Yan Zhao ², Apichat Wantanasak ³, Thirayot Srisap ⁴, Gary Stoner ⁴
¹CP Group China, ²Shanxi Agricultural University, ³CP INVESTMENT CO. LTD, ⁴CP Group

Physiology and Endocrinology IV

Chair: Allison Meyer, Division of Animal Sciences, University of Missouri

2:00 PM - 3:00 PM

Telus 101/102

2:00 p.m. 225 **Kidney function and nitrogen excretion in Brown Swiss and Holstein dairy cows**

Evelyne C. C. Kessler¹, Rupert M. M. Bruckmaier², Josef J. Gross¹

¹University of Bern, Vetsuisse Faculty, Veterinary Physiology, ²Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bremgartenstr. 109a, 3001 Bern, Switzerland

2:15 p.m. 226 **Serotonin stimulates relaxation in ovine saphenous vein precontracted with ergovaline**

James L. Klotz¹, Susan K. Duckett², Celina M. Checura²

¹USDA-ARS, FAPRU, ²Clemson University

2:30 p.m. 227 **Moderate body weight loss reduces total antioxidant capacity in pregnant beef heifers and one-carbon metabolite supplementation does not mitigate this response**

Rebecca M. Swanson¹, Mara R. Hirschert¹, Alison Ward², Lawrence P. P. Reynolds¹, Pawel P. P. Borowicz¹, Layla King³, Kathlyn M. Hauxwell¹, Jennifer L. Hurlbert¹, Carl R. Dahlen¹, Joel S. S. Caton¹

¹North Dakota State University, ²University of Saskatchewan, ³University of Minnesota Crookston

2:45 p.m. 228 **Evaluation of sire vs dam influences on age at first parturition in Brahman heifers.**

Caleta Willis¹, Audrey Earnhardt-San², Chloey P. Carson³, Charles R. Long⁴, Thomas H. Welsh⁵, Ronald D. Randel⁶, George A. Perry³

¹Department of Agricultural and Environmental Sciences, Abilene Christian University, Abilene, TX, USA, ²Department of Animal Science, Texas A&M University, College Station, TX, USA, ³Texas A&M AgriLife Research and Extension Center, Overton, TX, ⁴Texas A&M AgriLife Research, ⁵Texas A&M University and AgriLife Research, ⁶Texas A&M AgriLife Research and Extension Center, Overton, TX, USA 75684

Animal Behavior and Well-Being I: Technology

Chair: Brenda Alexander, University of Wyoming

2:00 PM - 3:15 PM

Glen 206

2:00 p.m. 416 Implementation of virtual fencing in heifers for mountain summer grazing

Patricia Fuchs¹, Caren M. Pauler², Manuel K. Schneider², Christina Umstätter³, Christina Rufener⁴, Beat Wechsler⁴, Rupert M. M. Bruckmaier⁵, Massimiliano Probo⁶

¹Graduate School for Cellular and Biomedical Sciences, University of Bern, Mittelstr. 43, 3012 Bern, Switzerland; ²Agroscope, Grazing Systems, Rte de la Tioleyre 4, 1725 Posieux, Switzerland; ³Agroscope, Grazing Systems, Rte de la Tioleyre 4, 1725 Posieux, Switzerland; ⁴Agroscope, Forage Production and Grassland Systems, Reckenholz 191, 8046 Zurich, Switzerland; ⁵Johann Heinrich von Thünen-Institute, Thünen-Institute of Agricultural Technology, Bundesallee 47, 38116 Braunschweig, Germany; ⁶Centre for Proper Housing of Ruminants and Pigs, Federal Food Safety and Veterinary Office FSVO, Agroscope, Tänikon 1, 8356 Ettenhausen, Switzerland; ⁵Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bremgartenstr. 109a, 3001 Bern, Switzerland; ⁶Agroscope, Grazing Systems, Rte de la Tioleyre 4, 1725 Posieux, Switzerland

2:15 p.m. 417 Impact of virtual fence technology on yearling steer behavior and performance

Elias R. Velasquez Moreno¹, Jameson R. Brennan¹, Logan R. Vandermark¹, Krista Ehlert¹, Aletta L. Husmann¹, Hadley Dotts¹, Kenneth Olson¹, Amanda Blair¹, Tong Wang¹, Joshua Leffler¹, Walter Wafula¹, Ira L. Parsons¹, Zachary K. Smith¹, Hector M. Menendez²

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

2:30 p.m. 418 Evaluation of an automated system for measuring individual animal water consumption

Sarah Reilly¹, Keely Carmichael¹, Scott Zimmerman¹, Mike Billars¹, Meredith A. Harrison¹
¹C-Lock Inc.

2:45 p.m. 419 Automated individual animal identification and feeding bunk scoring: A computer vision approach for beef cattle at Calan gate feeding system

Egleu D. M. Mendes¹, Jack Wooley², Yalong Pi², Jian Tao³, Luis O. Tedeschi⁴

¹Department of Animal Science, Texas A&M University, ²Institute of Data Science, Texas A&M University, ³School of Performance, Visualization & Fine Arts, Texas A&M University, ⁴Texas A&M university, department of Animal Science

3:00 p.m. 420 Automated identification and behavioral estrus detection in freestall-housed dairy cows using computer vision and machine learning: A two-layered algorithm approach

Cierra Clayton¹, Abigail Victory¹, Kenneth Graves¹, Allison L. Griffin¹, Christopher Hudson¹, Marcus McGee¹

¹Mississippi State University

Beef Species II: Stress and Management
Chair: Jhones Sarturi, Texas Tech University
2:00 PM - 3:15 PM
Glen 208/209

2:00 p.m. 258 **CANCELED - Administering the maternal bovine appeasing substance improves productivity and health responses of high-risk steers during a 60-d feedlot receiving period**

Autumn Pickett¹, Reinaldo F. Cooke¹, Shea Mackey¹
¹Department of Animal Science, Texas A&M University

2:15 p.m. 259 **CANCELED - Impacts of vaccination or lipopolysaccharide challenge on ruminal and physiological responses in beef cattle**

Reinaldo F. Cooke¹, Autumn Pickett¹, Shea Mackey¹, Mykael Prado², Vinicius N. Gouvêa²

¹Department of Animal Science, Texas A&M University, ²Texas A&M AgriLife Research and Extension Center at Amarillo

2:30 p.m. 260 **Industrial hemp (Cannabis sativa) supplementation improved plasma antioxidant enzymes and stress hormones in beef cattle**

NATHANIEL OGUNKUNLE¹, Monya Simpson², Gamal Eden AbdelRahim², Ernst Cebert², Judith Boateng²

¹Alabama A & M University, ²Alabama A&M University

2:45 p.m. 261 **Vitamin A administration in pregnant cows or newborn calves: growth performance and carcass traits**

Marcio M. Ladeira¹, Jose Maria oliveira Junior¹, Daniel R. Casagrande¹, Sara Salinas¹, Artur Horta¹, Marcela Souza¹, Miguel Dias¹, Paloma Souza¹, Rafael Vale¹

¹Universidade Federal de Lavras

3:00 p.m. 262 **Why are some cows skinny? An evaluation of stress and immune factors.**

Amanda K. Lindholm-Perry¹, Larry A. Kuehn¹, Harvey C. Freetly¹, William T. Oliver¹, Bryan W. Neville¹, Matt S. Crouse¹, Jennifer F. Thorson¹, Jim E. Wells¹, Brittney N. Keel²

¹USDA-ARS, U.S. Meat Animal Research Center, ²USDA-ARS US Meat Animal Research Center

Companion Animal I - Sponsored by Blue Buffalo

Chair: Amanda Dainton, Freshpet
2:00 PM - 4:45 PM
Glen 201/202

2:00 p.m. 289 **In vitro fermentation characteristics of Emulgold™ acacia fiber using canine fecal inoculum**

Vanessa M. De La Guardia-Hidrogo¹, Sofia M. Wilson¹, Elizabeth L. Geary¹, Laura Bauer¹, Ryan N. Dilger¹, Kelly S. Swanson¹

¹University of Illinois Urbana-Champaign

2:15 p.m. 290 **Effects of chicken-based protein source on apparent total tract macronutrient digestibility, palatability, and fecal characteristics, microbiota, and metabolites of healthy adult dogs**

Elizabeth L. Geary ¹, Christina L. Vogel ¹, Patricia M. Oba ¹, Julio Mito ¹, Maria R.C. de Godoy ¹, Kelly S. Swanson ¹

¹University of Illinois Urbana-Champaign

2:30 p.m. 291 **Isoenergetic reduction of dietary macronutrients changes body composition and physical activity in cats, regardless of body condition, when fed to maintenance**

Hannah Godfrey ¹, Erico Ribeiro ¹, Shoshana Verton-Shaw ¹, Anna K. Shoveller ¹, Darcia Kostiuik ², Janelle Kelly ², Jennifer L. Saunders-Blades ², Adronie Verbrugghe ¹

¹University of Guelph, ²Champion Petfoods Holding Inc

2:45 p.m. 292 **In vitro fermentation characteristics of dietary fibers using fecal inocula from dogs treated with metronidazole**

Sara E. Belchik ¹, Patricia M. Oba ¹, Elizabeth L. Geary ¹, Laura Bauer ¹, Ryan N. Dilger ¹, Kelly S. Swanson ¹

¹University of Illinois Urbana-Champaign

3:00 p.m. 293 **Impact of black soldier fly larvae meal in a dry extruded food on nutritional quality and health in adult cats**

Guido Bosch ¹, Bruna Loureiro ², Dirkjan Schokker ¹, Soumya Kar ¹, Nicky Sluczanowski ³

¹Wageningen University & Research, ²Protix, ³Petgood

3:15 p.m. 294 **The use of dried bakery products as an alternative ingredient in dog food**

Larissa Alves Koulicoff ¹, Greg G. Aldrich ¹, Julia Guazzelli Pezzali ¹

¹Kansas State University

3:30 p.m. **Companion Animal I Break**

3:45 p.m. 295 **Synthesis of glycine from trans-4-hydroxy-L-proline in tissues of juvenile hybrid striped bass (*Morone chrysops* x *M. saxatilis*)**

Erin D. Connolly ¹, Blaine Suehs ¹, Karina Hissen ¹, Michael Criscitiello ¹, Delbert Gatlin ¹, Guoyao Wu ¹

¹Texas A&M University

4:00 p.m. 296 **Saccharomyces cerevisiae derived postbiotic modulates inflammatory response and gut microbiota in large breed dogs exposed to endurance exercise and transport stress**

Claire L. Timlin ¹, Fiona B. Mccracken ², Sarah M. Dickerson ¹, Patrick M. Skaggs ¹, Jason W. Fowler ¹, Sangita Jalukar ³, CRAIG N. COON ⁴

¹Four Rivers Kennel, ²Four Rivers Kennel LLC, ³Church & Dwight Co., Inc., ⁴Four Rivers Kennel, LLC

297 Digestibility, blood parameters, and skin barrier function of dogs fed hydrolyzed salmon proteins

Natalia dos Santos Fanelli ¹, Maria Regina Cattai de Godoy ², Julio Mioto ³
¹UIUC, ²University of Illinois, ³University of Illinois Urbana-Champaign

4:30 p.m. **299 Impact of antimicrobial bathing on canine dermal microbiota regrowth**

Dakota Discepolo ¹, Kelly Bender ¹, Cierra N. Crowell ¹, Adrian Watson ², Erin B. Perry ¹
¹Southern Illinois University, ²Royal Canin

CSAS Graduate Student Session II

Chair: Gleise Medeiros da Silva, University of Alberta

2:30 PM - 5:15 PM

Telus 108/109

2:30 p.m. **489 Antibiotic Resistance of cecal Escherichia coli isolates from Lohmann LSL lite pullets and laying hens fed omega-3 fatty acids or yeast bioactives, reared at different spacing allowance**

Paul Kibaba Wali aula ¹, Elijah Kiarie ¹, Moussa Diarra ²
¹University of Guelph, ²Agriculture and Agri-Food Canada

2:45 p.m. **490 Lifetime growth performance and carcass composition of offspring when inactivated Saccharomyces cerevisiae was included in gestating and lactating gilt diets and/or offspring nursery diets**

Brenda Christensen ¹, Hagen Schulze ², Elijah Kiarie ¹, Lee-Anne Huber ³
¹University of Guelph, ²Livalta/ AB Agri, ³University of Guelph - Department of Animal Biosciences (OAC)

3:00 p.m. **491 Processing and stomach pH influenced in vitro gastric protein solubilization kinetics in sunflower meal**

Felix M. Njeri ¹, Mai Anh Ton Nu ², Hagen Schulze ³, Elijah Kiarie ¹
¹University of Guelph, ²AB Neo, AB Agri Ltd, ³Livalta/ AB Agri

3:15 p.m. **492 Effects of particle size and protease supplementation on amino acids digestibility in peas fed to growing pigs**

Alicia Olivo ¹, Jinyoung Lee ¹, Rob Patterson ², C. Martin Nyachoti ¹
¹University of Manitoba, ²CBS Bio Platforms Inc.

3:30 p.m. **493 Predicting pellet quality using multiple linear regression with Principal Component Analysis (PCA)**

Jihao You ¹, Dan Tulpan ¹, Jennifer L. Ellis ¹
¹University of Guelph

3:45 p.m. **CSAS Graduate Student Session II Break**

4:00 p.m. 494 **Long-term effects of canola meal inclusion in gestation and lactation diets on sow and piglet performance over two reproductive cycles**

Xiaoxiao Zhang¹, C. Martin Nyachoti¹

¹University of Manitoba

4:15 p.m. 495 **Comparison of two internal markers and Near Infrared Spectroscopy (NIRS) for predicting nutrient digestibility in beef cattle offered diets varying in forage quantity and quality**

Jenilee F. Peters¹, Mary Lou Swift², Gregory Penner³, H. (Bart) A. Lardner², Tim A. McAllister⁴, Gabriel O. Ribeiro²

¹Trouw Nutrition / University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan, ⁴Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science

4:30 p.m. 496 **Effects of sodium metabisulfite (SMBS) and SMBS-containing lipid microparticles on the performance and intestinal barrier functions of weanling piglets challenged by deoxynivalenol-contaminated diets**

Changning Yu¹, Haoxiang Xu¹, Xiaoya Zhao¹, Fugui Yin², Hai Yu², Joshua Gong², Chengbo Yang¹, Song Liu¹

¹University of Manitoba, ²Agriculture and Agri-Food Canada

4:45 p.m. 498 **Feeding hydroxychloride or organic sources of zinc, copper, and manganese to broiler breeders on growth performance of offsprings when fed hydroxychloride or inorganic sources of the same minerals**

Reza Bakhshalinejad¹, Stephanie Torrey², Elijah Kiarie¹

¹University of Guelph, ²Trouw Nutrition North America

5:00 p.m. 497 **CANCELED - Amylase supplementation influences nutrient digestibility regardless of corn type in broiler chicken diets**

Vivian Vieira¹, Isabella de C. Dias², Marley C. dos Santos², Geovani C. Senger², Filipe A. Moreno², Alex Maiorka², Simone G. de Oliveira³

¹Member of CSAS / Federal University of Parana, ²Federal University of Parana, ³Federal University of Parana

Poster Session VI

2:45 PM - 4:00 PM

Exhibit Hall C

2:45 p.m. PSVI-7 **A transcriptomic analysis of uterine endometrium from beef heifers of divergent fertility status**

Nicholas C. Kertz¹, Priyanka Banerjee², Soren P. Rodning², Paul W. W. Dyce², Wellison Jarles Da Silva Diniz²

¹Texas A&M University, ²Auburn University

2:45 p.m. PSVI-19 **Abundance of some cecal bacteria in Lohmann LSL lite pullets and hens fed omega-3 fatty acids and yeast bioactives in low or high spacing allowance**

Paul Kibaba Waliaula¹, Elijah Kiarie¹, Moussa Diarra²

¹University of Guelph, ²Agriculture and Agri-Food Canada

2:45 p.m. PSVI-16 **An evaluation using a visual health scoring system with vaginal temperatures of newly received feedlot heifers on immune status**

Mackenzie M. Smithyman¹, Mark E. Branine², Consuelo A. Sowers³, Glenn C. Duff¹, Clint A. Loest¹

¹New Mexico State University, ²Zinpro Corporation, ³West Texas A&M University

2:45 p.m. PSVI-18 **Association between residual feed intake and reproductive-related traits in young bulls**

MAURO VENTURINI¹, JOAO de AGOSTINI LOSANO², DANIELLA C. HEREDIA², MARIA C. LOPEZ DUARTE², MAURA MCGRAW², SOHAIL MUHAMMAD², JILLIAN GUERTIN², Nicolas DiLorenzo³, BRADFORD W DAIGNEAULT², Angela M. Gonella-Diaza⁴

¹UNIVERSITY OF FLORIDA, ²UF, ³North Florida Research and Education Center, University of Florida, ⁴University of Florida, North Florida Research and Education Center

2:45 p.m. PSVI-5 **Bacteriophage biocontrol of avian pathogenic Escherichia coli in laying hens do not produce collateral effects on the cecal microbiota**

Mawra Gohar¹, Jenny Hyun¹, Riley Smith¹, Matthew Waldner¹, Nabiha Mehina¹, Trevor Alexander², C. Martin Nyachoti³, John Fairbrother⁴, Faizal Abdul Careem¹, dongyan Niu¹

¹University of Calgary, ²Agriculture and Agri-Food Canada, ³University of Manitoba, ⁴University of Montreal

2:45 p.m. PSVI-12 **Clodronate does not impact bone optical density or lameness in juvenile, exercised Quarter Horses.**

Brittany L. Paris¹, Jessica L. Leatherwood², Thomas H. Welsh³, Kati G. Glass⁴, Carolyn E. Arnold⁵, Matthew B. Conrad⁶, James M. George¹, Rafael E. Martinez², Aimee C. Colbath⁷, Brian D. Nielsen⁸, Amanda N. Bradbery⁶

¹Texas A&M University, ²Tarleton State University, ³Texas A&M University System, ⁴Texas A&M University School of Veterinary Medicine & Biomedical Sciences, ⁵Texas Tech University School of Veterinary Medicine, ⁶Montana State University, ⁷Cornell University Department of Clinical Sciences, ⁸Michigan State University

2:45 p.m. PSVI-30 **Comparative analysis on partial replacement of soybean meal with various plant sources on growth performance, nutrient digestibility, and meat quality in finishing pigs**

Wei Han Zhao¹, Kye Jin Lee¹, In Ho Kim¹

¹Dankook University

2:45 p.m. PSVI-8 **Dietary Fusarium mycotoxin exposure to late gestation and lactating sows does not impact reproductive performance but attenuates the acute phase response**

Kristen Lamers¹, Yuancheng Liu¹, Lee-Anne Huber², Elijah Kiarie¹, Atta Kofi Agyekum³, Niel A. Karrow¹

¹University of Guelph, ²University of Guelph - Department of Animal Biosciences (OAC), ³Trouw Nutrition North America

2:45 p.m. PSVI-23 **Economic potential of field peas as an alternative to corn distillers dried grain with solubles (DDGS) in beef heifer growing diets**

Michael Undi ¹, Jon T. Biermacher ², Kevin K. Sedivec ¹, Timothy Long ¹

¹NDSU, ²Professor of Practice and Extension Livestock Development Specialist

2:45 p.m. PSVI-29 **Effect of pig weight and exogenous enzyme supplementation on ileal endogenous amino acid losses and standardized ileal amino acid digestibility of soybean meal produced from Kentucky-grown soybeans**

Sunday Adedokun ¹, Merlin D. Lindemann ¹, Anthony Pescatore ¹, David L. Harmon ², Duncan B. Paczosa ³

¹University of Kentucky, ²Department of Animal and Food Sciences, University of Kentucky,

³University of Nebraska-Lincoln

2:45 p.m. PSVI-10 **Effects of dietary supplementation of purslane (*Portulaca oleraceae*), prebiotics, and probiotics on breast meat quality of broilers**

Euyeon Noh ¹, Anthony Pokoo-Aikins ², Matthew Jones ³, Samuel N. Mwangi ⁴, Byungrok R. Min ¹

¹University of Maryland Eastern Shore, ²USDA-ARS U.S. National Poultry Research Center,

³Southern Poultry Research Group, ⁴Alcorn State University

2:45 p.m. PSVI-17 **Effects of maternal nutrition during gestation on second parity F2 offspring growth and organ weights**

Cheyenne S. Summers ¹, Amanda S. Reiter ¹, Nicole M. Tillquist ¹, Nicholas M. Barnello ¹, Santhi Priya Voggu ¹, Rachel E. Carter ¹, Mia Y. Kawaida ², Kristen E. Govoni ¹, Steven A. Zinn ¹, Sarah A. Reed ¹

¹University of Connecticut, ²University of Florida

¹University of Connecticut, ²University of Florida

2:45 p.m. PSVI-14 **Effects of poor maternal nutrition during gestation on first generation offspring oxidative status in skeletal muscle**

Amanda S. Reiter ¹, Mia Y. Kawaida ², Nicole M. Tillquist ¹, Brandon I. Smith ¹, Kristen E. Govoni ¹, Steven A. Zinn ¹, Sarah A. Reed ¹

¹University of Connecticut, ²University of Florida

2:45 p.m. PSVI-22 **Effects of supplementation of beef cows during gestation on progeny backgrounding frame size and performance**

Gabrielli da Costa ¹, Ana Pelegrini ², Edmilson Domingues ¹, Mateus P. Gionbelli ¹, Thiago Bernardes ¹

¹Universidade Federal de Lavras, ²University of Lavras, Brazil

2:45 p.m. PSVI-3 **Finishing-based diets degradability of beef cows supplemented with a *Bacillus*-based probiotic.**

Arnaldo Cintra Limede ¹, Rodrigo Marques ¹, Vinicius Alves Cruz ¹, Makayla A. Ogg ², Iorano A. Cidrini ³, Amanda Carolyn Marques de Queiroz ⁴, Fernando Cidrini ¹, Iasmin Farias ¹, Aline Naime Naime Rodrigues ⁵, Alarissa motter ², Bruno Ieda Cappelozza ⁶

¹School of Animal Sciences, Virginia Polytechnic Institute and State University, ²Department of Animal and Range Sciences, Montana State University, ³Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), ⁴Department of Animal Science, São Paulo State University, ⁵Department of Animal Science, Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), Jaboticabal, São Paulo, Brazil, ⁶Novonesis

2:45 p.m. PSVI-24 **Gene expression profiles of granulosa and peripheral white blood cells from fertile and sub-fertile beef heifers**

Priyanka Banerjee ¹, Wellison Jarles Da Silva Diniz ¹, Paul W. W. Dyce ¹

¹Auburn University

2:45 p.m. PSVI-6 **Genomic determinants of the rumen microbiome and metabolome in Angus steers**

Madison T. Henniger ¹, Troy N. Rowan ², Jonathan E. Beever ², Jim E. Wells ³, Larry A. Kuehn ³, Brynn H. Voy ¹, Pierre-Yves Mulon ¹, Joseph Smith ¹, Phillip R. Myer ¹

¹University of Tennessee, ²University of Tennessee - Knoxville, ³USDA-ARS, U.S. Meat Animal Research Center

2:45 p.m. PSVI-15 **Impact of breed composition on hair glucocorticoid levels in beef cattle after extended heat stress**

Camila Santos Rojas ¹, Carly Haimerl ¹, Fahad Rafiq ², Gabriel A. Zayas ², Cristiane Gonçalves Titto ³, Raluca Mateescu ²

¹University of Florida, ²Department of Animal Sciences, University of Florida, ³University of São Paulo

2:45 p.m. PSVI-4 **Impact of rotational ingredient supplements on canine GI health when exposed to rapid dietary change.**

Cierra N. Crowell ¹, Erin B. Perry ¹, Eileen Jenkins ², Daisy Kaplan ¹, Debra Zoran ³, George Moore ⁴, Tracy Darling ⁵, Michael Davis ⁶, Jan S. Suchodolski ⁷

¹Southern Illinois University, ²Veterinary Expert, ³Texas A&M, ⁴Purdue University, ⁵Search Dog Foundation, ⁶Oklahoma State University, ⁷Texas A&M University

2:45 p.m. PSVI-28 **Interactive effects of different fiber and lipid sources on amino acid digestibility in growing pigs**

Jinsu Hong ¹, Saymore Ndou ², Tofuko A. Woyengo ³

¹University of Minnesota, ²Fortified Nutrition Limited, ³Department of Animal and Veterinary Sciences, Aarhus University

2:45 p.m. PSVI-21 **Long-term effects of weaning and feeding strategies during early life on performance of young bulls**

Gabriel Santos Souza David ¹, Bianca Rodrigues Domingos ², Gustavo Henrique Maciel Henrique Maciel Bisio ³, Mateus José Inácio de Abreu ⁴, Mariana da Natividade Ferreira Vital ⁵, Marco de Felício Porcionato ⁶, Gustavo Rezende Siqueira ³, Flávio Dutra de Resende ³

¹Department of Animal Science, Universidade Estadual Paulista “Júlio de Mesquita Filho” (UNESP), Jaboticabal, São Paulo, Brazil, ²Department of Animal Science, Universidade Estadual Paulista “Júlio de Mesquita Filho” (UNESP), Jaboticabal, São Paulo, Brazil,

³Agência Paulista de Tecnologia dos Agronegócios (APTA), Colina, SP, Brazil, ⁴Department of Animal Science, São Paulo State University, ⁵Department of Animal Science, São Paulo State University “Júlio de Mesquita Filho” (UNESP), Jaboticabal, SP, Brazil, ⁶Trouw Nutrition Brazil

2:45 p.m. PSVI-2 **Multigenerational effects of maternal rate of body weight gain on fetal liver miRNA expression**

Muhammad Anas ¹, Alison K. Ward ², Kacie L. McCarthy ³, Pawel P. P. Borowicz ⁴, Lawrence P. P. Reynolds ⁴, Joel S. S. Caton ⁴, Carl R. Dahlen ⁴, Wellison Jarles Da Silva Diniz ⁵

¹NDSU, ²University of Saskatchewan, ³University of Nebraska - Lincoln, ⁴North Dakota State University, ⁵Auburn University

2:45 p.m. PSVI-1 **Supplemented milk replacer improves feed transition of dairy bull-calves**

Oludotun O. Adelusi ¹, David P. Casper ², Uchenna Y. Anele ³

¹North Carolina A&T State University, Greensboro, ²Casper Calf Ranch, Freeport, Illinois, ³North Carolina Agricultural and Technical State University

2:45 p.m. PSVI-20 **Supplementing cows with an organic trace mineral drench at CIDR placement improved artificial insemination pregnancy rates**

Chanda Engel ¹, Jason Russell ², Arturo Gomez ¹, Riccardo Bevilacqua ¹

¹Zinpro Corporation, ²CHR Hansen

2:45 p.m. PSVI-27 **Syntheses of guanidinoacetate and creatine in maternal tissues and placentae of gestating gilts fed diets with or without supplemental creatine**

Erin D. Connolly ¹, Wenliang He ¹, Arianna Lopez ¹, Maddison Olivarez ¹, Joseph Cain ¹, Carli Lefevre ¹, Alex Ross ¹, Gregory Johnson ¹, Fuller Bazer ², Guoyao Wu ¹

¹Texas A&M University, ²Professor

2:45 p.m. PSVI-26 **The benefits of probiotics (*L. plantarum* and *L. acidophilus*) supplement in growth performance, egg production, gas emission and gut microbiome diversity in Hy-Line brown laying hens**

Chai Bin Lim ¹, Sungbo Cho ¹, Youn Jae Jeong ², In Ho Kim ¹

¹Dankook University, ²Dodram Pig Farmer's service Co. Ltd.

2:45 p.m. PSVI-25 **The benefits of probiotics (*L. plantarum* and *L. acidophilus*) supplement in growth, nutrient absorption, gas emission, and gut microbiome diversity in weaning pigs**

Chai Bin Lim ¹, Sungbo Cho ¹, Youn Jae Jeong ², In Ho Kim ¹

¹Dankook University, ²Dodram Pig Farmer's service Co. Ltd.

2:45 p.m. PSVI-11 **Weight distributions of goat kids based on sex and birth types as affected by breeds and turmeric powder inclusion**

Olatunde A. Oderinwale ¹, Bamidele O. Oluwatosin ², Semethon D. Amosu ², Dedewanu P. Toviesi ², Ganiyu O. Sanusi ³, Joel O. Alabi ¹, Oluwafemi M. Kuye ², Oludotun O. Adelusi ¹, Chika C. Anotaeuwe ¹, James M. Enikuomihin ⁴, Ahmed E. Kholif ⁴, Uchenna Y. Anele ⁴

¹North Carolina A&T State University, Greensboro, ²Federal University of Agriculture Abeokuta, Nigeria, ³Edo State College of Agriculture and Natural Resources, ⁴North Carolina Agricultural and Technical State University

2:45 p.m. PSVI-13 **Yield and quality of conventional and reduced lignin alfalfa harvested at different maturity stages in the Southeast United States**

Manuel Pena ¹, Cesar Velasquez ², Kailin Hawes ³, Matias J. Aguerre ⁴

¹Clemson University, ²Grad Student, ³Undergraduate Student, ⁴Assistant Professor

Physiology and Endocrinology V

Chair: Joshua McCann, University of Illinois Urbana-Champaign

3:15 PM - 4:30 PM

Telus 101/102

3:15 p.m. 229 **Awardee Talk: The quest for an ideal in-field embryo evaluation tool in cattle: Opportunities and challenges**

Matthew B. Wheeler ¹

¹University of Illinois at Urbana-Champaign

3:45 p.m. 230 **The relationship between hormone status and the metabolism of androstenone and skatole in isolated porcine hepatocytes**

Christine Bone ¹, E. James Squires ¹

¹University of Guelph

4:00 p.m. 231 **Ovarian follicle diameter and corpus luteum volume of beef cows enrolled in fixed-time artificial insemination while receiving chromium propionate supplementation**

Trinity Vidlund ¹, John Currin ², Sherrie Clark ², Jamie L. Stewart ², Hannah Craun ³, Camille Mitchell ³, Bailey Wolpert ², Tracey Redifer ², Vitor RG Mercadante ⁴

¹Virginia Tech, ²Virginia Tech - VAMD College of Veterinary Medicine, ³Virginia Tech - School of Animal Sciences, ⁴Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences

4:15 p.m. 232 **Influence of melatonin supplementation on uterine and coccygeal artery hemodynamics of pregnant multiparous crossbred beef cows grazing endophyte-infected tall fescue**

Miriam A. Snider ¹, Timothy C. Culp ², Carson R. Hopkins ², Nathaniel T. Moss ³, J. Lannett Edwards ⁴, Charles R. Looney ², Jeremy G. Powell ², Elizabeth B. Kegley ², Ken P. Coffey ², M. Shane Gadberry ³, Caleb O. Lemley ⁵, Brittini P. Littlejohn ²

¹University of Arkansas System Division of Agriculture, ²University of Arkansas System, Division of Agriculture, Department of Animal Science, ³University of Arkansas System, Division of Agriculture, Livestock and Forestry Research Station, ⁴Department of Animal Science, University of Tennessee, Institute of Agriculture, ⁵Department of Animal and Dairy Sciences, College of Agriculture and Life Sciences, Mississippi State University

Animal Health I

Chair: Holly Neibergs, Washington State University

3:30 PM - 4:45 PM

Glen 206

3:30 p.m. 273 **Toxicokinetic approach to measure the efficacy of a mycotoxin deactivator against aflatoxin B1 and zearalenone in pigs**

Damien P. Preveraud ¹, Nathan Broekaert ², Mathias Devreese ², Siska Croubels ²

¹Adisseo, ²Ghent University

3:45 p.m. 274 **Evaluation of recombinant Capripoxvirus antigens in the development of Indirect Enzyme Linked Immunosorbent Assays**

Mahder Teffera ¹, Shawn Babiuk ¹

¹National Centre for Foreign Animal Disease

4:00 p.m. 275 **Frequency of chronic passive congestive livers at harvest in the Texas Panhandle and the association with carcass outcomes**

Megan E. Eckhardt ¹, Ty Lawrence ¹, Loni W. Lucher ¹, Trent Schwartz ¹

¹West Texas A&M University

4:15 p.m. 276 **Use of triaxial accelerometers and a machine learning algorithm for behavioural identification to assess the effectiveness of a joint supplement in old domestic cats (*Felis catus*)**

Yuting Liu ¹, Michelle Smit ¹, Christopher Andrews ¹, Rene Corner-Thomas ¹, Ina Draganova ¹, David G. Thomas ¹

¹Massey University

4:30 p.m. 277 **Estimating the potential effect of *Mycoplasma hyopneumoniae* infection on swine sustainability.**

Shelby Krebs ¹, Maria Pieters ¹, Mark Schwartz ¹, Pedro E. Urriola ²

¹University of Minnesota College of Veterinary Medicine, ²University of Minnesota College of Food, Agricultural and Natural Resource Sciences

Beef Species III: Nutrition and Precision Livestock Management

Chair: Jhones Sarturi, Texas Tech University

3:30 PM - 5:00 PM

Glen 208/209

3:30 p.m. 263 **Public perspectives of calf handling: A survey of Canadians**

Christy Goldhawk ¹, Cindy Adams ¹, Edmond A. Pajor ²

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

3:45 p.m. 264 **Dakota Feeder Calf Show: Twenty-two years of producer retained ownership at NDSU**

Colin T. Tobin ¹, Karl F. Hoppe ¹

¹North Dakota State University

4:00 p.m. 265 **Factors influencing greenhouse gas measurements in beef cattle: Understanding GreenFeed results**

Pablo Guarnido-Lopez ¹, Hector M. Menendez ², Luis O. Tedeschi ³

¹Texas A&M university, ²South Dakota State University, Department of Animal Science,

³Texas A&M university, department of Animal Science

4:15 p.m. 266 **Breed differences in feeding behaviour measured by two remote monitoring technologies in feedlot steers**

Madison ME Luke ¹, Jillian EM Burgess ¹, Luciano A. Gonzalez ¹

¹The University of Sydney

4:30 p.m. 267 **Comparison of methods to process remotely collected body weight in feedlot steers**

Luciano A. Gonzalez ¹, Jillian EM Burgess ¹, Milad Bagheri Shirvan ¹

¹The University of Sydney

4:45 p.m. 268 **Assessment of antimicrobial exposure on generic Escherichia coli and Enterococcus spp. concentration, prevalence, and resistance to antimicrobials in beef cattle raised with or without antimicrobials**

Colten W. Dornbach ¹, Jim E. Wells ², Rand R. Broadway ³, Kristin E. Hales ¹

¹Texas Tech University, ²USDA-ARS, U.S. Meat Animal Research Center, ³Livestock Issues Research Unit

WSASAS Graduate Student Oral Competition

Chair: Brenda Alexander, University of Wyoming

3:45 PM - 5:15 PM

Glen 203/204

3:45 p.m. 140 **Effects of ω -3 PUFA supplementation during late gestation to first-calf beef heifers on physiological and performance responses of offspring.**

Vinicius Alves Cruz ¹, Rodrigo Marques ¹, Makayla A. Ogg ², Iorrano A. Cidrini ³, Keuven Nascimento ², Arnaldo Cintra Limede ¹, Sarah McCoski ², Christian Posbergh ², Amanda N. Bradbery ⁴, Vitor RG Mercadante ⁵, Kelsey M. Harvey ⁶, Juan Cordero ⁶, Reinaldo F. Cooke ⁷

¹School of Animal Sciences, Virginia Polytechnic Institute and State University, ²Department of Animal and Range Sciences, Montana State University, ³Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), ⁴Montana State University, ⁵Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences, ⁶Prairie Research Unit, Mississippi State University, ⁷Department of Animal Science, Texas A&M University

4:00 p.m. 284 **The influence of growth promoting implants at weaning with different supplementations levels on growth performance and ovarian parameters in developing beef heifers**

Taylor N. Andrews ¹, Eric J. Scholljegerdes ¹, George A. Perry ², Shad H. Cox ³, Richard L. Dunlap ³, Joyce Anne Cooper ¹, Clayton Bedke ¹, Kristie L. Gallacher ¹, Adam F. Summers ¹

¹New Mexico State University, ²Texas A&M AgriLife Research and Extension Center, Overton, TX, ³Corona Range and Livestock Research Center

4:15 p.m. 285 **The effect of repeated lipopolysaccharide endotoxin challenge on immune response of breeding ewes**

Molly M. Austin¹, Jeffrey Dominguez Arellanes¹, Yulianna Salas¹, Sergio A. Soto-Navarro², Craig A. Gifford¹, Jennifer A. Gifford¹

¹New Mexico State University, ²Department of Animal and Range Sciences; New Mexico State University

4:30 p.m. 286 **Impact of rate of overwinter gain in March-born yearling range heifers on growth rates and reproductive performance**

Josie Crouch¹, Travis Mulliniks², Jacki A. Musgrave³, Kacie L. McCarthy⁴

¹University of Nebraska- Lincoln, ²Oregon State University, ³University of Nebraska,

⁴University of Nebraska - Lincoln

4:45 p.m. 287 **Effects of crude glycerin supplementation of beef cattle grazing wheat pasture on forage intake and characteristics of rumen fermentation**

Naomi Lucero¹, Sergio A. Soto-Navarro², Sara E. Campa-Madrid², Vinicio Carrera³, Kate E. Ropp²

¹New Mexico State University, ²Department of Animal and Range Sciences; New Mexico State University, ³Department of Animal and Range Science; New Mexico State University

5:00 p.m. 288 **Maternal fatty acid supplementation and its impact on dam and offspring performance.**

Rodrigo Marques¹, Makayla A. Ogg², Vinicius Alves Cruz¹, Iorrano A. Cidrini³, Keuven Nascimento², Arnaldo Cintra Limede¹, Amanda Carolyn Marques de Queiroz⁴, Sarah McCoski², Christian Posbergh², Vitor RG Mercadante⁵, Kelsey M. Harvey⁶, Juan Cordero⁶, Tom W. Geary⁷

¹School of Animal Sciences, Virginia Polytechnic Institute and State University, ²Department of Animal and Range Sciences, Montana State University, ³Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), ⁴Department of Animal Science, São Paulo State University, ⁵Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences, ⁶Prairie Research Unit, Mississippi State University, ⁷USDA-ARS, Fort Keogh Livestock and Range Research Laboratory

Poster Session VII

4:15 PM - 5:15 PM

Exhibit Hall C

4:15 p.m. PSVII-4 **A novel deletion in exon 3 of the myostatin (MSTN) gene is identified in a Raramuri criollo cattle herd**

Felipe A. RODRÍGUEZ-ALMEIDA¹, Adriana FLORIANO-LÓPEZ¹, JOSE A A. MARTINEZ-QUINTANA², Ana M A. Sifuentes-Rincón³, MONSERRATH FELIX-PORTILLO⁴, Francisco Joel Jahuey-Martínez¹, Jesús Sandoval-Villalobos¹, Gilberto Ruiz-de la Cruz³

¹Universidad Autónoma de Chihuahua, ²Universidad Autónoma de Chihuahua, Facultad de Zootecnia y Ecología, ³Instituto Politécnico Nacional, ⁴AUTONOMOUS UNIVERSITY OF CHIHUAHUA

4:15 p.m. PSVII-22 **Age-related transcriptome changes associated with beef quality in longissimus thoracis muscle of Hanwoo steer**

Sang Yeob Kim ¹, Jaesung Lee ², Myunggi Baik ¹

¹Seoul National University, ²College of Agriculture and Life Sciences, Seoul National University

4:15 p.m. PSVII-25 **Contributions to bacterial diversity of the piglet pioneer microbiome**

Dallas R. Soffa ¹, Landon Eldridge ², Kyle J. Hickman-Brown ¹, Brooke McAnally ¹, Molly S. Smith ³, Jeffrey Wiegert ¹, Rebecca K. Poole ¹

¹Texas A&M University, ²University of Wyoming, ³University of Georgia

4:15 p.m. PSVII-23 **Discriminating meat from different Canadian cattle feeding systems by visible and near-infrared spectroscopy**

Sara León-Ecay ¹, Oscar Lopez-Campos ², Ainara López-Maestresalas ¹, Kizkitza Insausti ¹, Bryden Schmidt ², Nuria Prieto ²

¹Universidad Pública de Navarra, Campus de Arrosadia, 31006 Pamplona, Spain,

²Agriculture and Agri-Food Canada, Lacombe Research and Development Centre

4:15 p.m. PSVII-18 **Effect of chaya leaf (*Cnidoscolus chayamansa*) on the physicochemical properties and sensory attributes of beef patties**

Edgar F. Peña Torres ¹, Asahel Benitez Hernández ², Nissa Torres Soto ³, Omar Aristeo Peña Morán ³, Litzia Christell Ceron Romero ³

¹Universidad del Caribe, ²Universidad Autónoma de Sinaloa, ³Universidad Autónoma del Estado de Quintana Roo

4:15 p.m. PSVII-20 **Effect of starch content in the concentrate of finishing bison on meat nutritional composition, quality, and palatability**

Nuria Prieto ¹, Oscar Lopez-Campos ¹, Gregory B. Penner ², Gabriel O. Ribeiro ³, Maite de Almeida ⁴, Diego Moya ⁵

¹Agriculture and Agri-Food Canada, Lacombe Research and Development Centre,

²Department of Animal and Poultry Science, University of Saskatchewan, Editor-in-chief

Canadian Journal of Animal Science, ³Department of Animal and Poultry Science, University

of Saskatchewan, ⁴Western College of Veterinary Medicine, University of Saskatchewan,

⁵Western College of Veterinary Medicine, University of Saskatchewan.

4:15 p.m. PSVII-24 **Effectiveness of hot water knife sanitation practices during beef dressing processes**

Xianqin Yang ¹, Frances Tran ¹, Prakriti Chhabra ², Zane Platter ³, Travis C. Tennant ³, Tyson Brown ⁴, Ty E. Lawrence ³

¹Agriculture and Agri-Food Canada, ²Agriculture & Agri-Food Canada, ³West Texas A&M University, ⁴Cargill Inc.

4:15 p.m. PSVII-19 **Effects of silage particle size on beef quality and muscle lipogenesis of finishing Nelore heifers**

Marcio M. Ladeira ¹, Ruth Hancco ¹, Thiago Bernardes ¹, Lorena Figueredo ¹, Marcela Souza ¹, Priscilla Teixeira ¹, Jose Maria oliveira Junior ¹, Gabrielli Costa ¹

¹Universidade Federal de Lavras

4:15 p.m. PSVII-2 **Estimated proportions of *Bos taurus* and *Bos indicus* admixture in Mashona and Tuli, ancient composites from Zimbabwe**

Ashley Ling¹, El Hamidi Hay¹, Emily G. Hayes², Richard Browning, Jr.², Harvey D. Blackburn¹

¹USDA ARS, ²Tennessee State University

4:15 p.m. PSVII-6 **Gender Prediction in Hanwoo Cattle Using Custom SNP Arrays**

Ha-Seung Seong¹, Mina Park¹, Chung-Il Cho², Seung-Soo Lee¹, Chang-Gwon Dang¹, Jae-Gu Lee¹, Jaebeom Cha¹, Sang-Min Lee¹, Mahboob Alam¹

¹Rural Development Administration, National Institute of Animal Science, ²Hanwoo Genetic Improvement Center, NongHyup Agribusiness Group Inc.

4:15 p.m. PSVII-11 **Genetic parameter estimates for lamb survival in prolific and nonprolific ewes**

Sirlene F. Lazaro¹, Hinayah R. Oliveira², Flávio S. Schenkel¹

¹University of Guelph, ²Purdue University

4:15 p.m. PSVII-3 **Genome-wide association study for first-lactation fertility traits in dairy cattle**

Desiree Seto¹, Kevin Chen¹, Fernando Campos², Dan Peterson², Mehdi Sargolzaei³, Paul Anderson², Mohammed Abo-Ismael²

¹Animal Science Dept, California Polytechnic State University, ²Department of Animal Science, California Polytechnic State University, ³Department of Pathobiology, University of Guelph

4:15 p.m. PSVII-10 **Genome-wide discovery and characterization of short interspersed nuclear elements (SINEs) in the bovine genome**

Naisu Yang¹, Mengqi Wang², Faith A. Omonijo², Chengyi Song³, Antony T. Vincent¹, Eveline M. Ibeagha-Awemu²

¹Département des sciences animales, Université Laval, ²Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada, ³Yangzhou University

4:15 p.m. PSVII-5 **Heat shock protein 70 gene expression and association with morphometric and heat tolerance traits in three plumage colours of Noiler chicken exposed to acute heat stress.**

Folasade O. Ajayi¹, Victor C. Elechi¹, Victor C. Maduabuchi¹, Samuel Kusimi¹, Esther O. Oshifade¹

¹University of Port Harcourt

4:15 p.m. PSVII-21 **Impact of low voltage electrical stimulation applied to longissimus thoracis et lumborum and semitendinosus on meat quality and palatability**

Oscar Lopez-Campos¹, Patricia L.A. Leighton¹, Brady Chabot¹, Haley R. Scott¹, Sophie Zawadski¹, Nuria Prieto¹

¹Agriculture and Agri-Food Canada, Lacombe Research and Development Centre

4:15 p.m. PSVII-9 **Improvement of feed efficiency in Korean Hanwoo cattle: investigation of feed intake and analysis of Residual feed intake (RFI)**

Mina Park ¹, Ha-Seung Seong ¹, Jeong-II Won ¹, Seung-Soo Lee ¹, Chang-Gwon Dang ¹, Jae-Gu Lee ¹, Jaebeom Cha ¹, Sang-Min Lee ¹, Mahboob Alam ¹

¹Rural Development Administration, National Institute of Animal Science

4:15 p.m. PSVII-14 **Influence of dam parity and weaning strategy in previous lactation on feedlot performance of Nellore steers**

Matheus Carlis ¹, Gabriela Abitante ², Thiago K. Nishimura ², Vitória T. L. Rozin ², Miguel H. H.A. Santana ², Arlindo S. Netto ², Guilherme Pugliesi ², German D. D. Ramirez-Zamudio ³, Carl R. Dahlen ⁴, Saulo L. Silva ², Paulo R. Leme ², Rodrigo S. Goulart ²

¹University of São Paulo (USP)/North Dakota State University (NDSU), ²University of São Paulo, ³University of São Paulo/North Dakota State University, ⁴North Dakota State University

4:15 p.m. PSVII-13 **Influence of early maternal gestational weight gain on liver gene expression across generations in offspring**

German D. Ramirez-zamudio ¹, Carl R. Dahlen ¹, Friederike Baumgaertner ¹, Ana Clara B. Menezes ², Jennifer L. Hurlbert ¹, Kerri A. Bochantin-Winders ¹, Sarah R. R. Underdahl ¹, Kacie L. McCarthy ³, Lawrence P. P. Reynolds ¹, Alison K. Ward ⁴, Pawel P. P. Borowicz ¹, Kevin K. Sedivec ⁵, Joel S. S. Caton ¹, Wellison Jarles Da Silva Diniz ⁶

¹North Dakota State University, ²South Dakota State University, ³University of Nebraska - Lincoln, ⁴University of Saskatchewan, ⁵NDSU, ⁶Auburn University

4:15 p.m. PSVII-29 **Integrating hybrid rye into organic pig production to reduce feed and bedding costs**

Yuzhi Li ¹, Megan Kavanagh ², Gabriella Lima ², Adrienne Hilbrands ¹, William Lazarus ³, Diane DeWitte ⁴, Lee J. Johnston ¹

¹West Central Research and Outreach Center, University of Minnesota, ²Department of Animal Science, University of Minnesota, ³Department of Applied Economics, University of Minnesota, ⁴University of Minnesota Extension

4:15 p.m. PSVII-15 **Interaction of supplemental rumen-protected lysine and methionine, and ractopamine-hydrochloride on cattle growth performance and carcass characteristics of finishing calf-fed Holstein steers**

Pedro H V Carvalho ¹, Brooke C. Latack ², Cesar Veaslquez ³, Gustavo A B Moura ⁴, Richard A A. Zinn ⁵

¹AgNext.CSU, ²Cooperative Extension, Division of Agriculture and Natural Resources, University of California, ³AgNext - Colorado State University, ⁴UNESP-Jaboticabal, ⁵Department of Animal Science, University of California, Davis

4:15 p.m. PSVII-26 **Metaproteomic assessment of pre- and post-wean pigs reveals the microbial protein dynamics involved in amino acid biosynthesis.**

Israel Rivera ¹, KaLynn Harlow ², Robert N. Cole ³, Robert O'Meally ³, Wesley Garret ⁴, Weili Xiong ⁵, William T. Oliver ⁶, Jim E. Wells ⁶, Katie Summers ¹, Olga Postnikova ¹, Cary P. Davies ¹

¹USDA-ARS, ²ORISE at USDA-ARS, ³Department of Biological Chemistry, School of Medicine, Johns Hopkins University, ⁴Animal Biosciences and Biotechnology Laboratory, Beltsville Agricultural Research Center, Agricultural Research Service, United States Department of Agriculture, ⁵U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, ⁶USDA-ARS, U.S. Meat Animal Research Center

4:15 p.m. PSVII-27 **Nasal surface temperature variation before, during and after routine interventions**

James Taylor ¹, Christina Mulvenna ², Adriana Domínguez-Oliva ³, Daniel Mote-Rojas ³, Ismael Hernández-Ávalos ⁴, Ramon Muns ¹

¹AFBI, ²Agri-food and Biosciences Institute, ³Universidad Autónoma Metropolitana, ⁴Universidad Nacional Autónoma de México

4:15 p.m. PSVII-7 **Putative epigenetic regulating fatty acids content in muscle of Nelore cattle**

Juliana Afonso ¹, Tainã Figueiredo Cardoso ¹, Jennifer Jéssica Bruscardin ², Andressa Oliveira de Lima ³, Wellison Jarles Da Silva Diniz ⁴, Gerson Barreto Mourao ⁵, Aline Silve Mello Cesar ⁶, Adhemar Zerlotini ⁷, Luiz Lehmann Coutinho ⁸, Marina R. S. Fortes ⁹, Luciana Correia de Almeida Regitano ¹

¹Brazilian Agricultural Research Corporation - Embrapa Southeastern Livestock, ²Federal University of São Carlos - Center of Biological and Health Sciences, ³Department of Genome Sciences, University of Washington, ⁴Auburn University, ⁵Department of Animal Science (ESALQ), University of São Paulo, Piracicaba, Brazil, ⁶Faculty of Animal Science and Food Engineering (FZEA), University of São Paulo, Pirassununga, Brazil, ⁷Bioinformatic Multi-User Laboratory, Embrapa Informática Agropecuária, Campinas, São Paulo, Brazil, ⁸Luiz de Queiroz College of Agriculture | University of São Paulo (ESALQ/USP), ⁹School of Chemistry and Molecular Biosciences, The University of Queensland, Brisbane, Australia

4:15 p.m. PSVII-16 **Recombinant bovine lactoferrin expressed in Schizochytrium sp. alleviates inflammation and oxidative damage in Calf Intestinal Epithelial Cells**

Yingkun Zhu ¹, Kieran Meade ², Dengpan Bu ³, Lu Ma ³

¹Chinese Academy of Agricultural Sciences, ²School of Agriculture & Food Science, University College Dublin, ³State Key Laboratory of Animal Nutrition and Feeding, Institute of Animal Science, Chinese Academy of Agricultural Sciences

4:15 p.m. PSVII-8 **Survival analyses of the productive life in U.S. Katahdin ewes**

Luis F. B. Pinto ¹, Ronald M. Lewis ², Artur O. Rocha ¹, Sara M. Nilson ², Tom W. Murphy ³, Carrie S. Wilson ⁴, Brad A. Freking ⁵, Joan M. Burke ⁶, Luiz F. Brito ⁷

¹Purdue University, ²University of Nebraska - Lincoln, ³USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, ⁴USDA-ARS-RSPER, ⁵USDA, ARS, USMARC, ⁶USDA, ARS, Dale Bumpers Small Farms Research Center, ⁷Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA

4:15 p.m. PSVII-17 **The effects of gamma-aminobutyric acid on growth performance, antioxidant capacity, rumen fermentation, and diarrhea in newborn calves before weaning**

Yutong Zhang ¹, Yi Yang ¹, Dengpan Bu ¹, Lu Ma ¹

¹State Key Laboratory of Animal Nutrition and Feeding, Institute of Animal Science, Chinese Academy of Agricultural Sciences

4:15 p.m. PSVII-12 **The Investigation of Depot-specific Adipogenesis and Lipogenesis in Bottle-fed Ram Lambs**

Aliute Nkoyo S. Udoka ¹, Lydia Owens ¹, Susan K. Duckett ¹

¹Clemson University

4:15 p.m. PSVII-28 **Unraveling the mechanisms governing boar semen quality during chilled storage**

Serge L. Kameni ¹, Notsile H. Dlamini ¹, Jean M.N. Feugang ¹

¹Mississippi State University

4:15 p.m. PSVII-1 **Widespread Allele-specific expression across tissues and cells of the chicken genome.**

Andressa Oliveira de Lima ¹, Theros T. Ng ², Yvonne Drechsler ², R. David Hawkins ¹

¹Department of Genome Sciences, University of Washington, ²College of Veterinary Medicine Western University of Health Sciences

4:15 p.m. PSVII-30 **Winter-feeding high concentrate diets reduces enteric methane emissions pre-calving in beef cows**

Megan A. Wehrbein ¹, Elias Velasquez Moreno ¹, Hector M. Menendez ², Warren C. Rusche ¹, Zachary K. Smith ¹, Ana Clara B. Menezes ¹

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

Wednesday, July 24, 2024

Poster Session VIII

7:00 AM - 8:15 AM

Exhibit Hall C

7:00 a.m. PSVIII-28 **A Comparative Analysis on Student Learning Using DNA Barcoding in Undergraduate Biology Courses**

Helen Craig ¹, Jenna Kraemer ¹, Bill Lamp ¹

¹University of Maryland

7:00 a.m. PSVIII-17 **A comparison of a monoculture barley crop to a barley-based complex mixture on forage yield, quality, dry matter intake, enteric methane emissions and growth performance of pregnant yearling heifers.**

Brittany Schreiner ¹, Gabriel O. Ribeiro ², H. (Bart) A. Lardner ², Gregory B. Penner ³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³Department of Animal and Poultry Science, University of Saskatchewan, Editor-in-chief Canadian Journal of Animal Science

7:00 a.m. PSVIII-13 **A comparison of biochar and activated charcoal as feed additives to prevent boar taint**

Melissa Parent ¹, Christine Bone ¹, E. James Squires ¹

¹University of Guelph

7:00 a.m. PSVIII-19 **Assessing methane and carbon dioxide production in beef cows across diverse foraging conditions**

Amir Behrouzi ¹, Hailey Bolen ², Francisco José de Novais ¹, John A. Basarab ¹, Edward bork ¹, Carolyn J. Fitzsimmons ³

¹Department of Agriculture, Food and Nutritional Science, University of Alberta, ²Agriculture and Agri-Food Canada, ³University of Alberta

7:00 a.m. PSVIII-30 **Assessing writing and visual models as a pedagogical strategy for creating individual learning paths in animal nutrition**

Madeline E. Rivera ¹, Tryon A. Wickersham ², Christopher M. Quick ², Kathrin A. Dunlap ², Luis O. Tedeschi ³

¹Texas A&M University/ Berry College, ²Texas A&M University, ³Texas A&M university, department of Animal Science

7:00 a.m. PSVIII-23 **Attenuation of oxidative stress and inflammatory response improves gut integrity in piglets after infection**

Shunshun Jin ¹, Haoxiang Xu ¹, Joshua Gong ², Chengbo Yang ¹, Karmin O ¹

¹University of Manitoba, ²Agriculture and Agri-Food Canada

7:00 a.m. PSVIII-24 **Backgrounding carryover nutritional effects on nitrogen metabolism and water requirements onto grain or forage-fed finished cattle**

Aghata Elins Moreira da Silva ¹, Arturo Macias Franco ², Gleise Medeiros da Silva ³, Mozart A. Fonseca ⁴

¹Auburn University, ²University of Alberta Edmonton, ³University of Alberta, ⁴Department of Agriculture, Nutrition and Veterinary Sciences, University of Nevada

7:00 a.m. PSVIII-18 **Chemical composition of residual yolk in response to feeding broiler breeders hydroxychloride or organic sources of zinc, copper, and manganese from 42 to 63 weeks of age**

Reza Bakhshalinejad ¹, Stephanie Torrey ², Elijah Kiarie ¹

¹University of Guelph, ²Trouw Nutrition North America

7:00 a.m. PSVIII-11 **Cold stress responses in beef heifers with divergent residual feed intake**

Maria Camila Londono-Mendez ¹, Sergio David Lasso-Ramirez ¹, Carolyn J. Fitzsimmons ¹, Graham Plastow ², Edward bork ³, John A. Basarab ³, Gleise Medeiros da Silva ¹

¹University of Alberta, ²Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, ³Department of Agriculture, Food and Nutritional Science, University of Alberta

7:00 a.m. PSVIII-6 **Effect of adding plant extracted saponin (PES) on accumulative gas production kinetics and methane emission of the prairie blend pelleted feed products in ruminant system**

Taufiq Hidayat¹, María E. Rodríguez Espinosa¹, Rex N. Newkirk¹, H. (Bart) A. Lardner², Peiqiang Yu³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan, ASAS, CSAS, ADSA

7:00 a.m. PSVIII-9 **Effects of growth implants and timing of vaccination on calf immunity and growth performance**

Sergio David Lasso-Ramirez¹, H. (Bart) A. Lardner², Maria Camila Londono-Mendez¹, Vanesa Ramirez-Sepulveda¹, Gleise Medeiros da Silva¹

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

7:00 a.m. PSVIII-2 **Effects of post-ruminal yeast cell wall extract on DMI, gastrointestinal fermentation and permeability, and concentrations of white blood cell types in beef heifers exposed to feed restriction**

Wyatt D. Armes¹, Clothilde Villot², Eric Chevaux², Philip Griebel³, Natacha Hogan¹, Timothy Mutsvangwa¹, Gregory B. Penner⁴

¹Department of Animal and Poultry Science, University of Saskatchewan, ²Lallemand SAS, ³Vaccine and Infectious Disease Organization, University of Saskatchewan, ⁴Department of Animal and Poultry Science, University of Saskatchewan, Editor-in-chief Canadian Journal of Animal Science

7:00 a.m. PSVIII-27 **FAO-Honduras: Training producers and technicians in sheep management practices to enhance extension capabilities and strengthen food security concepts among college students**

Abner A. Rodriguez¹, Alicia Barriga¹, Hector Cuestas², John Fernandez¹

¹University of Puerto Rico, Mayaguez Campus, ²FAO-Honduras

7:00 a.m. PSVIII-10 **Genetic parameter estimates of postmortem muscle activity in purebred male turkeys (Meleagris gallopovo)**

Emily M. Lomas¹, Ricarda E. Jahnle¹, Bayode O. Makanjuola², Ryley J. Vanderhout³, Owen W. Willems³, Shai Barbut¹, Benjamin Wood⁴, Christine F. Baes², Emily M. Leishman¹

¹University of Guelph, ²Centre for Genetic Improvement of Livestock, University of Guelph, ³Hybrid Turkeys, ⁴University of Queensland

7:00 a.m. PSVIII-22 **Genome-wide association studies for immune response and resilience to aleutian disease in mink**

Guoyu Hu¹, Duy Ngoc Do¹, Ghader Manafiazar², Alyson A. Ann Kelvin³, Mehdi Sargolzaei⁴, Graham Plastow⁵, Zhiqian Wang⁵, Younes Miar²

¹Department of Animal Science and Aquaculture, Dalhousie University, ²Dalhousie University, ³Vaccine and Infectious Disease Organization (VIDO), University of Saskatchewan, ⁴Department of Pathobiology, University of Guelph, ⁵Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta

7:00 a.m. PSVIII-20 **Identification of functional INDELS responsible for alternative splicing in acute stress responders grazing sheep exposed to gastrointestinal nematode infection**

Samla M F Cunha ¹, Flávio S. Schenkel ², Bonnie Mallard ³, Niel A. Karrow ², Ángela Cánovas ⁴

¹University of Guelph, Department of Animal Biosciences, Centre for Genetic Improvement of Livestock, ²University of Guelph, ³University of Guelph, Ontario Veterinary College, ⁴University of Guelph, Centre for Genetic Improvement of Livestock

7:00 a.m. PSVIII-1 **Identifying factors associated with the incidence of tibial dyschondroplasia in poultry**

Seyedehbaran Amini ¹, Ricarda E. Jahnel ¹, Bayode O. Makanjuola ², Xuechen Bai ³, Owen W. Willems ³, Jennifer L. Ellis ¹, Christine F. Baes ², Emily M. Leishman ¹

¹University of Guelph, ²Centre for Genetic Improvement of Livestock, University of Guelph, ³Hybrid Turkeys

7:00 a.m. PSVIII-15 **Inoculating suckling beef calves with a bovine-derived blend of Lactobacillus spp. exhibited psychobiotic potential for stress mitigation**

Vanesa Ramirez-Sepulveda ¹, Sergio David Lasso-Ramirez ¹, Maria Camila Londono-Mendez ¹, Tim A. McAllister ², Karen S. Schwartzkopf-Genswein ³, Maria Ceballos ⁴, Nilusha Malmuthuge ³, Leluo Guan ⁵, Gleise Medeiros da Silva ¹

¹University of Alberta, ²Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ³Agriculture and Agri-Food Canada, ⁴University of Calgary, ⁵Faculty of Land and Food Systems, The University of British Columbia

7:00 a.m. PSVIII-21 **Meta-analysis of nutritive factors influencing mean retention time of digesta in the gastrointestinal tract of broiler chickens**

Grace Hong ¹, Emily M. Leishman ¹, Elijah Kiarie ¹, Jennifer L. Ellis ¹

¹University of Guelph

7:00 a.m. PSVIII-12 **Nutrient Digestibility, Production Performance, and Eggshell Calcium and Phosphorus Levels of White Leghorn Hens Fed Ahiflower Press Cake and Micronized Seed**

Roseline Ogory ¹, Deborah e Adewole ¹

¹University of Saskatchewan

7:00 a.m. PSVIII-4 **Physiochemical and nutrient profile study: Effect of oat varieties and types (feed type vs. milling type)**

Ganqi Deng ¹, David Christensen ¹, H. (Bart) A. Lardner ², Peiqiang Yu ³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, ³University of Saskatchewan, ASAS, CSAS, ADSA

7:00 a.m. PSVIII-26 **The effect of consuming red clover pasture and beneficial fatty acid supplements on ram lamb seminiferous tubule microscopic features**

Staci-Ann Morgan ¹, David Barrett ², yousef papadopoulos ³, John duynisveld ³, Alan Fredeen ², kathleen glover ³, Mallikarjun Bidarimath ⁴, Jonathan Wort ⁵

¹Dalhousie University, ²Dalhousie University Faculty of Agriculture, ³Agriculture and Agri-Food Canada, ⁴U.S Food & Drug, ⁵Perennia Food and Agriculture Inc

7:00 a.m. PSVIII-5 **The effect of dietary protein (Lys) quantity and source in late gestation on mammary development in gilts**

Caroline Gillies¹, Chantal Farmer², Lee-Anne Huber¹

¹University of Guelph - Department of Animal Biosciences (OAC), ²Agriculture and Agri-Food Canada

7:00 a.m. PSVIII-3 **The functional properties and digestibility of round and wrinkled pea flour in swine diets**

Bria E. Bentley¹, Daniel A. Columbus², A. Denise Beaulieu¹

¹University of Saskatchewan, ²Prairie Swine Centre, Inc.

7:00 a.m. PSVIII-8 **The impact of foliar fungicide application on barley silage fermentation characteristics and performance of lactating dairy cows**

Christina S. James¹, Gregory B. Penner², Aaron D. Beattie¹, David Christensen¹, Timothy Mutsvangwa³

¹University of Saskatchewan, ²Department of Animal and Poultry Science, University of Saskatchewan, Editor-in-chief Canadian Journal of Animal Science, ³Department of Animal and Poultry Science, University of Saskatchewan

7:00 a.m. PSVIII-25 **The influence of trace mineral source on in vitro trace mineral solubility and trace mineral concentrations of rumen microorganisms in canulated steers fed a diet formulated for lactating dairy cows**

Huey Yi Loh¹, Jerry Spears², Ashlee Gibbons¹, Alejandro Quevedo¹, Octavio Guimaraes³, Alexandra C. Miller³, Meghan P. Thorndyke³, Terry E. Engle⁴

¹Colorado State University, ²North Carolina State University, ³Colorado State University, Department of Animal Sciences, ⁴Department of Animal Sciences, Colorado State University

7:00 a.m. PSVIII-29 **The Nebraska Beef Industry Scholars Program develops employability skills and improves career development**

Kacie L. McCarthy¹, Lisa Karr¹

¹University of Nebraska - Lincoln

7:00 a.m. PSVIII-14 **The significance of colostrum quality on feed efficiency in Canadian Holstein calves**

Avalon GR Phillips¹, Ricarda E. Jahnel¹, Colin Lynch¹, Bayode O. Makanjuola², Filippo Miglior³, Flávio S. Schenkel¹, Christine F. Baes²

¹University of Guelph, ²Centre for Genetic Improvement of Livestock, University of Guelph, ³Lactanet

7:00 a.m. PSVIII-16 **Utilizing a meta-analysis approach to investigate the relationship between heart weight and breast meat yield in poultry**

Natalee T. Richardson¹, Ricarda E. Jahnel¹, Bayode O. Makanjuola², Xuechen Bai³, Owen W. Willems³, Jennifer L. Ellis¹, Christine F. Baes², Emily M. Leishman¹

¹University of Guelph, ²Centre for Genetic Improvement of Livestock, University of Guelph, ³Hybrid Turkeys

**ASAS Public Policy Committee Symposium: Government Science and Research
Strategy as Applied to Animal Agriculture**

Chairs: Donald Mulvaney, Auburn University; Teresa Davis, USDA/ARS Children's Nutrition
Research Center, Department of Pediatrics, Baylor College of Medicine

8:00 AM - 11:15 AM

Telus 108/109

8:00 a.m. **ASAS Public Policy Committee Symposium Introduction**

8:05 a.m. 460 **Partnering on Research Priorities**

Jeffrey Silverstein¹

¹USDA-ARS

9:05 a.m. 415 **The Role of Societies in Developing Policies and Priorities**

Lowell Randel¹

¹The Randel Group

10:05 a.m. 518 **Priority Setting and Stakeholder Input for NIFA Competitive Grant
Programs**

Mark A. Mirando¹

¹USDA-National Institute of Food and Agriculture

**Beef Species Symposium I: Improvement of beef quality:
Genetic improvements and management practices**

Chair: Bryan Neville, USDA-ARS, U.S. Meat Animal Research Center

8:00 AM - 11:30 AM

Macleod B

8:00 a.m. **Beef Species Symposium I Introduction**

8:05 a.m. 364 **Genetics - How long does it take for genetics to improve carcass
characteristics**

Bailey N. Engle¹, Mark Thallman², Warren M. Snelling³, Tommy L. Wheeler¹, Steven
Shackelford¹, Andy King¹, Larry A. Kuehn¹

¹USDA-ARS, US Meat Animal Research Center, ²USDA-ARS US Meat Animal Research
Center, ³USDA-ARS, Roman L Hruska US Meat Animal Research Center

8:50 a.m. 365 **Feeding Cattle – Optimal Days on Feed – Rates of change of
economically important performance and carcass characteristics**

Michael Galyean¹

¹Texas Tech University

9:35 a.m. **Beef Species Symposium I Break**

9:50 a.m. 366 **Packer Perspective – Balancing Limited Supply with Carcass Size
and Impact of Beef x Dairy to the Packer**

Ty Lawrence¹

¹West Texas A&M University

10:35 a.m. 367 **Changing the conversation – Evaluating feedyard closeouts and the beef system on a carcass basis**

Jessica L. Sperber ¹

¹University of Nebraska-Lincoln

Comparative Gut Physiology Symposium: Experimental models for studying nutrient absorption and intestinal function

Chair: Kendall Swanson, North Dakota State University

8:00 AM - 11:30 AM

Glen 203/204

8:00 a.m. **Comparative Gut Physiology Symposium Introduction**

8:05 a.m. 321 **Application of the Fick Principle for the study of visceral nutrient absorption and metabolism**

David L. Harmon ¹, Gerald B. Huntington ²

¹Department of Animal and Food Sciences, University of Kentucky, ²North Carolina State University

8:50 a.m. 322 **Nutrient transport across gastrointestinal tissues using Ussing chambers**

Anne H. Laarman ¹, Gregory Penner ²

¹University of Alberta, ²University of Saskatchewan

9:35 a.m. **Comparative Gut Physiology Symposium Break**

9:50 a.m. 323 **Advances in using membrane vesicles for studying intestinal functions**

Ming Z. Fan ¹, Kendall C. Swanson ²

¹Department of Animal Biosciences, One Health Institute, University of Guelph, ²North Dakota State University

10:35 a.m. 324 **Use of organoids as in vitro model to study intestinal function**

Milena Saqui-Salces ¹

¹University of Minnesota

Forages and Pastures Symposium: Precision technology in forage & pasture systems

Chair: Colin Tobin, North Dakota State University

8:00 AM - 11:45 AM

Telus 101/102

8:00 a.m. **Forages and Pastures Symposium Introduction**

8:05 a.m. 371 **Applying Precision Rangeland Grazing Management Systems in Western South Dakota**

Hector M. Menendez¹, Jameson R. Brennan², Krista Ehlert², Dalen Zuidema², Pablo Guarnido-Lopez³, Christopher Graham², Aletta L. Husmann², Elias R. Velasquez Moreno², Jim Eckberg⁴, Francisco Maroto-Molina⁵, Luis O. Tedeschi⁶

¹South Dakota State University, Department of Animal Science, ²South Dakota State University, ³Texas A&M university, ⁴General Mills Inc., ⁵University of Cordoba Department of Animal Production, ⁶Texas A&M university, department of Animal Science

8:45 a.m. 370 **Leveraging remote sensing products to estimate forage productivity in the Canadian Prairies**

Marcos Cordeiro¹, Bryan Encabo¹, Emma J. McGeough¹, David Walker¹

¹University of Manitoba

9:25 a.m. 369 **Unlocking the mysteries of cow and calf grazing behavior on rugged rangeland pastures using GPS and accelerometer sensor technology**

Jim E. Sprinkle¹, Landon Sullivan², Kevin S. Jensen¹, Melinda J. Ellison¹, John B. Hall¹, Carmen M. Willmore¹, Joseph Sagers¹, Joel V. Yelich¹, James B. Glaze¹, Jameson R. Brennan³, Ronald M. Lewis⁴, Joshua B. Taylor⁵, Brenda M. Murdoch¹, Morgan R. Stegemiller¹, Douglas R. Tolleson⁶, Pat Clark⁵, Meghan Roberts-Lew⁷, Jim Lamb⁸

¹University of Idaho, ²Texas A & M University - Commerce, ³South Dakota State University, ⁴University of Nebraska - Lincoln, ⁵USDA Agricultural Research Service, ⁶Texas A & M AgriLife Research - Sonora, ⁷Rules-Based Medicine, ⁸Intermountain Farmers Association

10:05 a.m. **Forages and Pastures Symposium Break**

10:20 a.m. 368 **Applying physics and math to describe chemistry and biology at the plant/animal interface**

Douglas R. Tolleson¹

¹Texas A & M AgriLife Research - Sonora

11:00 a.m. 372 **What we have learned and are still learning about enteric methane emission measurements in extensive grazing environments**

Kimberly R. Stackhouse-Lawson¹, Sara E. Place², Edward J. Raynor¹, Pedro H V Carvalho³, Inés Mesa¹, Justin D. Derner⁴, Larry A. Kuehn⁵, Melissa Johnston⁶, R. Mark Enns⁷, Ashley K. Schilling-Hazlett⁸, Juan de J. Vargas⁹

¹AgNext at Colorado State University, ²Colorado State University AgNext and Department of Animal Sciences, ³AgNext.CSU, ⁴USDA-ARS Rangeland Resources and Systems Research Unit, ⁵USDA-ARS, U.S. Meat Animal Research Center, ⁶USDA-ARS Rangeland Resources & Systems Research Unit, ⁷Colorado State University, ⁸AgNext/CSU, ⁹North Florida Research and Education Center, University of Florida, Marianna, FL 32446

Ruminant Nutrition V: Vitamins and Minerals
Chair: Marcelo Vedovatto, Louisiana State University
8:00 AM - 12:00 PM
Macleod D

8:00 a.m. 350 **Awardee Talk: Beef cattle mineral nutrition: what do we know and where do we go from here**

Stephanie L. Hansen ¹
¹Iowa State University

8:30 a.m. 351 **Awardee Talk: Effects of vitamin and mineral supplementation to beef cattle during gestation on programming outcomes in the offspring**

Jennifer L. Hurlbert ¹, Carl R. Dahlen ¹
¹North Dakota State University

9:00 a.m. 352 **Supplementing bovine satellite cells with anabolic hormones and/or zinc at differentiation impacts abundance of mRNA involved in growth, mineral transport, and oxidative stress**

Anthony F. Alberto ¹, Bailee Brown ¹, Zachary C. Crump ¹, Lillian Okamoto ¹, Stephanie L. Hansen ², Kara J. Thornton-Kurth ¹
¹Utah State University, ²Iowa State University

9:15 a.m. 353 **Zinc supplementation prior to transit and transit duration effects on feedlot performance and muscle fatigue of beef steers: Part I – Performance and Muscle Fatigue**

Allison M. Baumhover ¹, Brock M. Ortner ¹, Daniel U. Thomson ¹, Karen S. Schwartzkopf-Genswein ², Stephanie L. Hansen ¹
¹Iowa State University, ²Agriculture and Agri-Food Canada

9:30 a.m. 354 **Zinc supplementation prior to transit and transit duration effects on feedlot performance and muscle fatigue of beef steers: Part II – Feeding Behavior.**

Brock M. Ortner ¹, Allison M. Baumhover ¹, Karen S. Schwartzkopf-Genswein ², Daniel U. Thomson ¹, Stephanie L. Hansen ¹
¹Iowa State University, ²Agriculture and Agri-Food Canada

9:45 a.m. 355 **Determining the bioavailability of copper carbonate (Emerald-C) and tribasic copper chloride relative to copper sulfate in feedlot steers under moderate antagonistic pressure**

Jacob A. Henderson ¹, Stephanie L. Hansen ¹
¹Iowa State University

10:00 a.m. **Ruminant Nutrition V: Vitamins and Minerals Break**

10:15 a.m. 356 **Exploring the manganese requirement of feedlot steers**

Dathan T. Smerchek ¹, Marissa K. Eekohff ¹, Emma L. Rients ¹, Amy M. McLaughlin ¹, Jacob A. Henderson ¹, Brock M. Ortner ¹, Jodi McGill ², Kara J. Thornton-Kurth ³, Stephanie L. Hansen ¹
¹Iowa State University, ²Iowa State University, ³Utah State University

10:30 a.m. 357 **Injectable trace mineral improves immune response and outcome of Mannheimia haemolytica infection in feedlot steers**

Suyeon Hong¹, Emma L. Rients¹, Carlos Franco¹, Jodi McGill², Stephanie L. Hansen¹
¹Iowa State University, ²Iowa State University

10:45 a.m. 358 **The effect of increasing dietary limestone concentration on growth performance, gas flux, and carcass characteristics in finishing beef cattle**

Nathan S. Long¹, Jarret Proctor¹, Ryan C. Foster¹, Vinicius N. Gouvêa², Matthew R. Beck³, Jason K. Smith⁴
¹Texas A&M University, ²Texas A&M AgriLife Research and Extension Center at Amarillo, ³USDA-ARS, ⁴Texas A&M AgriLife Extension

11:00 a.m. 359 **Optimization of calcium inclusion levels in diets fed to growing and finishing beef cattle**

Nathan S. Long¹, Matthew R. Beck², Jason K. Smith³
¹Texas A&M University, ²USDA-ARS, ³Texas A&M AgriLife Extension

11:15 a.m. 360 **Effect of the administration of a protected source of calcium gluconate on growth, feed efficiency, nutrient digestibility, and health in beef cattle**

Silvia Grossi¹, Sandra van Kuijk², Stefano Vandoni³, Carlo Angelo Sgoifo Rossi⁴
¹University of Milan - Divas department, ²Selko, ³Trouw Nutrion Italy, ⁴University of Milan

11:30 a.m. 361 **Evaluating the effect of liver copper concentration on lubabegron fumarate-induced performance and carcass characteristics of finishing steers**

Jacob A. Henderson¹, Jodi McGill², Stephanie L. Hansen¹
¹Iowa State University, ²Iowa State University

11:45 a.m. 362 **Nutrikinetic evaluation and modeling of 25-hydroxyvitamin D3 in beef cattle**

Macie C. Weigand¹, Zach M. Duncan¹, Erin Schwandt², William Ellis¹, Colton Weir¹, April Levy², Paige Gott², Stephanie E. Martinez¹, Anthony J. Tarpoff¹, Dale A. Blasi¹
¹Kansas State University, ²dsm-firmenich

**CSAS Symposium I - Celebrating 99 Years of Canadian Animal Science
- Sponsored by RDAR**

Chair: Tim A. McAllister, Agriculture and Agri-Food Canada, Lethbridge Research Centre,
Lethbridge; Gregory Penner, University of Saskatchewan

8:00 AM - 12:30 PM

Glen 201/202

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

8:05 a.m. 314 **A 99 Year Journey on the Evolution of Health and Welfare in Canadian livestock**

Karen S. Schwartzkopf-Genswein¹, Daniela M. Meléndez²
¹Agriculture and Agri-Food Canada, ²AAFC

8:40 a.m. 315 **A 99-year journey on the evolution of food safety in Canadian livestock production**

Xianqin Yang ¹, Kim Stanford ²

¹Agriculture and Agri-Food Canada, ²University of Lethbridge

9:15 a.m. 316 **A 99 year journey on the use of by-product feeds in Canadian livestock production**

Stephanie A. Terry ¹, Kim H. Ominski ²

¹Agriculture and Agri-Food Canada, ²University of Manitoba

9:50 a.m. **CSAS Symposium I Break**

10:20 a.m. 317 **Microbial interventions to improve gut health in neonatal ruminants**

Nilusha Malmuthuge ¹, Leluo Guan ²

¹Agriculture and Agri-Food Canada, ²Faculty of Land and Food Systems, The University of British Columbia

10:55 a.m. 318 **A 99 year journey on the development of Canadian forages for livestock production**

Emma J. McGeough ¹, Surya Acharya ²

¹University of Manitoba, ²Agriculture and Agri-Food Canada

11:30 a.m. 319 **Reflections on the most cited paper in the ninety-nine-year history of Canadian Society of Animal Science**

Tim A. McAllister ¹, Terry Fenton ², Mira Fenton ², Gregory Penner ³

¹Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ²University of Alberta, ³University of Saskatchewan

11:45 a.m. 320 **Ninety-nine years of accomplishment by Canadian Animal Scientists**

Tim A. McAllister ¹, Gregory Penner ²

¹Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ²University of Saskatchewan

Animal Behavior and Well-Being II: Stress

Chair: Brenda Alexander, University of Wyoming

8:15 AM - 9:15 AM

Glen 206

8:15 a.m. 269 **Evaluation of changes in the activity of group-housed nursery pigs exposed to an endotoxin challenge using the NUtrack Livestock Monitoring System**

Brooke L. Parrish ¹, Aaron J. Holliday ², Lindsey E. Hulbert ³, Mikayla J. Goering ³, Storey L. Forster ², Avery E. Vieregger ², Majid Jaberi-Douraki ³, Benny E. Mote ², Ty B. Schmidt ⁴

¹University of Nebraska - Lincoln, ²University of Nebraska-Lincoln, ³Kansas State University, ⁴University of Nebraska

8:30 a.m. 270 **Prenatal stress programming: Impact on dam and offspring immune phenotype and performance**

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

¹Oklahoma State University

8:45 a.m. 271 **Does social buffering amongst familiar weaned beef calves mitigate castration stressors?**

Rebecca L. Parsons¹, Caleb Brezina¹, Grant A. Dewell¹, Renee D. Dewell², Anna K. Johnson³, Derek B. Haley⁴, Suzanne T. Millman⁵

¹Veterinary Diagnostic & Production Animal Medicine, Iowa State University, ²Center for Food Security and Public Health, Iowa State University, ³Animal Science, Iowa State University, ⁴Dept. of Population Medicine, Ontario Veterinary College, Campbell Centre for the Study of Animal Welfare, University of Guelph, ⁵Veterinary Diagnostic & Production Animal Medicine and Biomedical Sciences, Iowa State University

9:00 a.m. 272 **Relationships of salivary cortisol and automated brush system usage in freestall housed dairy cattle**

Allison L. Griffin¹, Colby Hardin¹, Kandy Tilley¹, Maghan Burlison¹, Marcus McGee¹

¹Mississippi State University

Poster Session IX - Sponsored by International Ingredient

8:30 AM - 9:30 AM

Exhibit Hall C

8:30 a.m. PSIX-8 **A multistrain probiotic modifies fecal microbial populations of healthy adult cats**

Marcial A. Guevara Zubillaga¹, Jens Noesgaard Jørgensen¹, Lisbeth Jørgensen¹, Lidiia Alaverdova¹

¹Novonesis

8:30 a.m. PSIX-7 **A multistrain probiotic modifies fecal microbial populations of healthy adult dogs**

Marcial A. Guevara Zubillaga¹, Jens Noesgaard Jørgensen¹, Lisbeth Jørgensen¹, Lidiia Alaverdova¹

¹Novonesis

8:30 a.m. PSIX-6 **Algal oil as an alternative source of docosahexaenoic acid in feline diets**

Laura A. Motsinger¹, Catherine Kalmbach¹, Dale Fritsch¹, Nasson Mwakatage¹, Leslie B. Hancock¹

¹Hill's Pet Nutrition

8:30 a.m. PSIX-21 **Can seeds rich in polyunsaturated fatty acids reduce methane emissions when substituting palm oil on dairy beef calves fed high-concentrate diets? In vitro screening.**

Lourdes Llonch¹, Sonia Marti¹, Gerard Verge², Joan Riera³, Carles Medinya⁴, Jordi Cucurull⁵, Anna Pérez², Belén Fernández⁶, Maria Devant¹

¹IRTA-Ruminant Production, ²IRTA-Animal Nutrition, ³Nanta S.A., ⁴Nutrición Animal S.L., ⁵bonÀrea Agrupa, ⁶IRTA-Sustainability in Biosystems

8:30 a.m. PSIX-14 **Circulating microRNAs associated with inflammation in aging canines**

Selena K. Tavener¹, Kiran S. Panickar²

¹Hills PNC, ²Science & Technology Ctr, Hills PNC

8:30 a.m. PSIX-3 **Dental stick extrusion utilizing spray dried plasma**

Joy Campbell¹, Will Henry²

¹APC LLC, ²Extru-Tech/1SG

8:30 a.m. PSIX-20 **Effect of protein and starch level on N balance and ruminal fermentation parameters in steers consuming low-quality forage: *Bos taurus indicus***

Jodi R. Cox¹, Tryon A. Wickersham¹

¹Texas A&M University

8:30 a.m. PSIX-19 **Effect of protein and starch level on N balance and ruminal fermentation parameters in steers consuming low-quality forage: *Bos taurus taurus***

Jodi R. Cox¹, Tryon A. Wickersham¹

¹Texas A&M University

8:30 a.m. PSIX-26 **Effectiveness of mineral supplementation during range grazing on mineral status in ewes**

Ryan A. Spurling¹, Dillon C. Petty², Chad L. Gasser², Morgan K. Christensen², Andrew C. Heaton², Eric T. Thacker¹, Alexis Sweat¹, Randall Violett³, Kerry A. Rood¹, Kara J. Thornton¹, Chad M. Page¹

¹Utah State University, ²Southern Utah University, ³University of Wyoming

8:30 a.m. PSIX-16 **Effects of *Bacillus coagulans* GBI-30, 6086 on nutrient digestibility, fecal characteristics and metabolites, immunity, and microbiota of healthy adult dogs subjected to an abrupt diet change**

Sofia M. Wilson¹, Yifei Kang¹, Jocelyn Wren¹, Mathieu Millette², Melissa Kelly³, Elena Vinay⁴, John Menton⁴, Kelly S. Swanson¹

¹University of Illinois Urbana-Champaign, ²Kerry, ³Science Made Simple, LLC, ⁴Kerry Group

8:30 a.m. PSIX-10 **Effects of *Bacillus subtilis* ATCC PTA-122264 on macronutrient digestibility and fecal characteristics, metabolites, and microbiota of healthy adult dogs subjected to an abrupt diet change**

Patrícia M. Oba¹, Olivia Swanson¹, Yifei Kang¹, Julio Mito¹, John Menton², Elena Vinay², Mathieu Millette³, Melissa Kelly⁴, Kelly S. Swanson¹

¹University of Illinois Urbana-Champaign, ²Kerry Group, ³Kerry, ⁴Science Made Simple, LLC

8:30 a.m. PSIX-11 **Effects of black soldier fly larvae on the serum chemistry, hematology, fecal characteristics, and oral health measures of healthy adult cats**

Patrícia M. Oba¹, Vanessa M. De La Guardia-Hidrogo¹, Julio Mito¹, Daniel Adams², Kelly S. Swanson¹

¹University of Illinois Urbana-Champaign, ²EnviroFlight

8:30 a.m. PSIX-29 **Effects of including sprouted barley in the diets of feeder lambs**
Zachary C. Crump ¹, Kara J. Thornton ¹, Anthony F. Alberto ¹, Lillian Okamoto ¹, Bailee Brown ¹, Ryan A. Spurling ¹, Bryce W. Roholt ¹, Brady Blackett ², Rob Harding ², Sanjeewa Ranathunga ², Chad M. Page ¹, Jordan Atkinson ³

¹Utah State University, ²Renaissance Ag, Vineyard, Utah, 84057, United States, ³Superior Farms

8:30 a.m. PSIX-15 **Elevated level of ATG12, an autophagy-associated gene, in canines with dermatological problems fed a polyphenol-rich food**

Selena K. Tavener ¹, Dayakar V. Badri ¹, Kiran S. Panickar ²

¹Hills PNC, ²Science & Technology Ctr, Hills PNC

8:30 a.m. PSIX-1 **Evaluation of canola meal inclusion in adult dog diets and the impact on digestibility, stool quality, and palatability**

Angela M. Gajda ¹, Leighann Daristotle ², Nolan Frantz ²

¹General Mills, ²Blue Buffalo Co. Ltd

8:30 a.m. PSIX-23 **Evaluation of number of goats grazing grass-based pasture for estimation of methane emission using GreenFeed system**

Dereje T. Tadesse ¹, Ryszard Puchala ¹, Yirga Y. Hirut ¹, Amlan K. Patra ¹, Arthur L. Goetsch ¹

¹American Institute for Goat Research, Langston University

8:30 a.m. PSIX-24 **Higher glucose transporter SLC2A1 expression in milk somatic cells as a compensatory milk production strategy in young prolific Pelibuey ewes**

MONSERRATH FELIX-PORTILLO ¹, RUTH ARMENDARIZ-RIVAS ², Felipe A. RODRÍGUEZ-ALMEIDA ³, LORENZO BUENABAD-CARRASCO ⁴, Yamicela Castillo-Castillo ⁵, JOSE A A. MARTINEZ-QUINTANA ⁶

¹AUTONOMOUS UNIVERSITY OF CHIHUAHUA, ²Universidad Autónoma de Chihuahua,

³Universidad Autónoma de Chihuahua, ⁴UNIVERSIDAD AUTÓNOMA DE CHIHUAHUA,

⁵Autonomous University of Chihuahua, ⁶Universidad Autónoma de Chihuahua, Facultad de Zootecnia y Ecología

8:30 a.m. PSIX-12 **Influence of obesity on satiety hormones, serum metabolome, and fecal microbiome in adult dogs**

Ping Ren ¹, Matt Panasevich ¹, Leighann Daristotle ¹, Nolan Frantz ¹

¹Blue Buffalo Co. Ltd

8:30 a.m. PSIX-30 **Interaction between rumen microbiome and host feed efficiency phenotype across contrasting breeds and dietary sources**

Kate Keogh¹, David A. Kenny², Pâmela Almeida Alexandre³, Sinead Waters⁴, Emily McGovern², Mark McGee⁵, Antonio Reverter³

¹Teagasc, Animal and Bioscience Research Department, Grange, Dunsany, Co. Meath, Ireland; ²CSIRO, Agriculture & Food, Queensland Bioscience Precinct, 306 Carmody Rd., St. Lucia, Brisbane, QLD 4067, Australia, ³Teagasc, Animal and Bioscience Research Department, Grange, Dunsany, Co. Meath, Ireland, ⁴CSIRO | Commonwealth Scientific and Industrial Research Organisation - Animal Breeding and Genomics Group, ⁵Teagasc, Animal and Bioscience Research Department, Grange, Dunsany, Co. Meath, Ireland/School of Biological and Chemical Sciences, University of Galway, Ireland, ⁶Teagasc, Livestock Systems Research Department, Grange, Dunsany, Co. Meath, Ireland

8:30 a.m. PSIX-22 **Maternal methane, carbon dioxide, and oxygen flux compared to progeny gas flux**

Stacey A. Gunter¹, Corey A. Moffet², Emalee J. Friend¹

¹USDA, Agricultural Research Service, ²USDA-ARS, OCPARC

8:30 a.m. PSIX-13 **Methionine requirements across the life cycle of working Labrador Retrievers using the indicator amino acid oxidation (IAAO) technique**

Sarah M. Dickerson¹, Claire L. Timlin¹, Fiona B. Mccracken², Jason W. Fowler¹, CRAIG N. COON³

¹Four Rivers Kennel, ²Four Rivers Kennel LLC, ³Four Rivers Kennel, LLC

8:30 a.m. PSIX-18 **Multiomc analysis to identify host and microbiome contributions to digestibility in beef cattle.**

Eóin O'Hara¹, Megan Dubois², Gabriel O. Ribeiro³, Robert J. Gruninger¹

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

8:30 a.m. PSIX-28 **Optimization of feeding trial length for evaluating feed efficiency in sheep**

Yaogeng Lei¹, Olufemi A. Osonowo², Desiree Gellatly¹, Hamza Jawad², Sean Thompson¹, Ghader Manafiazar²

¹Olds College, ²Dalhousie University

8:30 a.m. PSIX-5 **Performance of black soldier fly larvae meal as secondary protein sources in extruded dog diets.**

Katie R. Kerr¹, Angela M. Gajda², Leighann Daristotle¹, Nolan Frantz¹

¹Blue Buffalo Co. Ltd, ²General Mills

8:30 a.m. PSIX-9 **Reciprocal Outcomes: Does companion animal-based community engaged learning provide a mutually beneficial partnership between community partners and students?**

Molly Nicodemus¹, Erica Carroll², Robert Culwell³, Emma Farnlacher², Katie Holtcamp²

¹Animal & Dairy Sciences, Mississippi State University, ²Mississippi State University, ³East Central Community College

8:30 a.m. PSIX-2 **Skin microbial compositions differ among dog body sites and are affected by dietary probiotics**

Ching-Yen Lin ¹, Leighann Daristotle ², Nolan Frantz ²

¹Blue Buffalo Co. Ld., ²Blue Buffalo Co. Ltd

8:30 a.m. PSIX-4 **Standardized amino acid digestibility of defatted black soldier fly larvae meal (BSFLM) in extruded canine diets**

Julio Miotto ¹, Pamela L. Utterback ², Carl M. Parsons ¹, Sean Madison ³, Jennifer Adolphe ⁴, Maria R.C. de Godoy ¹

¹University of Illinois Urbana-Champaign, ²University of Illinois, ³Innovafeed, ⁴ADM

8:30 a.m. PSIX-25 **Sums and relationships of fatty acids of lamb meat fed with marine microalgae meal (Schizochytrium sp.) and vitamin E**

Roberta de Lima Valença ¹, Américo Garcia Silva Sobrinho ², Nomaiaci de Andrade ², Marco Túlio Costa Almeida ³

¹Federal University of Espírito Santo, ²Universidade Estadual Paulista, ³Universidade Federal do Espírito Santo

8:30 a.m. PSIX-27 **Ultrasound scanning of carcass traits in Katahdin lambs for predictive breeding value and marketing premium**

Tumen Wuliji ¹, Raquel V. Lourencon ¹, Niya Tu ¹, Dennis Davis ¹

¹Lincoln University

Nonruminant Nutrition II: Feed Enzymes: Functions and Nutrient Utilization

Chair: Larissa Becker, Kansas State University

8:30 AM - 10:15 AM

Macleod E1

8:30 a.m. 373 **Effect of Cu and Zn contents in growing finishing pig diets on animal performance and Cu and Zn content in manure, according to three manure management chains**

Emma GOURLEZ ¹, Alessandra MONTEIRO ², Fabrice BELINE ³, Jean-Yves DOURMAD ¹, Francine DE QUELEN ¹

¹INRAE UMR PEGASE, ²ANIMINE, ³INRAE UR OPAALE

8:45 a.m. 374 **Efficacy of phytase and/or chromium tripicolinate supplementation on nutrient digestibility and blood metabolites in grower pigs**

Michael S. Edmonds ¹, Jon R. Bergstrom ², Thomas E. Weber ¹

¹Kent Nutrition Group, ²dsm-firmenich

9:00 a.m. 375 **The effects of protease supplementation on weaned piglet performance and intestinal function fed higher levels of lower digestible protein sources**

Glenmer B. Tactacan ¹, Olufemi O. Babatunde ¹, Ludovic Lahaye ¹

¹Jefo Nutrition, Inc.

9:15 a.m. 376 **Effects of multi-carbohydrase and protease supplementation on ileal digestibility of amino acids in expeller-pressed canola meal fed to growing pigs**

Jinyoung Lee ¹, Alicia Olivo ¹, Rob Patterson ², C. Martin Nyachoti ¹

¹University of Manitoba, ²CBS Bio Platforms Inc.

9:30 a.m. 377 **Developing visible near-infrared spectroscopy calibration equations to predict the chemical composition of feces and nutrient digestibility based on pig fecal spectra**

Huaigang Lei ¹, Qianru Hui ², Gustavo Mejicanos ², Laura Beens ², Jannatun Nesa Nur Rothy ², Ankita Saikia ², Rob Bergsma ³, Ethendar Rajendiran ², C. Martin Nyachoti ², Chengbo Yang ², Argenis Rodas-Gonzalez ²

¹Topigs Norsvin Canada Inc., ²University of Manitoba, ³Topigs Norsvin Research Center B.V.

9:45 a.m. 378 **Growth responses and antioxidant status of finishing pigs fed low-energy, low-phosphorus, low-calcium and low-trace mineral diets added with exogenous enzymes**

SERGIO GOMEZ-ROSALES ¹, Maria de Lourdes Angeles ¹, Alejandra Perez-Alvarado ¹, Luis Humberto Lopez-Hernandez ¹

¹INIFAP

10:00 a.m. 379 **Application of an energy and nutrient matrix to a diet supplemented with a novel phytase achieved a production and sustainability benefit in pigs**

Deepak E. E Velayudhan ¹, Janet C. Remus ¹, Yueming Dersjant-Li ¹, Ester Vinyeta ¹

¹Danisco Animal Nutrition & Health (IFF)

Animal Breeding and Genetics IV: Genetics of Health and Disease

Chair: Ching-Yi Chen, Genus PIC

8:30 AM - 11:00 AM

Macleod C

8:30 a.m. 341 **Impact of genomic selection for growth on feet and leg structure in Angus cattle**

Zuleica Trujano ¹, Jorge Hidalgo ¹, Kelli J. Retallick-Riley ², Andre Garcia ², Daniela Lourenco ¹, Ignacy Misztal ¹

¹University of Georgia, ²Angus Genetics Inc. American Angus Association

8:45 a.m. 342 **Sow weight development: a pragmatic approach to crossbred and selection populations**

Rob Bergsma ¹, Huaigang Lei ², Chengbo Yang ³, Egbert F. Knol ¹

¹Topigs Norsvin Research Center B.V., ²Topigs Norsvin Canada Inc., ³University of Manitoba

9:00 a.m. 343 **The relationship between pulmonary arterial pressure phenotypes and oxygen consumption in beef cattle**

MacKenzie L. Griffin ¹, Scott E. Speidel ¹, Sara E. Place ², Kimberly R. Stackhouse-Lawson ³, Tim N. Holt ¹, Lane K. Giess ¹, Miranda L. Zuvich ¹, R. Mark Enns ¹

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

9:15 a.m. 344 **Preliminary heritability estimate of liver abscess incidence in beef on dairy heifers**

Miranda L. Zuvich ¹, R. Mark Enns ¹, Reese Wilson ², Dale R. Woerner ², Miles Theurer ³, Matthew Cleveland ⁴, Scott E. Speidel ¹

¹Colorado State University, ²Texas Tech University, ³Veterinary Research and Consulting Services, LLC; HyPlains Feedlot, ⁴Genus PLC, ABS

9:30 a.m. 345 **Breed differences within heart scores of fattening feedlot cattle**

Isabella Kukor ¹, R. Mark Enns ¹, Tim N. Holt ¹, Matthew Cleveland ², Grant Sardella ², Ben P. Holland ³, Alyssa B. Word ³, Guy Ellis ³, Miles Theurer ⁴, Scott E. Speidel ¹

¹Colorado State University, ²Genus PLC, ABS, ³Cactus Research, ⁴Veterinary Research and Consulting Services, LLC; HyPlains Feedlot

9:45 a.m. **Animal Breeding and Genetics IV: Genetics of Health and Disease Break**

10:00 a.m. 346 **Investigating the potential of incorporating indirect genetic effects into genetic evaluations of dairy calf disease traits**

Colin Lynch ¹, Piter Bijma ², Mart de Jong ², Dries Hulst ², Lucas Alcantara ¹, Flávio S. Schenkel ¹, Filippo Miglior ³, David Kelton ¹, Christine F. Baes ⁴

¹University of Guelph, ²Wageningen University & Research, ³Guelph University, ⁴Centre for Genetic Improvement of Livestock, University of Guelph

10:15 a.m. 347 **Quantifying phenotypic and genetic variation for cow fertility phenotypes in American Simmentals using total herd reporting data**

Cassidy Catrett ¹, Sarah E. Moorey ², Jonathan E. Beever ¹, Troy N. Rowan ¹

¹University of Tennessee - Knoxville, ²University of Tennessee

10:30 a.m. 348 **Repeat breeding syndrome: Dexamethasone decreases the prevalence of antisperm antibodies in dairy cows**

Rebecca R. Cockrum ¹, John McGehee ¹, Jane Duncan ¹, Kristy M. Daniels ¹

¹Virginia Polytechnic Institute and State University

10:45 a.m. 349 **The relationship of heart score with hot carcass weight and fat depth in Angus cattle**

Isaac F. Torres-Quijada ¹, Scott E. Speidel ¹, Tony C. Bryant ², Kelli J. Retallick-Riley ³, Josh I. Szasz ², R. Mark Enns ¹

¹Colorado State University, ²Five Rivers Cattle Feeding, ³Angus Genetics Inc. American Angus Association

Animal Health II: Cattle Disease

Chair: Holly Neibergs, Washington State University

9:30 AM - 12:00 PM

Glen 206

9:30 a.m. 311 **Effect of feeding butyric acid on growth performance and metabolic indicators of dairy calves before weaning: a meta-analysis**

Hacib Kihal¹, Monica Puyalto², Juan Jose Mallo²

¹NOREL SA, ²Norel SA

9:45 a.m. 330 **Growth performance, incidence of scours, and plasma metabolites in beef × dairy crossbred calves transported at 2, 4, 8 and 14 d of age**

Gwinyai E. Chibisa¹, Denise Konetchy¹, Mireille Chahine¹, Gordon K. Murdoch², Amber Adams-Progar², Lauren Christensen¹

¹University of Idaho, ²Washington State University

10:00 a.m. 331 **¹H Nuclear magnetic resonance-based metabolomics of serum from growing beef steers following a combined viral bacterial respiratory disease challenge**

Keara O'Reilly¹, Gordon E. Carstens¹, Lauren R. Wottlin¹, Thomas H. Welsh², Jennifer M. Thomson³, Valerie Copié³, Galen P. O'Shea-Stone³

¹Texas A&M University, ²Texas A&M University and AgriLife Research, ³Montana State University

10:15 a.m. 332 **Selection for moderate and high growth and dam age differentially affect immune and stress responses of beef calves at weaning**

Alexis R H Main¹, Cassidy C. Reddout-Beam¹, Janeen L. Salak-Johnson¹

¹Oklahoma State University

10:30 a.m. **Animal Health II: Cattle Disease Break**

10:45 a.m. 333 **Awardee Talk: Navigating the bovine neonatal microbiome: Insights into inoculation, maternal sources, and immunological influence**

Riley D. Messman¹, Rebecca M. Swanson², Shankar Ganapathi Shanmugam³, Caleb O. Lemley⁴

¹Oklahoma State University, ²North Dakota State University, ³Mississippi State University,

⁴Department of Animal and Dairy Sciences, College of Agriculture and Life Sciences, Mississippi State University

11:15 a.m. 334 **Metagenomic- and culture-based characterization of the ocular microbiome in cattle with infectious bovine keratoconjunctivitis**

Samat Amat¹, Sarah M. Luecke¹, Devin B. Holman², Muhammad Anas³, Gerald Stokka¹

¹North Dakota State University, ²Agriculture Agri-Food Canada, Lacombe Research and Developmental Center, ³NDSU

11:30 a.m. 335 **Effects of feeding an immunomodulatory feed additive (NutraGen) on serum cytokine and antibody concentrations in calves following exposure to a combination bovine respiratory disease challenge**

Jazmin A. Markey¹, Jennifer Rudd¹, Tim Snider², Marie Montelongo¹, Brooke Humphrey³, James D. Chapman³, Evin D. Sharman³, Miriam Garcia³, Ryan R. Reuter¹, Paul A. Beck¹, Andrew P. Foote¹, Blake K. Wilson¹

¹Oklahoma State University, ²University of Missouri, ³Phibro Animal Health

11:45 a.m. 336 **Effects of feeding an immunomodulatory feed additive (NutraGen) on metabolite concentrations and cortisol production in calves following exposure to a combination bovine respiratory disease challenge**

Jazmin A. Markey¹, Jennifer Rudd¹, Tim Snider², Marie Montelongo¹, Brooke Humphrey³, James D. Chapman³, Evin D. Sharman³, Miriam Garcia³, Ryan R. Reuter¹, Paul A. Beck¹, Andrew P. Foote¹, Blake K. Wilson¹

¹Oklahoma State University, ²University of Missouri, ³Phibro Animal Health

Companion Animal II

Chair: James Templeman, Primal Pet Group

9:30 AM - 12:00 PM

Telus 104/105/106

9:30 a.m. 300 **Awardee Talk: Advancing Pet Food Science: Quest for high-quality products and the future professionals to create them**

Elisabeth Huff-Lonergan¹

¹Iowa State University

10:00 a.m. 302 **Microgreen and sprouted sorghum as ingredients in raw meat diets for healthy adult cats**

Katelyn Bailey¹, Julia Guazzelli Pezzali¹, Jeremy Cowan¹, Greg G. Aldrich¹

¹Kansas State University

10:15 a.m. 303 **Diets of Neolithic dogs**

Guido Bosch¹, Lianne Cheung¹

¹Wageningen University & Research

10:30 a.m. 304 **Amino acid digestibility and protein quality of fermented soybean-based ingredients using the precision-fed cecectomized rooster assay**

Meredith Smola¹, Pamela Utterback¹, Carl M. Parsons¹, Yan Liu², Zhenjia Chen³, Perry Ng³, Kelly S. Swanson¹

¹University of Illinois Urbana-Champaign, ²Sponsor, ³sponsor

10:45 a.m. **Companion Animal II Break**

11:00 a.m. 305 **Factors influencing palatability of wet cat food**

Lesleigh C. Beer¹, Angela LePore¹, Pauline Morin Stutsman¹, Leah K. Lambrakis², Brittany L. White¹

¹Simmons Pet Food, ²Simmons Pet Food & Simmons Animal Nutrition

11:15 a.m. 306 **Oral therapy with specific bioactive collagen peptide (BCP) improves gait and quality of life in canine osteoarthritis patients**
Britta Dobenecker¹, Linda Böswald², Sven Reese², Stephanie Steigmeier-Raith³, Lukas Trillig², Steffen Oesser⁴, Andrea Meyer-Lindenberg², Michael Schunck⁴, Jutta Hugenberg⁵

¹Ludwig-Maximilians-Universität München, ²LMU Munich, ³LUM Munich, ⁴CRI, ⁵Gelita AG

11:30 a.m. 307 **Use of defatted black soldier fly larvae meal (BSFLM) as an alternative and functional ingredient in canine nutrition**
Julio Mito¹, Patrícia M. Oba¹, Sean Madison², Jennifer Adolphe³, Maria R.C. de Godoy¹
¹University of Illinois Urbana-Champaign, ²Innovafeed, ³ADM

11:45 a.m. 308 **Isoenergetic reduction of dietary macronutrients reveals distinct fecal metabolomic signatures in lean and obese cats fed at maintenance**
Kehan Zhang¹, Hannah Godfrey¹, Diego E. Gomez¹, Darcia Kostiuk², Janelle Kelly², Jennifer L. Saunders-Blades², Shauna L. Blois¹, Allison J. Collier¹, Adronie Verbrugghe¹
¹University of Guelph, ²Champion Petfoods Holding Inc

Poster Session X
9:45 AM - 10:45 AM
Exhibit Hall C

9:45 a.m. PSX-13 **Assessment of bull buying behavior using a simulated bull auction**
Miranda M. Culbertson¹, Troy N. Rowan², Charles Martinez²
¹Iowa State University, ²University of Tennessee - Knoxville

9:45 a.m. PSX-11 **Behavior of Kentucky beef producers towards controlling internal parasites**
David Coffey¹, Amanda L. Lee², Michelle Arnold², Jeffrey W. Lehmkuhler²
¹University of Kentucky Cooperative Extension Service, ²University of Kentucky

9:45 a.m. PSX-22 **Boosting techniques for prediction of dry matter intake of cattle in confinement settings and SHAP analysis on the models' output.**
Eswar ArunKumar Kalaga¹, Nathan Blake¹, Matthew Walker¹, Ida Holaskova¹, Domingo Mata-Padrino¹, Matthew E. Wilson²
¹West Virginia University, ²Davis College, West Virginia University

9:45 a.m. PSX-9 **Comparison of single- and multiple-trait genomic predictions of cattle carcass quality traits in multibreed and purebred populations**
Sunday O. Peters¹, Kadir Kizilkaya², Dorian Garrick³, James Reecy⁴
¹Berry College, ²Aydin Adnan Menderes University, Aydin, Turkey, ³Massey University, ⁴Iowa State University

9:45 a.m. PSX-30 **Drinking preferences of natural sources of brackish groundwater by yearling goats and sheep**

Yirga Y. Hirut¹, Amlan K. Patra¹, Ryszard Puchala¹, Dereje T. Tadesse¹, Lionel J. Dawson², Arthur L. Goetsch¹

¹American Institute for Goat Research, Langston University, ²College of Veterinary Medicine, Oklahoma State University

9:45 a.m. PSX-15 **Effect of starch supplementation on rumen bacterial abundance in *Bos taurus indicus* steers consuming low-quality forage**

Alyson B. Fontenot¹, Joshua C. McCann², Jodi R. Cox¹, Haley F. Linder², Tryon A. Wickersham¹

¹Texas A&M University, ²University of Illinois Urbana-Champaign

9:45 a.m. PSX-14 **Effect of starch supplementation on rumen bacterial abundance in *Bos taurus taurus* steers consuming low-quality forage**

Alyson B. Fontenot¹, Joshua C. McCann², Jodi R. Cox¹, Haley F. Linder², Tryon A. Wickersham¹

¹Texas A&M University, ²University of Illinois Urbana-Champaign

9:45 a.m. PSX-24 **Effects of dietary protein level and gastrointestinal nematode parasite infection on carcass and non carcass yield and meat composition of goats**

Adnan B. Yousuf¹

¹Virginia State University

9:45 a.m. PSX-17 **Effects of *Saccharomyces cerevisiae* fermentation product on methane production of steers fed a finishing diet**

Anjan Dhungana¹, Oluwaseun Odunfa¹, Jansen Blair¹, Ilkyu Yoon², Ibukun M. Ogunade³, Alexander Altman⁴, Kyle R. McLeod⁴, David L. Harmon⁴, Yun Jiang¹

¹School of Agriculture and Natural Resources, Kentucky State University, ²Diamond V,

³West Virginia University, ⁴Department of Animal and Food Sciences, University of Kentucky

9:45 a.m. PSX-29 **Evaluation of a vaccine in sheep to control foot rot in the Southeast**

Matt J. Hersom¹, Maggie Miller¹

¹Clemson University

9:45 a.m. PSX-4 **Exploring the impact of age and body condition score on the genetic analysis of mature cow weight in American Angus cattle**

Ayooluwa O. Ojo¹, Gabriel S. Campos¹, Henrique A. Mulim¹, Andre Garcia², Allan P. Schinckel¹, Stephen Miller³, Kelli J. Retallick-Riley², Hinayah R. Oliveira¹

¹Purdue University, ²Angus Genetics Inc. American Angus Association, ³University of New England

9:45 a.m. PSX-8 **Genetic characterization of Raramuri Criollo cattle introduced into the Southwestern United States**

Maximiliano J. Spetter¹, Rick E Estell², Santiago A Utsumi¹, Eileen Armstrong³, Eugenio Jara³, Pablo Ross⁴, Lara Macon², Andres Ricardo Perea⁵, Andrew Cox¹, Sheri A Spiegel²

¹New Mexico State University, ²USDA Jornada Experimental Range, ³Universidad de la República, ⁴STgenetics, ⁵New Mexico State University - INTA EECT Yuto, Argentina

9:45 a.m. PSX-10 **Genome-wide association studies for clinical mastitis in dairy cattle**

Zikai K. Chen¹, Desiree Seto², Fernando Campos¹, Julie M. Huzzey¹, Dan Peterson¹, Kim Sprayberry¹, Mehdi Sargolzaei³, Paul Anderson¹, Joy Altermatt¹, Bruce Golden¹, Siroj Pokharel¹, Mohammed Abo-Ismael¹

¹Department of Animal Science, California Polytechnic State University, ²Animal Science Dept, California Polytechnic State University, ³Department of Pathobiology, University of Guelph

9:45 a.m. PSX-6 **Genome-wide association study on hippocampal biomarkers of cumulative affective experience in chicken layers**

Lindsay Neuert¹, Vern R. Osborne¹, Elena A. Armstrong², Timothy Boswell³, Tom V. Smulders², Christine F. Baes¹, Bayode O. Makanjuola¹

¹Centre for Genetic Improvement of Livestock, University of Guelph, ²School of Psychology, Newcastle University, ³School of Natural and Environmental Sciences, Newcastle University

9:45 a.m. PSX-1 **Genomic insights into reproduction traits of Nellore cattle: A meta-analysis of genomic regions**

Adebisi R. Ogunbawo¹, Henrique A. Mulim¹, Gabriel S. Campos¹, Hinayah R. Oliveira¹
¹Purdue University

9:45 a.m. PSX-27 **Growth performance and immune response dynamics in weaned lambs with subclinical H. contortus parasite infection**

Hamza Jawad¹, Desiree Gellatly², Yaogeng Lei², Olufemi A. Osonowo¹, John Gilleard³, Younes Miar¹, Sean Thompson², Ghader Manafiazar¹

¹Dalhousie University, ²Olds College, ³University of Calgary

9:45 a.m. PSX-7 **Heritability estimates for longevity-related traits in U.S. Katahdin ewes**

Luis F. B. Pinto¹, Ronald M. Lewis², Artur O. Rocha¹, Sara M. Nilson², Tom W. Murphy³, Carrie S. Wilson⁴, Brad A. Freking⁵, Joan M. Burke⁶, Luiz F. Brito⁷

¹Purdue University, ²University of Nebraska - Lincoln, ³USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, ⁴USDA-ARS-RSPER, ⁵USDA, ARS, USMARC, ⁶USDA, ARS, Dale Bumpers Small Farms Research Center, ⁷Department of Animal Sciences, Purdue University, West Lafayette, IN, 47907, USA

9:45 a.m. PSX-12 **Implementation of virtual fencing technology to build resiliency of agriculture systems impacted by wildfire and subsequent flooding**

Luis Ochoa¹, Santiago A Utsumi¹, Sara Marta¹, Andres Ricardo Perea², Maximiliano J. Spetter¹, Marcy Ward¹, Casey Spackman¹, Doug Cram¹, Craig A. Gifford¹

¹New Mexico State University, ²New Mexico State University - INTA EECT Yuto, Argentina

9:45 a.m. PSX-18 **Long term implanting of finished Angus Hereford steers: examining the relationship between feed and water efficiency**

Arturo Macias Franco ¹, Aghata Elins Moreira da Silva ², Mozart fonseca ³, Gleise Medeiros da Silva ⁴

¹University of Alberta Edmonton, ²Auburn University, ³New Mexico State University,

⁴University of Alberta

9:45 a.m. PSX-28 **Management of lameness in meat goat herds: A survey of producers in the southeastern US**

Maria L. Leite-Browning ¹, Ahmad Alghamdi ¹, Richard Browning, Jr. ¹

¹Tennessee State University

9:45 a.m. PSX-25 **Performance, carcass, wholesale, and retail cuts yield of genetically improved entire or castrated crossbred lambs fed total rations under heat stress conditions**

Dangeli Llanos ¹, Camilo Almeyda-Domenech ², Katherine Domenech ¹, John Fernandez ¹, Abner A. Rodriguez ¹

¹University of Puerto Rico, Mayaguez Campus, ²ADM Alliance Nutrition of Puerto Rico

9:45 a.m. PSX-2 **Productive performance of Raramuri Criollo, Angus x Raramuri Criollo and Hereford x Angus cows in a low-input cow-calf system in northern Mexico.**

Adriana FLORIANO-LÓPEZ ¹, Felipe A. RODRÍGUEZ-ALMEIDA ¹, JOSE A A. MARTINEZ-QUINTANA ², Jesus Sandoval-Villalobos ¹, Octavio ROACHO-ESTRADA ¹, José VILLAREAL-BALDERRAMA ¹, Javier Antillón-Ruiz ²

¹Universidad Autónoma de Chihuahua, ²Universidad Autónoma de Chihuahua, Facultad de Zootecnia y Ecología

9:45 a.m. PSX-5 **Repeatability of overreach, term and acuteness in Peruvian Paso horse**

Jorge L. Vilela ¹, Paola D. Quintana ¹, Maria L. Velarde ¹, Jose Dextre Chacon ¹

¹Universidad Científica del Sur, Grupo de Investigación Ciencia Equina y Animales Autóctonos

9:45 a.m. PSX-21 **Supplementing essential oil blend and fumaric acid in calf feed influenced rumen fermentation and greenhouse gases emission**

Joel O. Alabi ¹, Chika C. Anotaenwere ¹, Oludotun O. Adelusi ¹, Micheal Wuaku ¹, Olatunde A. Oderinwale ¹, James M. Enikuomihin ², Deborah O. Okedoyin ², Kelechi A. Ike ¹, Uchenna Y. Anele ²

¹North Carolina A&T State University, Greensboro, ²North Carolina Agricultural and Technical State University

9:45 a.m. PSX-26 **The effect of N-carbamylglutamate supplementation during the last third of gestation on maternal nutritional status and colostrum quality of nutrient-restricted twin-bearing ewes.**

Francisco A. Sales ¹, Victor H. Parraguez ², Susan A. McCoard ³, Camila Sandoval ¹, Claudia Silva ², Carolina Rojas ²

¹INIA Kampenaike, Punta Arenas, Chile, ²Faculty of Veterinary Sciences, University of Chile, Santiago, Chile, ³AgResearch Grasslands, Private Bag 11008, Palmerston North, 4442 New Zealand

9:45 a.m. PSX-16 **The effect of short-term heat stress on physiological, hematological, and immunological parameters of Florida Cracker Sheep**

Anijia Mills-Widemon ¹, Makenzie Harrison ¹, Sola Ikuejamoye-Omotore ¹, Zaira M. Estrada Reyes ¹, Thomas H. Terrill ², Andres Pech Cervantes ³

¹North Carolina Agricultural and Technical State University, ²Fort Valley State University, ³University of Maryland Eastern Shore

9:45 a.m. PSX-20 **The inclusion of a Tannin-based product evaluated in a typical feedlot diet under tropical conditions increases the molar proportion of propionate in a dual-flow continuous-culture system**

Eduardo Paula ¹, Stephanie Dourado ², Elaine Magnani ³, Bruna Amancio ³, Kalista Loregian ³, Thiago Silva ³, Melaine Silva ⁴, Marcelo Q. Manella ⁵, Renata Branco Arandes ¹

¹Beef Cattle Research Center, Instituto de Zootecnia, SP, Brazil, ²Institute of Animal Science, Beef Cattle Research Center, Sertãozinho,, ³Institute of Animal Science, Beef Cattle Research Center, ⁴bDepartment of Animal Science, Universidade do Estado de Santa Catarina, ⁵SilvaTeam Brasil

9:45 a.m. PSX-3 **Transcriptional response to an alternative diet on liver, muscle, and rumen of beef cattle**

Anna Carolina Fernandes ¹, Antonio Reverter ², Kate Keogh ³, Pâmela Almeida Alexandre ², Juliana Afonso ⁴, Júlio César Pascale Palhares ⁴, Tainã Figueiredo Cardoso ⁴, Jéssica M. Moraes Malheiros ⁵, Jennifer Jéssica Bruscadin ⁶, Priscila Silva Neubern de Oliveira ⁴,

Gerson Barreto Mourão ¹, Luciana Correia de Almeida Regitano ⁴, Luiz Lehmann Coutinho ¹

¹Luiz de Queiroz College of Agriculture | University of São Paulo (ESALQ/USP), ²CSIRO | Commonwealth Scientific and Industrial Research Organisation - Animal Breeding and Genomics Group, ³Teagasc, Animal and Bioscience Research Department, Grange, Dunsany, Co. Meath, Ireland; ⁴CSIRO, Agriculture & Food, Queensland Bioscience Precinct, 306 Carmody Rd., St. Lucia, Brisbane, QLD 4067, Australia, ⁵Brazilian Agricultural Research Corporation - Embrapa Southeastern Livestock, ⁶Animal Science Institute (IZ) - Beef Cattle Research Center, ⁶Federal University of São Carlos - Center of Biological and Health Sciences

9:45 a.m. PSX-23 **Use of time series data in the prediction of beef cattle dry matter intake using machine learning.**

Matthew Walker ¹, Nathan Blake ¹, Eswar ArunKumar Kalaga ¹, Domingo Mata-Padrino ¹, Ida Holaskova ¹, Matthew E. Wilson ²

¹West Virginia University, ²Davis College, West Virginia University

9:45 a.m. PSX-19 **Variation in nutritive value of whole cottonseed from the Regional Breeding Testing Network**
Diva N. Rigney¹, Macy Rockwell¹, Anna Grace G. Underwood¹, Jenny Koebernick¹, Kimberly Kim Mullenix¹, W. Brandon B. Smith¹
¹Auburn University

Teaching/Undergraduate and Graduate Education

Chair: Amy Safran, University of Connecticut

10:15 AM - 11:30 AM

Glen 208/209

10:15 a.m. 338 **Classroom mental wellness exercise improves wellness domains**
Kari K. Turner¹, John M. Gonzalez¹
¹University of Georgia

10:30 a.m. 339 **Promoting Media Literacy in Animal Science**
Ciana Bowhay¹
¹Tennessee Technological University

10:45 a.m. 340 **Training cognitive skills to improve integration and application of knowledge in animal physiology**
Rachael M. Stucke¹, Allison N. Vautier¹, Kellie Enns¹, Caitlin N. Cadaret¹
¹Colorado State University

11:00 a.m. 337 **Awardee Talk: What's the focus of your teaching lens?**
Don R. Mulvaney¹
¹Auburn University

Poster Session XI

11:00 AM - 12:00 PM

Exhibit Hall C

11:00 a.m. PSXI-24 **Comparative analysis of the chemical composition and methane production from different total mixed fermentation (TMF) diets fed to Hanwoo**
MINJUNG KU¹, Michelle Miguel², YoungSun Choi³, YuJin Noh³, Cheolhwan Nam³, HunSeop Kim³, Keunsik Baik⁴, ChangDae Jeong⁵, SangSuk Lee², JiYoung Jeong³
¹Livestock Research Institute, Jeollanamdo Agricultural Research & Extension Service(JARES), ²Department of Animal Resources Science, Suncheon National University, ³Livestock Research Institute, Jeollanamdo Agricultural Research & Extension Service (JARES), ⁴Department of Animal Resources Science, Suncheon National University, ⁵LJ Bio Corporation

11:00 a.m. PSXI-17 **Comparison of enteric methane production between the respiration chamber and the CO₂ method in Holstein heifers**

Jaesung Lee ¹, Rajaraman Bharanidharan ², Junseok Oh ³, Seyun Im ³, Sang Yeob Kim ³, Namal Ranaweera ³, Kyoung Hoon Kim ⁴, Myunggi Baik ³

¹College of Agriculture and Life Sciences, Seoul National University, ²Institute of Green Bio Science and Technology, Seoul National University, ³Seoul National University, ⁴Graduate School of International Agricultural Technology, Seoul National University

11:00 a.m. PSXI-23 **Development of Sub-models to Estimate Protein Requirements and Supply of Lactating Dairy Cows using Machine Learning Algorithms**

Mingyu Lee ¹, Seongwon Seo ², Luis O. Tedeschi ³

¹Texas A&M University, ²Chungnam National University, ³Texas A&M university, department of Animal Science

11:00 a.m. PSXI-30 **Economic impact of pre-training on dairy cattle automatic milking system acclimation**

Landon W. Whitehead ¹, Charles Martinez ², Elizabeth Eckelkamp ³

¹University of Tennessee, ²University of Tennessee - Knoxville, ³Department of Animal Science, University of Tennessee Institute of Agriculture

11:00 a.m. PSXI-4 **Effect of annual forage diversity on soil nitrous oxide emissions in semiarid Canadian Prairies**

Pedro Ferrari Machado ¹, Aklilu W. Alemu ², Fardausi Akhter ¹, Alan D. Iwaasa ², Reynald Lemke ¹, Mervin St. Luce ¹, Jason Nimegeers ¹, Haben Asgedom Tedla ¹, William May ¹

¹Agriculture and Agri-Food Canada, ²Agriculture And Agri-food Canada

11:00 a.m. PSXI-15 **Effect of different levels of dry distillers bran plus solubles on performance of Nelore bulls finished on pasture receiving high supplementation**

Gilyard Angelo Pinheiro de Souza ¹, Igor Machado Ferreira ², Saulo T. Teixeira Rodrigues de Almeida ³, Anna Lidia Francino Francino Garcia ⁴, Antonio Henrique Andrade ⁵, Mateus José Inácio de Abreu ², Flávio Dutra de Resende ⁶, Gustavo Rezende Siqueira ⁶

¹São Paulo State University (UNESP), Brazil, ²Department of Animal Science, São Paulo State University, ³Department of Animal Science, São Paulo State University "Júlio de Mesquita Filho" (UNESP), Jaboticabal, SP, Brazil / FAPESP grant: 2022/08742-5,

⁴Department of Animal Science, São Paulo State University "Júlio de Mesquita Filho" (UNESP), Jaboticabal, SP, Brazil, ⁵Centro de Performance do Grupo LPCD, Tangará da Serra, MT, Brazil, ⁶Agência Paulista de Tecnologia dos Agronegócios (APTA), Colina, SP, Brazil

11:00 a.m. PSXI-21 **Effect of the inclusion of increasing levels of three tree species on methane production and nutrient digestibility in vitro**

Maria Fernanda Vazquez-Carrillo ¹, Jimena Yaxen López-Varela ¹, Atmir Romero-Pérez ¹, Jonathan Noé Avilés-Nieto ², José Moises Talamantes-Montes ¹, Claudia Cecilia Marquez-Mota ¹, Luis Corona-Gochi ¹

¹Universidad Nacional Autónoma de México, ²INIFAP

11:00 a.m. PSXI-29 **Effects of Vitamin B6 supplementation on rumen fermentation and branched chain fatty acids content in vitro**

Xin Guo ¹, Tengfei Zhan ¹, Lu Ma ², Dengpan Bu ²

¹Chinese Academy of Agricultural Sciences Institute of Animal Science, ²State Key Laboratory of Animal Nutrition and Feeding, Institute of Animal Science, Chinese Academy of Agricultural Sciences

11:00 a.m. PSXI-22 **Effects of a palatability enhancer and olive bioactives on performance and physiological status of veal calves after farm reception**

Marta Blanch ¹, Jose J. Pastor ¹

¹Lucta, S.A.

11:00 a.m. PSXI-13 **Effects of corn containing gene for high concentration of alpha amylase (Enogen Feed corn) on fermentative parameters, digestibility and methane in vitro**

Daiana Dos Santos De Oliveira ¹, Bárbara Martins Brixner ², Adibe Luiz Abdalla ³, Daniel Montanher Polizel ⁴, James S. S. Drouillard ⁵, Flávio Augusto Portela Santos ⁶, Larissa M. Coelho ⁷

¹Escola Superior de Agricultura, ²Escola Superior de Agricultura "Luiz de Queiroz", ³Universidade de São Paulo, ⁴Universidade Estadual Paulista, ⁵Kansas State University, ⁶Sao Paulo University, ⁷Luiz de Queiroz College of Agriculture

11:00 a.m. PSXI-14 **Effects of diets with high and low inclusion of corn with or without high concentration of amylase on in vitro fermentative parameters and gas production**

Daiana Dos Santos De Oliveira ¹, Bárbara Martins Brixner ², Adibe Luiz Abdalla ³, Daniel Montanher Polizel ⁴, James S. S. Drouillard ⁵, Flávio Augusto Portela Santos ⁶, Larissa M. Coelho ⁷

¹Escola Superior de Agricultura, ²Escola Superior de Agricultura "Luiz de Queiroz", ³Universidade de São Paulo, ⁴Universidade Estadual Paulista, ⁵Kansas State University, ⁶Sao Paulo University, ⁷Luiz de Queiroz College of Agriculture

11:00 a.m. PSXI-18 **Effects of different fiber levels on rumination and inflammatory markers in feedlot cattle**

Mailza G. Souza ¹, Filipe Araújo Canêdo Mendonça ², João Pedro Azevedo Ventorin ¹, Matheus Copeli Garcia ³, Daniel Júdice Gonçalves ¹, Rafael Perches Guiducci ¹, Dante Pazzanese Lanna ⁴

¹University of São Paulo - ESALQ, ²Phibro Anima Health Corporation, ³University of São Paulo -FZEA, ⁴São Paulo University

11:00 a.m. PSXI-19 **Effects of different forage levels on performance and feeding behavior of feedlot cattle**

Mailza G. Souza ¹, Filipe Araújo Canêdo Mendonça ², João Pedro Azevedo Ventorin ¹, Guilherme Ortega Zulim ¹, Rafael Rodrigues Afonso ¹, Vitor Tenan Prandini ¹, Benjamim Clemente Marinho ¹, Dante Pazzanese Lanna ³

¹University of São Paulo - ESALQ, ²Phibro Anima Health Corporation, ³São Paulo University

11:00 a.m. PSXI-10 **Effects of feeding doses of enzyme complex and corn ethanol coproduct on performance and carcass traits of finishing beef cattle**

Bárbara M. Brixner¹, Bruno Garcia de Carvalho Dias¹, Murillo A. Meschiatti¹, Daiana Dos Santos De Oliveira², Fernanda Lopes³, Daniel Montanher Polizel⁴, Flávio Augusto Portela Santos⁵, Larissa M. Coelho⁶

¹“Luiz de Queiroz” College of Agriculture, ²Escola Superior de Agricultura, ³Adisseo Company, ⁴Universidade Estadual Paulista, ⁵Sao Paulo University, ⁶Luiz de Queiroz College of Agriculture

11:00 a.m. PSXI-12 **Effects of Flint corn with or without high concentration of amylase and particle size on in vitro fermentation parameters, gas production and methane emission**

Daiana Dos Santos De Oliveira¹, Bárbara Martins Brixner², Adibe Luiz Abdalla³, Daniel Montanher Polizel⁴, James S. S. Drouillard⁵, Flávio Augusto Portela Santos⁶, Larissa M. Coelho⁷

¹Escola Superior de Agricultura, ²Escola Superior de Agricultura "Luiz de Queiroz", ³Universidade de São Paulo, ⁴Universidade Estadual Paulista, ⁵Kansas State University, ⁶Sao Paulo University, ⁷Luiz de Queiroz College of Agriculture

11:00 a.m. PSXI-7 **Effects of selected feed additives on feedlot cattle performance when fed diets containing rehydrated corn grain silage**

André F. Francischinelli¹, Daniel L. C. G. Gouvêa¹, Vitória A. M. Ribeiro¹, Victor Carvalho², Alexandre Perdigão³, Murilo C. S. Pereira⁴, Mário B. B. Arrigoni¹, Cyntia L. L. Martins¹

¹São Paulo State University (UNESP), FMVZ Botucatu, SP, Brazil, ²dsm-firmenich, Department of Innovation and Applied Science, São Paulo, Brazil, ³dsm-firmenich, ⁴São Paulo State University (UNESP), FCAT Botucatu, SP, Brazil

11:00 a.m. PSXI-8 **Effects of selected feed additives on feedlot cattle performance when fed diets containing rehydrated corn grain silage during adaptation period**

André F. Francischinelli¹, Daniel L. C. G. Gouvêa¹, Alexandre Perdigão², Victor Carvalho³, Vitória A. M. Ribeiro¹, Murilo C. S. Pereira⁴, Cyntia L. L. Martins¹, Mário B. B. Arrigoni¹

¹São Paulo State University (UNESP), FMVZ Botucatu, SP, Brazil, ²dsm-firmenich, ³dsm-firmenich, Department of Innovation and Applied Science, São Paulo, Brazil, ⁴São Paulo State University (UNESP), FCAT Botucatu, SP, Brazil

11:00 a.m. PSXI-6 **Effects of termite frass inclusion in free range broiler beddings on growth, footpad dermatitis score, and blood profiles**

Yoko Tsukahara¹, Satoshi Egawa¹, Natsuko Ijiri², Akane Kato², Hiroyuki Togawa², Shozo Tomonaga¹, Hajime Kumagai¹, Hiroyuki Hirooka¹, Kenji Matsuura¹

¹Kyoto University, ²Livestock Technology Department, Kyoto Prefectural Agriculture, Forestry, and Fisheries Technology Center

11:00 a.m. PSXI-1 **Evaluation of weaning methods on performance and immune response to vaccination in beef calves.**

Kyle Stutts¹, Paige Browning¹, Rafael E. Martinez², Stanley F. Kelley¹

¹Sam Houston State University, ²Tarleton State University

11:00 a.m. PSXI-9 **Impact of copper dose and soybean oil on in vitro ruminal fermentation products.**

Arturo Rodezno-Gomez¹, Tyler A. Thomas¹, Joyce Oliveira¹, Huey Yi Loh¹, Meghan P. Thorndyke², Alexandra C. Miller², Julia Baroni Alves¹, Terry E. Engle³

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

³Department of Animal Sciences, Colorado State University

11:00 a.m. PSXI-2 **Impact of flexible prepartum supplementation strategies on cow-calf and subsequent progeny feedlot performance**

Jacki A. Musgrave¹, Kacie L. McCarthy², Travis Mulliniks³

¹University of Nebraska, ²University of Nebraska - Lincoln, ³Oregon State University

11:00 a.m. PSXI-11 **In vitro rumen fermentation characteristics of rumen fluid obtained from grain-fed and grass-fed farmed American Bison**

Claire E. Okoren¹, Terry E. Engle², Lily N. Edwards-Callaway¹

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

11:00 a.m. PSXI-16 **Increased copper concentrations in liver and duodenum tissues in Rambouillet-crossbred sheep receiving copper supplementation.**

Huey Yi Loh¹, Meghan P. Thorndyke², Alejandro Quevedo¹, Ashlee Gibbons¹, Brecken Baer¹, Leala Gleckler¹, Terry E. Engle³

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

³Department of Animal Sciences, Colorado State University

11:00 a.m. PSXI-3 **Mineral changes of stacked, composted and vermicomposted manure from finishing pigs fed diets low in energy, calcium, phosphorus and trace minerals and added with exogenous enzymes**

Maria de Lourdes Angeles¹, SERGIO GOMEZ-ROSALES¹, Alejandra Perez-Alvarado¹

¹INIFAP

11:00 a.m. PSXI-26 **Nutrigen® and Smart Shading™ improved feedlot performance of Bos indicus-influenced cattle fed in tropical environment**

Rodrigo D L Pacheco¹, Jessica Gusmão¹, Gustavo A B Moura², Vinicius Fonsêca³, Victor Campanelli¹, Pedro Terencio¹, João Fontanari⁴, Rafael Cervieri⁴, Alex Maia³

¹Campanelli Innovation Center, ²UNESP-Jaboticabal, ³Unesp-Jaboticabal, ⁴Nutribeef Consulting

11:00 a.m. PSXI-20 **Proteic dry supplements enriched with a blend of tannin-based extract enhance the performance of grass-fed cattle during the rainy season in tropical regions**

Marcelo Q. Manella¹, Rogerio Coan², Washington Mesquita³, Eduardo Paula⁴, Renata Branco Arnandes⁴

¹SilvaTeam Brasil, ²Coan Consulting, ³Intensiva Consulting, ⁴Beef Cattle Research Center, Instituto de Zootecnia, SP, Brazil

11:00 a.m. PSXI-25 **Re-characterizing beef cattle water intake**

Nathan Blake¹, Matthew Walker¹, Eswar Arunkumar Kalaga¹, Domingo Mata-Padrino¹, Ida Holaskova¹, Matthew E. Wilson²

¹West Virginia University, ²Davis College, West Virginia University

11:00 a.m. PSXI-27 **Supplementing Bovacillus™ to feedlot cattle finished under heat stress conditions**

Shea Mackey¹, Reinaldo F. Cooke², Autumn Pickett¹, Bruno I. Cappellozza³

¹Department of Animal Science, Texas A&M University, ²Texas A&M University, ³Chr. Hansen A/S

11:00 a.m. PSXI-5 **Transforming Retailer's Food Waste into Silage for Sustainable Animal Nutrition.**

Vicky Garcia Rodriguez¹, Layton Vandestroet¹, Layton Abeysekara¹, Kim H. Ominski², Emmanuel Bumunang³, Tim A. McAllister⁴, Stephanie A. Terry⁵, Luis Alberto Miranda-Romero⁶, Kim Stanford¹

¹University of Lethbridge, ²University of Manitoba, ³agr/gc, ⁴Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science, ⁵Agriculture and Agri-Food Canada, ⁶Universidad de Chapingo

11:00 a.m. PSXI-16 **Using a multi-omics approach to decipher trans-10 shift biomarkers in ruminants**

Susana P. Alves¹, Ana Cristina Vitor², Carmen Garrine³, Tatiane Fernandes⁴, Paolo Nanni⁵, Bernd Roschitzki⁵, Graeme Attwood⁶, Jonas Grossmann⁵, Endre Laczko⁵, André M. de Almeida⁷, Rui JB Bessa¹

¹CIISA - Centre for Interdisciplinary Research in Animal Health, AL4AnimalS, Faculty of Veterinary Medicine, University of Lisbon, Lisboa, Portugal, ²CIISA – Centre for Interdisciplinary Research in Animal Health, Faculty of Veterinary Medicine, University of Lisbon, ³Centre for Interdisciplinary Research in Animal Health, Faculty of Veterinary Medicine, University of Lisbon, ⁴School of Animal Sciences, Virginia Tech, ⁵FGCZ - Functional Genomics Center Zurich, University Zurich/ETH Zurich, ⁶Grasslands Research Centre, AgResearch, ⁷LEAF - Linking Landscape, Environment, Agriculture and Food Research center, TERRA, Instituto Superior de Agronomia, University of Lisbon, Lisboa, Portugal

**CSAS Symposium IIA - Animal genomics and future perspectives
- Sponsored by RDAR**

Chairs: Nuria Prieto, Agriculture and Agri-Food Canada, Lacombe Research and Development Centre; Devin Holman, Agriculture Agri-Food Canada, Lacombe Research and Developmental Center

1:00 PM - 3:20 PM

Glen 201/202

1:00 p.m. **CSAS Symposium IIA Introduction**

1:05 p.m. 301 **Leveraging genomics to advance the breeding of Canadian livestock**
Emily M. Leishman¹, Ricarda E. Jahnel¹, Alexandra Harlander¹, Owen W. Willems²,
Benjamin Wood³, Shai Barbut¹, Flávio S. Schenkel¹, Filippo Miglior⁴, Rachel Gervais⁵,
Paul Stothard⁶, Christine F. Baes⁷

¹University of Guelph, ²Hybrid Turkeys, ³University of Queensland, ⁴Guelph University,
⁵Université laval, ⁶Livestock Gentec, Department of Agricultural, Food and Nutritional
Science, University of Alberta, ⁷Centre for Genetic Improvement of Livestock, University of
Guelph

1:35 p.m. 161 **Development, deployment, and calibration of genomic selection
tools to improve performance traits for Canadian beef cattle**

Changxi Li¹, John A. Basarab², Tiago Valente³, Graham Plastow³, Paul Stothard³, Yining
Wang⁴, Michael Vinsky⁴

¹Lacombe Research and Development Centre, Agriculture and Agri-Food Canada, and
Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of
Alberta, ²Department of Agriculture, Food and Nutritional Science, University of Alberta,
³Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of
Alberta, ⁴Lacombe Research and Development Centre, Agriculture and Agri-Food Canada

2:10 p.m. 168 **American Mink Genome Sequencing Project**

Younes Miar¹

¹Dalhousie University

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

Poster Session XII

1:30 PM - 2:30 PM

Exhibit Hall C

1:30 p.m. PSXII-3 **Amino acid profile of warm-season perennial grass-legume
mixed pasture continuously stocked by horses**

Carol Vasco¹, Erick Santos², José C B Dubeux³, Marcelo Wallau³, Lynn Sollenberger³,
Lori K. Warren³, Carissa wickens³

¹Midway University, ²University of Alberta, ³University of Florida

1:30 p.m. PSXII-6 **Canopy height as a predictor of forage biomass in native
rangelands and bermudagrass pastures**

Guilherme F. S. Congio¹, Taner Hale¹, Thomas James¹, Eloa M. Araujo¹, Maira Sparks¹,
Myoung-Hwan Chi¹, Isabella C. F. Maciel¹

¹Noble Research Institute

1:30 p.m. PSXII-1 **Comparative analysis of the training response of Raramuri Criollo and Angus Cattle to virtual fencing**

Andres Ricardo Perea ¹, Lara Macon ², Robby Dunlap ², Micah Funk ³, Parker Winkler ³, Sara E. Campa-Madrid ⁴, Maximiliano J. Spetter ³, Meghan Filbert ⁵, Andres Cibils ⁶, Rick E Estell ², Glenn C. Duff ³, Dawn VanLeeuwen ³, Santiago A Utsumi ³

¹New Mexico State University - INTA EECT Yuto, Argentina, ²USDA Jornada Experimental Range, ³New Mexico State University, ⁴Department of Animal and Range Sciences; New Mexico State University, ⁵Nofence - USA, ⁶USDA ARS, Southern Plains Climate Hub

1:30 p.m. PSXII-5 **Development and optimization of a protocol for cultivation of hydroponic wheat.**

Daniela Redrovan ¹, Tareq Aziz ¹, Souvik Patra Souvik Patra ¹, Aaron B. Norris ², Pedro Melendez ³, Prasanth K. Chelikani ¹

¹School of Veterinary Medicine, Texas Tech University, ²Department of Natural Resources Management, Texas Tech University, ³Jockey Club College of Veterinary Medicine and Life Sciences, City University of Hong Kong

1:30 p.m. PSXII-23 **Effect of dietary straw withdrawal in high-concentrate diets on animal behavior in dairy beef crossbred bulls housed with straw bedding**

Lourdes Llonch ¹, Sonia Marti ¹, Marçal Verdú ², Joan Riera ³, Carles Medinya ⁴, Jordi Cucurull ², Maria Devant ¹

¹IRTA-Ruminant Production, ²bonÀrea Agrupa, ³Nanta S.A., ⁴Nutrición Animal S.L.

1:30 p.m. PSXII-16 **Effect of including sugar cane molasses on rumen fermentation characteristics in young beef finishing heifers**

Ellem Maria De Almeida Matos ¹, Sebastiao De Campos Valadares Filho ², Jardeson Pinheiro ², Thamys Polynne Ramos Oliveira ², Livia Moreira Gandra ², Yuri Cesconetto Ebani ², Mariana Guimarães Pereira ², Luiz Carlos Oliveira de Sousa ², Joel S. S. Caton ³

¹Universidade Federal de Vicosa, ²Universidade Federal de Viçosa, ³North Dakota State University

1:30 p.m. PSXII-29 **Effect of tannins level and diet type on in vitro ruminal fermentation and methane production**

Valeria Guadalupe Jiménez-Arevalo ¹, Atmir Romero-Pérez ², José Moises Talamantes-Montes ², María Fernanda Vázquez-Carrillo ², Claudia Cecilia Marquez-Mota ², Luis Corona-Gochi ²

¹Universidad Nacional Autónoma de México, ²Universidad Nacional Autónoma de México

1:30 p.m. PSXII-30 **Effect of yeast strains on in vitro ruminal fermentation using different substrates.**

Yamicela Castillo-Castillo ¹, BEXY GONZALEZ ², Robin C. Anderson ³, AGUSTIN CORRAL ², MONSERRATH FELIX-PORTILLO ², PERLA ORDOÑEZ ², JOEL DOMINGUEZ ²,

CLAUDIO ANGULO ⁴, RAMON COPADO ⁵, Jaime Salinas-Chavira ⁶, Oscar Ruiz-Barrera ¹

¹Autonomous University of Chihuahua, ²AUTONOMOUS UNIVERSITY OF CHIHUAHUA, ³United States Department of Agriculture, Agricultural Research Service, Food and Feed Safety Research Unit, ⁴AUTONOMOUS UNIVERSITY OF SINALOA, ⁵AUTONOMOUS UNIVERSITY OF NUEVO LEON, ⁶Autonomous University of Tamaulipas

1:30 p.m. PSXII-12 **Effects of compost environment on bone degradation of livestock mortality compost**

Justin M. Vigil ¹, Kasey L. DeAtley ²

¹Chico State University, ²California State University, Chico

1:30 p.m. PSXII-27 **Effects of different doses of aflatoxin B1 on the ruminal fermentation parameters and microbial populations of goats**

Fucan Li ¹, Jing Peng ¹, Xi Wang ¹, Haitao Shi ¹

¹Southwest Minzu University

1:30 p.m. PSXII-9 **Effects of lauric acid- and hops-based products on select microbial populations of aerobically exposed silage**

Oscar Ruiz-Barrera ¹, Jaime Salinas-Chavira ², Marina Ontiveros-Magadan ³, Barbara W. Jones ⁴, Mozart A. Fonseca ⁵, Michael D. D. Flythe ⁶, Robin C. Anderson ⁷, Roger B. Harvey ⁷, Yamicela Castillo-Castillo ¹

¹Autonomous University of Chihuahua, ²Autonomous University of Tamaulipas,

³Autonomous University of Ciudad Juarez, ⁴Tarleton State University, ⁵Department of Agriculture, Nutrition and Veterinary Sciences, University of Nevada, ⁶United States Department of Agriculture, Agricultural Research Service, Forage-Animal Production Research Unit, ⁷United States Department of Agriculture, Agricultural Research Service, Food and Feed Safety Research Unit

1:30 p.m. PSXII-8 **Environmental cost effects of different manure treatment methods on dairy farms**

Han Wang ¹, Lu Ma ¹, Dengpan Bu ¹

¹State Key Laboratory of Animal Nutrition and Feeding, Institute of Animal Science, Chinese Academy of Agricultural Sciences

1:30 p.m. PSXII-14 **Fecal near infrared reflectance spectroscopy for indirect prediction of methane emissions from grazing cattle**

Barbara Rodrigues ¹, William Fox ², Jessica Dudak ¹, Taylor Winkler ¹, Christopher McCoy ¹, Douglas R. Tolleson ³

¹Grazingland Animal Nutrition Laboratory, Texas A&M AgriLife Research, ²Texas A&M Center for Natural Resource Information Technology, ³Texas A & M AgriLife Research - Sonora

1:30 p.m. PSXII-7 **Forage quality and grazing dairy cattle performance as affected by the circadian rhythm: A meta-analytic investigation**

Guilherme F. S. Congio ¹, Isabella C. F. Maciel ¹, Sila C. da Silva ²

¹Noble Research Institute, ²University of Sao Paulo

1:30 p.m. PSXII-13 **Heavy metal and nutrient concentration in non- and livestock-mortality compost**

Kasey L. DeAtley ¹, Justin M. Vigil ², Dana Yount ¹

¹California State University, Chico, ²Chico State University

1:30 p.m. PSXII-21 **How does the inclusion of dried distillers grains plus soluble affect short-chain fatty acid and methane production in feedlot diets?**

Larissa M. Coelho ¹, Althieres J. Furtado ², Rodrigo de Nazaré S. Santos Torres ³, Maristela Consilio ², Mário O. Oliveira ⁴, Lidia M. Lima ⁵, Flavio Perna Junior ², Luis O. Tedeschi ⁶, Patricia P A Oliveira ⁷, Amelia K. Almeida ⁸, Flávio Augusto Portela Santos ²

¹Luiz de Queiroz College of Agriculture, ²Sao Paulo University, ³UNESP, ⁴Escola Superior de Agricultura 'Luiz de Queiroz', ⁵Sao Paulo University, ⁶Texas A&M university, department of Animal Science, ⁷Embrapa Pecuária Sudeste, ⁸Massey University, Palmerston North, New Zealand

1:30 p.m. PSXII-17 **Hydrolysed yeast supplementation and withdrawal effect on rumen fermentation dynamics**

Hagen Schulze ¹, Becca B. Grimes Francis ², Jay Johnston ³

¹Livalta/ AB Agri, ²Animal Science/ South Dakota State University, ³Fermentrics

1:30 p.m. PSXII-11 **Impact of pre-breeding and breeding supplementation in May-born range heifers on growth rates and reproductive performance**

Josie Crouch ¹, Travis Mulliniks ², Jacki A. Musgrave ³, Kacie L. McCarthy ⁴

¹University of Nebraska- Lincoln, ²Oregon State University, ³University of Nebraska,

⁴University of Nebraska - Lincoln

1:30 p.m. PSXII-25 **Impacts of crude protein level and urea source on finishing performance of Nelore bulls**

Renato L. de Paula ¹, Gabriela D. Rezende ¹, Antônio X. Mucida ¹, Letícia K. Huang ¹, Rayane A. Lino ¹, Júlia M. C. Souza ¹, Javier Martín-Tereso ², Erick D. Batista ³

¹Universidade Federal de Lavras, ²Trouw Nutrition R&D, ³UFLA

1:30 p.m. PSXII-19 **Influence of dietary copper concentration and liver sampling location on liver copper concentrations in three breeds (Gulf Coast Native, Suffolk x Hampshire, and Jacob) of sheep.**

Julia Baroni Alves ¹, Huey Yi Loh ¹, Jarvis Scott ², Jennifer Parsons ³, Nancy Irlbeck ⁴, Ashley Fowler ⁵, Terry E. Engle ⁶

¹Colorado State University, ²Purina Animal Nutrition, ³Mazuri Exotic Animal Nutrition,

⁴Washington State University, Department of Animal Science, ⁵Kentucky Equine Research,

⁶Department of Animal Sciences, Colorado State University

1:30 p.m. PSXII-4 **Intercropping perennial cereal grain crops in alternate or same row seeding method for improved forage yield and quality**

Cosmas Ugwu ¹, Akim Omokanye ², Guillermo Ramirez Hernandez ³, Malinda S. Thilakathna ⁴, Chelsey Hostetler ⁵, Naveen Arora ⁶, Dick Puurveene ⁷, Kabal Singh ⁸, Alex Olson ⁹, Khalil Ahmed ⁹

¹University of Alberta, ²University of Alberta, Peace country Beef and Forage Association,

³Dept. of Renewable Resource, University of Alberta, ⁴University of Alberta, ⁵Peace Country

Beef and Forage Association, ⁶Mackenzie Applied research Association, ⁷University of

Alberta Breton plots, ⁸Gateway Research Organization, ⁹Battle River Research Group

1:30 p.m. PSXII-18 **Nitrogen balance and ruminal bacterial diversity indexes of Nellore cattle fed with amylolytic and fibrolytic enzymes in feedlot**

Igor Machado Ferreira ¹, Mateus José Inácio de Abreu ¹, Aline Naime Naime Rodrigues ², Gilyard Angelo Pinheiro de Souza ³, Hiam Jardel Marcon ², Fiorella L. Viquez-Umana ⁴, Arlan Araújo Rodrigues ⁴, Hilário C. Cuquetto Mantovani ⁴, Luiz Fernando Costa e Silva ⁵, Anne Koontz ⁶, Gustavo Rezende Siqueira ⁷, Flávio Dutra de Resende ⁷

¹Department of Animal Science, São Paulo State University, ²Department of Animal Science, Universidade Estadual Paulista “Júlio de Mesquita Filho” (UNESP), Jaboticabal, São Paulo, Brazil, ³São Paulo State University (UNESP), Brazil, ⁴Department of Animal and Dairy Science, University of Wisconsin-Madison, Madison, WI, USA, ⁵Alltech, Maringa 87030-405, Parana, Brazil, ⁶Alltech Inc, Nicholasville, KY, USA, ⁷Agência Paulista de Tecnologia dos Agronegócios (APTA), Colina, SP, Brazil

1:30 p.m. PSXII-28 **Physiochemical and nutritional characteristics of the newly developed value-added Blended Fat Stimulated Feed Product (BFSFP) in comparison with commercial protein and energy feeds**

Umair Ihsan ¹, Luciana Prates ², H. (Bart) A. Lardner ³, Rex N. Newkirk ¹, María E. Rodríguez Espinosa ¹, Peiqiang Yu ⁴

¹University of Saskatchewan, ²Proveta Nutrition, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴University of Saskatchewan, ASAS, CSAS, ADSA

1:30 p.m. PSXII-10 **Post-weaning energy balance in dual-purpose replacement heifers (Giroland-Brown Swiss cross) confined-raised and grazing-raised before and after rainy season in tropical systems livestock**

Hector Javier Perez Marquez ¹, Ricardo Aviles-Ruiz ², Oscar Barron Bravo ², Miguel Ruiz-Albarran ³, Manuel Flores-Najera ²

¹RB research; University of Alberta, ²INIFAP, ³University Autonomous of Tamaulipas

1:30 p.m. PSXII-2 **Real-time detection of parturition in beef cows managed on extensive rangeland pasture**

Andres Ricardo Perea ¹, Andrew Cox ², Micah Funk ², Sajidur Rahman ², Huiying Chen ², Yuxi Wang ³, Sara E. Campa-Madrid ⁴, Maximiliano J. Spetter ², Mehmet Bakir ², Huiping Cao ², Andres Cibils ⁵, Rick E Estell ⁶, Glenn C. Duff ², Santiago A Utsumi ²

¹New Mexico State University - INTA EECT Yuto, Argentina, ²New Mexico State University, ³AAFC, ⁴Department of Animal and Range Sciences; New Mexico State University, ⁵USDA ARS, Southern Plains Climate Hub, ⁶USDA Jornada Experimental Range

1:30 p.m. PSXII-22 **Ruminal in situ DM and starch degradability in grain sorghum silage, as affected by processing and storage time**

Leandro O. Abdelhadi ¹, Araceli B. Maderal ², Ignacio Fernandez-Marenchino ², Juan de J. Vargas ², Andres Fernandez-Lehman ³, Federico Tarnonsky ², Guillermo Mattioli ⁴, Nicolas DiLorenzo ⁵

¹Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, Argentina, ²North Florida Research and Education Center, University of Florida, Marianna, FL 32446, ³University of Florida, ⁴Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, ⁵North Florida Research and Education Center, University of Florida

1:30 p.m. PSXII-20 **The effect of the partial inclusion of Non-Forage Fiber Sources (NFFS) on methane production and rumen fermentation**

Kayla Grey ¹, Mohamed Embaby ², Grace Handlos ², Amer AbuGhazaleh ²

¹Southern Illinois University - Carbondale, ²SIUC

1:30 p.m. PSXII-26 **The influence of protein supplementation in beef cows during early lactation on growth performance, carcass characteristic and meat quality of progeny.**

Sebastián Maresca ¹, María Laura Testa ¹, Sebastian O. López Valiente ¹, Alejandro Martín M. Rodríguez ¹, Grigera Juan ², Nicolas DiLorenzo ³

¹INTA, ²Private Activity, ³North Florida Research and Education Center, University of Florida

1:30 p.m. PSXII-15 **Theory of planned behavior-based evaluation of technology adoption in dairy farms.**

Sushil Paudyal ¹, Karun Kaniyamattam ²

¹Texas A&M University, ²ANSC & AgrLife Research, Texas A&M University

1:30 p.m. PSXII-24 **Use of a commercial blend of tannins as feed additive for feed lot cattle on large pen trial improves carcass weight and carcass feed conversion.**

Marcelo Q. Manella ¹, Andre Campanini ², celso Boin ³, Eduardo Paula ⁴, Renata Branco Arnandes ⁴, Vagner Lopes ²

¹SilvaTeam Brasil, ²MFG cattle feeders, ³Esalq-University of São Paulo, ⁴Beef Cattle Research Center, Instituto de Zootecnia, SP, Brazil

Animal Behavior and Well-Being III: Performance

Chair: Juliana Ranches, Oregon State University

1:45 PM - 3:00 PM

Glen 206

1:45 p.m. 450 **Understanding communication barriers: Demographic variables and language needs in the interaction between English-speaking agriculture professionals and Spanish-speaking animal caretakers**

Allen Jimena Martinez Aguiriano ¹, Silvana Pietrosevoli ², Marcelo Schmidt ¹, Arlene Garcia ¹, Leonor Salazar ¹, Babafela awosile ¹

¹Texas Tech University, ²North Carolina State University

2:00 p.m. 325 **Longitudinal retrospective study of performance and biomarkers of energy balance and gastrointestinal functionality in unweaned calves subjected to transport or entire commercialization at arrival**

Sonia Marti ¹, Lucia Pisoni ¹, Marta Blanch ², Anna Bassols ³, Yolanda Saco ³, Raquel Pato ³, Joan Pujols ⁴, Maria Devant ¹

¹IRTA-Ruminant Production, ²Lucta, S.A., ³UAB-Faculty of Veterinary Science, Department of Biochemistry and Molecular Biology, ⁴IRTA-CReSA Animal Health

2:15 p.m. 326 **Relationship between activity and social interactions of beef bulls during the pre-breeding period and siring capacity in multi-sire breeding groups**

Vinicius A. Camargo ¹, Edmond A. Pajor ¹, Jennifer M. Pearson ¹

¹Faculty of Veterinary Medicine, University of Calgary

2:30 p.m. 327 **Evaluation of glucose supplement provided with enrichment to reduce hunger induced stress in gestating sows**

Emerald Julianna Salinas¹, Kiran Niure², John J. McGlone³, Allen Jimena Martinez Aguiriano³, Heidi Villalba³, Lucas Spectic³, Brooke L. Kitting⁴, Faby Hernandez⁴, Arlene Garcia³

¹Texas Tech School of Veterinary Medicine Graduate Research Student, ²TTU, ³Texas Tech University, ⁴Seaboard Foods

2:45 p.m. 328 **Assessment of chronically ill or injured feedlot cattle populations at 8 United States and 9 Canadian feedlots and implications for cattle welfare**

Emiline R. Sundman¹, Suzanne T. Millman², Karen S. Schwartzkopf-Genswein³, Renee D. Dewell⁴, Tye Perrett⁵, Calvin W. Booker⁵, Sarah E. Erickson⁵, Gustavo S. Silva¹, Daniel U. Thomson¹, Anna K. Johnson⁶, Grant A. Dewell⁷

¹Iowa State University, ²Veterinary Diagnostic & Production Animal Medicine and Biomedical Sciences, Iowa State University, ³Agriculture and Agri-Food Canada, ⁴Center for Food Security and Public Health, Iowa State University, ⁵Feedlot Health Management Services, ⁶Animal Science, Iowa State University, ⁷Veterinary Diagnostic & Production Animal Medicine, Iowa State University

Physiology and Endocrinology VI

Chair: Fernando Biase, Virginia Tech

1:45 PM - 3:30 PM

Telus 101/102

1:45 p.m. 385 **Extracellular vesicle microRNAs in porcine seminal plasma reflect quality status**

Notsile H. Dlamini¹, Jean M.N. Feugang¹, Scott T. Willard¹, Peter L. Ryan¹

¹Mississippi State University

2:00 p.m. 386 **Pregnancy supportive metabolites are enhanced in Brahman cows on day 15 of the estrous cycle**

Damon Smith¹, Brette Poliakiwski¹, Mario Vilches¹, Musah Muntari¹, Sarah A. Singleton¹, Odile Polanco¹, Gabriela Melo¹, Vitor RG Mercadante², Sarah E. Moorey³, Alan Ealy⁴, Fernando Biase⁴, Cliff C. Lamb⁵, Ky G. Pohler¹

¹Texas A&M University, ²Virginia Tech - Animal and Poultry Sciences; Large Animal Clinical Sciences, ³University of Tennessee, ⁴Virginia Tech, ⁵Agri-Life Research, Texas A&M University

2:15 p.m. 387 **Impacts of rumen protected omega-6 fatty acid supplementation on cow reproduction and calf growth.**

Sidney E. Stratton¹, Tom W. Geary², Gwinyai E. Chibisa¹, Joseph C. Dalton¹, Abigail L. Zezeski², Janet E. Williams¹, John B. Hall¹

¹University of Idaho, ²USDA-ARS, Fort Keogh Livestock and Range Research Laboratory

2:30 p.m. 388 **Effects of maternal nutrient restriction during late gestation on pre-pubertal beef calf testis size and histology**

Colby A. Redifer¹, Lindsey G. Wichman¹, Allison M. Meyer²

¹University of Missouri, ²Division of Animal Sciences, University of Missouri

2:45 p.m. 389 **Impact of a Controlled Internal Drug Release device on circulating and local concentrations of progesterone.**

George A. Perry ¹, Chloey P. Carson ¹, Lacey K. Quail ², Sarah Blaske ², Jaclyn N. Ketchum ²

¹Texas A&M AgriLife Research and Extension Center, Overton, TX, ²Department of Animal Science, Texas A&M University, College Station, TX

3:00 p.m. 390 **Investigating the cecal microbiota of commercial layers raised in different production systems**

Camila S. Schultz Marcolla ¹, Tingting Ju ², Benjamin Willing ¹

¹University of Alberta, ²Purdue University

3:15 p.m. 391 **The impact of trace mineral source on systemic immunological status associated with early embryonic loss in lactating dairy cattle**

Mary A. Leach ¹, Hannah L. M. Tucker ², Heather A. Tucker ², William Seymour ², Elizabeth Eckelkamp ³, Elizabeth Shepherd ³, Daniel Mathew ³, Kyle J. McLean ³

¹University of Tennessee, Knoxville, ²Novus International, Inc., ³Department of Animal Science, University of Tennessee Institute of Agriculture

Beef Species Symposium II: Increasing the resilience of beef cattle feeder supply

Chair: Bryan Neville, USDA-ARS, U.S. Meat Animal Research Center

1:45 PM - 5:15 PM

Macleod B

1:45 p.m. **Beef Species Symposium II Introduction**

1:50 p.m. 405 **Beef-cattle outlook & economic thoughts on resilience**

Glynn T. Tonsor ¹

¹KANSAS STATE UNIV

2:35 p.m. 406 **Impacts of drought on long term cow-calf productivity and potential management strategies for producers to overcome these challenges**

Paul A. Beck ¹, Matthew R. Beck ², Stacey A. Gunter ³, David L. Lalman ¹, Richard Prather ⁴

¹Oklahoma State University, ²USDA-ARS, ³USDA, Agricultural Research Service, ⁴Ellis County Hospital

3:20 p.m. **Beef Species Symposium II Break**

3:35 p.m. 407 **Transition from the ranch to the feedyard: Challenges and management strategies to improve calf health welfare and performance**

Karen S. Schwartzkopf-Genswein ¹, Daniela M. Meléndez ²

¹Agriculture and Agri-Food Canada, ²AAFC

4:20 p.m. 408 **It's 2024. Do You Know Where Your Feeders Are?**

Sandi Parr ¹

¹G. K. Jim Group

Nonruminant Nutrition III: Amino Acid and Chelated Minerals

Chair: Erin Posey, National Veterinary Services Laboratories, Veterinary Services,
Animal and Plant Health Inspection Service, US Department of Agriculture

2:00 PM - 3:00 PM

Macleod E1

2:00 p.m. 380 **Diet protein concentration does not influence dietary net energy by group housed growing pigs offered ad libitum access to feed**

Minoy Cristobal¹, Su A Lee¹, Andrea P. Mallea¹, Leidy J. Torres-Mendoza¹, Carl M. Parsons², Hans H. Stein¹

¹University of Illinois at Urbana-Champaign, ²University of Illinois Urbana-Champaign

2:15 p.m. 381 **Effects of L-glutamate and L-aspartate supplementation on intestinal immunity and intestinal barrier integrity of weaned piglets challenged with F18 ETEC**

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

¹University of California, Davis, ²Michigan State University

2:30 p.m. 384 **Synthesis of glycine from trans-4-hydroxy-L-proline by placentae but not endometria of gestating gilts**

Erin D. Connolly¹, Wenliang He¹, Arianna Lopez¹, Maddison Olivarez¹, Joseph Cain¹, Carli Lefevre¹, Alex Ross¹, Gregory Johnson¹, Fuller Bazer², Guoyao Wu¹

¹Texas A&M University, ²Professor

2:45 p.m. 383 **Performance of piglets in response to graded dietary supplementation of sulfur amino acids using either hydroxy-methionine or DL-Methionine during the post-weaning period**

Francis Amann Eugenio¹, Marta Isabel Gracia-Lorenzo², Dolores I. Batonon-Alavo¹, Yves Mercier¹

¹Adisseo France SAS, ²IMASDE Agroalimentaria S.L.

Ruminant Nutrition VI: Dietary Fat and Protein

Chair: Brandon Smith, Auburn University

2:00 PM - 3:00 PM

Macleod C

2:00 p.m. 400 **Effect of pH on in vitro ruminal metabolism of trans-10 18:1 and trans-11 18:1**

Tatiane Fernandes¹, Chica Manuel², Payam Vahmani³, Susana P. Alves⁴, Mike Dugan⁵, Rui JB Bessa⁴

¹School of Animal Sciences, Virginia Tech, ²CIISA, Fac. Med. Vet., ULisboa, ³UC Davis, Department of Animal Science, ⁴CIISA - Centre for Interdisciplinary Research in Animal Health, AL4Animals, Faculty of Veterinary Medicine, University of Lisbon, Lisboa, Portugal,

⁵Lacombe Research and Development Centre (Retired)

2:15 p.m. 401 **Effect of protein and starch supplementation level on intake and digestibility by steers consuming low-quality forage: I. Bos taurus indicus**

Jodi R. Cox¹, Tryon A. Wickersham¹

¹Texas A&M University

2:30 p.m. 402 **The effect of supplemental protein degradability and frequency of supplementation on nitrogen metabolism of beef cattle consuming low-quality forage**

Kali Castle¹, Paul A. Beck¹, Andrew P. Foote¹

¹Oklahoma State University

2:45 p.m. 398 **Effects of timing of fat supplementation on intake, growth performance, carcass characteristics, and methane emissions of finishing beef cattle**

Ryan C. Foster¹, Matthew R. Beck², Jarret Proctor¹, Nathan S. Long¹, John Pennington³, Mykael Bichofi Do Prado³, Mario Hernandez³, Vinicius N. Gouvêa⁴

¹Texas A&M University, ²USDA-ARS, ³Texas A&M AgriLife Research, ⁴Texas A&M AgriLife Research and Extension Center at Amarillo

Growth and Development II

Chair: Kara Thornton-Kurth, Utah State University

2:00 PM - 3:45 PM

Glen 203/204

2:00 p.m. 425 **Altering methyl donors to beef heifers during the periconceptual period impacts fetal muscle transcript abundance**

Kathlyn M. Hauxwell¹, Robert A. Cushman², Joel S. S. Caton¹, Wellison Jarles Da Silva Diniz³, Brittney N. Keel⁴, Alison K. Ward⁵, Amanda K. Lindholm-Perry⁶, Alexandria P. Snider², Harvey C. Freetly⁶, Carl R. Dahlen¹, Samat Amat¹, Bryan W. Neville⁶, Jennifer F. Thorson⁶, William T. Oliver⁶, Jeremy R. Miles², Matt S. Crouse⁶

¹North Dakota State University, ²USDA-ARS, US Meat Animal Research Center, ³Auburn University, ⁴USDA-ARS US Meat Animal Research Center, ⁵University of Saskatchewan, ⁶USDA-ARS, U.S. Meat Animal Research Center

2:15 p.m. 426 **Effects of maternal nutritional restriction on beef cattle fetal metabolism**

John F. Odhiambo¹, Kasey Elder², Caleb O. Lemley³

¹Florida Agricultural and Mechanical University, ²Florida A&M University, ³Department of Animal and Dairy Sciences, College of Agriculture and Life Sciences, Mississippi State University

2:30 p.m. 427 **Impact of late gestation slow-release nitrogen-enriched diets on energy metabolism in calf skeletal muscle: a proteomic and transcriptomic approach**

Mateus P. Gionbelli¹, Thais C. Costa¹, Diana C. Cediél-Devia¹, Karolina B. Nascimento¹, Tathyane R.S. Gionbelli¹, Marcio S. Duarte²

¹Universidade Federal de Lavras, ²Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada

2:45 p.m. 428 **Influence of melatonin supplementation in pregnant multiparous crossbred beef cows grazing endophyte-infected tall fescue on dam weight, milk yield, and pre-weaning growth of steer calves**

Miriam A. Snider¹, Carson R. Hopkins², Nathaniel T. Moss³, Charles R. Looney², Jeremy G. Powell², Elizabeth B. Kegley², Ken P. Coffey², M. Shane Gadberry³, Allison M. Meyer⁴, Caleb O. Lemley⁵, Brittini P. Littlejohn²

¹University of Arkansas System Division of Agriculture, ²University of Arkansas System, Division of Agriculture, Department of Animal Science, ³University of Arkansas System, Division of Agriculture, Livestock and Forestry Research Station, ⁴Division of Animal Sciences, University of Missouri, ⁵Department of Animal and Dairy Sciences, College of Agriculture and Life Sciences, Mississippi State University

3:00 p.m. 429 **Maternal rate of gain and one-carbon metabolites supplementation alters the gene expression profile of fetal brain during early gestation in beef heifers**

Muhammad Anas¹, Alison K. Ward², Wellison Jarles Da Silva Diniz³, Layla E. King¹, Jessica G. Syring¹, Yssi L. Entzie⁴, Mara R. Hirchert⁴, Pawel P. P. Borowicz⁴, Matt S. Crouse⁵, Lawrence P. P. Reynolds⁴, Carl R. Dahlen⁴, Joel S. S. Caton⁴

¹NDSU, ²University of Saskatchewan, ³Auburn University, ⁴North Dakota State University, ⁵USDA-ARS, U.S. Meat Animal Research Center

3:15 p.m. 430 **Spent hemp biomass increases bone mineral density in broilers**

Carolyn Pearce¹, Massimo Bionaz¹

¹Oregon State University

3:30 p.m. 431 **Evaluating a foundation model for animal body segmentation based on few-shot learning against a domain-specific deep neural network**

Enrico Casella¹, Joao R. R. Dórea²

¹Pennsylvania State University, ²University of Wisconsin

Teaching/Undergraduate & Graduate Education Symposium: Connecting Experiential Learning with Employment Opportunities—what industry wants us to know

Chair: Amy Safran, University of Connecticut

2:00 PM - 5:15 PM

Glen 208/209

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

2:05 p.m. 409 **From Classroom to Careers: Using coursework to expand student career perspectives and preparedness in animal science**

Amy Abrams¹

¹Berry College

2:35 p.m. 410 **Preparing yourself, or your students, for a career in the animal science industries**

Charles C. Elrod¹

¹Natural Biologics, Inc.

3:05 p.m. 411 **Designing academic talent pipelines to meet employment needs of the animal science industry**

Haley E. Larson ¹

¹Kansas State University

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

3:50 p.m. 412 **Awardee Talk: Implementing student-centered teaching and learning strategies in undergraduate animal science**

Sushil Paudyal ¹

¹Texas A&M University

4:20 p.m. 413 **Evaluation of utilizing personal development tools in collegiate science curriculum to enhance soft skill development**

Caitlyn Wileman ¹, Jennifer M. Bundy ¹, Jodi A. Sterle ¹, Cheryl L. Morris ¹, Stephanie L. Hansen ¹, Laura L. Greiner ¹

¹Iowa State University

4:35 p.m. 414 **Design thinking for engaged learning (DTEL) in animal science: data-driven considerations to improve student and instructor experiences**

Alice P. Brandão ¹, Kathrin Dunlap ¹, Jeffrey Wiegert ¹, Sushil Paudyal ¹

¹Texas A&M University

4:50 p.m. **Teaching/Undergraduate & Graduate Education Symposium Panel Discussion**

Poster Session XIII

2:45 PM - 3:45 PM

Exhibit Hall C

2:45 p.m. PSXIII-5 **Behavior and blood urea nitrogen in cattle grazing meadow bromegrass and supplemented with condensed and hydrolyzable tannins**

Iddy Muzzo ¹, Horacio Blanchard ¹, Claudio Cabral ², Juan J. Villalba ¹

¹Utah State University, ²Silvateam

2:45 p.m. PSXIII-17 **Comparative Study on epididymal spermatozoa parameters of Large White × Landrace and Windsnyer boars**

Thivhilaheli Richard Netshirovha ¹, Mfanuzile Welcome Lubisi ², Zwivhuya Constance Raphalalani ³

¹University of South Africa, ²Kwamhlanga, South Africa, ³Potchefstroom, South Africa

2:45 p.m. PSXIII-8 **Determining the effects of selenium content of high-selenium forages on weight gain in growing lambs**

T. Zane Davis ¹, T. Zane Davis ¹

¹USDA-ARS-Poisonous Plant Research Laboratory

2:45 p.m. PSXIII-2 **Does choice of apparatus affect detergent fiber fractions across forage types?**

Cecilia N. Sagastume ¹, Berman E. Espino ², Aghata Elins Moreira da Silva ¹, Abbigail R. Hines ¹, W. Brandon B. Smith ¹

¹Auburn University, ²Earth University

2:45 p.m. PSXIII-14 **Effect of melatonin supplementation during in vitro embryo culture on cleavage rates following in vitro maturation and fertilization of bovine oocytes**

Mahipal Singh ¹, Alexis Irving ¹, Abosedede Abolude ¹, Adel Moawad ¹, Xiaoling Ma ¹, Brou Kouakou ¹

¹Fort Valley State University

2:45 p.m. PSXIII-26 **Effects of Lentilactobacillus lactis and Lentilactobacillus buchneri on fermentation and aerobic stability in corn grain silages**

Rafaella Prado ¹, Izabela Faria ¹, Edna Medeiros ¹, Thiago Bernardes ¹

¹Universidade Federal de Lavras

2:45 p.m. PSXIII-27 **Effects of long-term dietary supplementation of nitrate on enteric methane production and performance of Hanwoo steers**

Rajaraman Bharanidharan ¹, Byamungu Mayange Tomple ¹, Jaesung Lee ², Ridha Ibdhi ³, Joonpyo Oh ⁴, Woohyeong Hong ⁵, Sujoung Huh ⁵, Kyoung Hoon Kim ⁵

¹Institute of Green Bio Science and Technology, Seoul National University, ²College of Agriculture and Life Sciences, Seoul National University, ³Agroécologie, INRAE, Institut Agro, Univ. Bourgogne, ⁴Cargill Animal Nutrition Korea, ⁵Graduate School of International Agricultural Technology, Seoul National University

2:45 p.m. PSXIII-12 **Effects of phytoestrogens on progesterone biosynthesis in dairy cows**

Donnelly Hutchings ¹, Dean Elder ¹, Paul Tsang ¹

¹University of New Hampshire

2:45 p.m. PSXIII-28 **Effects of replacing dry-rolled flint corn with reconstituted corn grain silage in supplements for beef cattle finished on pasture provided on different days after mixing**

Saulo T. Teixeira Rodrigues de Almeida ¹, Igor Machado Ferreira ², Amanda Caroliny Marques de Queiroz ², Gilyard Angelo Pinheiro de Souza ³, Mateus José Inácio de Abreu ², Antonio Henrique Andrade ⁴, Flávio Dutra de Resende ⁵, Gustavo Rezende Siqueira ⁵

¹Department of Animal Science, São Paulo State University "Júlio de Mesquita Filho" (UNESP), Jaboticabal, SP, Brazil / FAPESP grant: 2022/08742-5, ²Department of Animal Science, São Paulo State University, ³São Paulo State University (UNESP), Brazil, ⁴Centro de Performance do Grupo LPCD, Tangará da Serra, MT, Brazil, ⁵Agência Paulista de Tecnologia dos Agronegócios (APTA), Colina, SP, Brazil

2:45 p.m. PSXIII-7 **Effects of whole corn on gain and subsequent feedlot and carcass traits of Brahman steers stocked on Tifton 85 bermudagrass**

Monte Rouquette ¹, Jason Banta ², Charles R. Long ¹, Kyle Turner ¹, Kelli Norman ¹, Joe Paschal ², Ronald D. Randel ¹

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

2:45 p.m. PSXIII-4 **Evaluation of an in-pasture weighing system to measure body weight change of growing cattle grazing wheat pasture**

Corey A. Moffet ¹, Stacey A. Gunter ², Paul A. Beck ³, Paul P. Vining ³

¹USDA-ARS, OCPARC, ²USDA, Agricultural Research Service, ³Oklahoma State University

2:45 p.m. PSXIII-13 **Evaluation of physiological functions and performance in laying hens in different housing systems**

Gaku Shoji ¹, Ryota Tochinal ¹, Shin-ichi Sekizawa ¹, Masayoshi Kuwahara ¹

¹Graduate School of Agricultural and Life Sciences, The University of Tokyo

2:45 p.m. PSXIII-25 **Exploring crude glycerin as an alternative to corn in high-concentrate diets: Effects on performance and ruminal health in feedlot lambs**

Marco Tulio Costa Almeida ¹, Rodrigo de Nazaré S. Santos Torres ², Roberta de Lima Valença ³, Rafael Assis Torres de Almeida ⁴, Thainara Tintori Falcão ⁴, Vitor Paolini Hemerly ⁴, Laura Martins de Souza Carvalho ⁴

¹Federal University of Espirito Santo - UFES, ²UNESP, ³Federal University of Espirito Santo, ⁴UFES

2:45 p.m. PSXIII-21 **Fiber digestibility and phosphorus absorption by crossbred heifers receiving different phosphates**

Fernando P. de Paula Leonel ¹, Bruna C. Braga ¹, Maria Eduarda L. Resende ¹, Guilherme C. Leitão ¹

¹Federal University of São João del Rei - UFSJ

2:45 p.m. PSXIII-15 **Functional and molecular responses of cultured bovine granulosa cells to elevated levels of ammonia in vitro**

Micah Henrie ¹, Bailey Miller ¹, Clay Isom ¹

¹Utah State University

2:45 p.m. PSXIII-29 **How does the combination of 3-Nitrooxypropanol with feed additives affect the performance, carcass characteristics, and meat quality of feedlot young Nellore bulls?**

William L. L. De Souza ¹, Alexandre Perdigão ², Victor Carvalho ³, Tiago S. S. Acedo ², Maria B. Niehues ⁴, Isabella da Silva ⁵, Maryana Ribeiro ⁶, Luis F. M Tamassia ², Maik Kindermann ², Abmael S. Cardoso ⁷, Ricardo A. Reis ¹

¹São Paulo State University – UNESP, Jaboticabal, SP, Brazil, ²dsm-firmenich, ³dsm-firmenich, Department of Innovation and Applied Science, São Paulo, Brazil, ⁴São Paulo State University – UNESP, Botucatu, SP, Brazil, ⁵Federal University of Mato Grosso, UFMT, Cuiabá, MT, Brazil, ⁶Federal University of Mato Grosso do Sul, UFMS, Campo Grande, MS, ⁷Department of Animal Sciences, University of Florida, Gainesville, FL 32611, USA.

2:45 p.m. PSXIII-20 **Impact of *Aspergillus oryzae* fermentation-derived prebiotic-like additive combined with monensin on feedlot performance in finishing steers**
Felipe Pereyra yraola ¹, Darío Colombatto ², Natalia S. Forneris ², Fernando Bargo ³, Ignacio Ipharraguerre ⁴

¹FAUBA, Universidad de Buenos Aires, Buenos Aires, Argentina., ²CONICET - FAUBA, Universidad de Buenos Aires, Buenos Aires, Argentina., ³EPG – FAUBA, Universidad de Buenos Aires, Buenos Aires, Argentina. Biozyme, Inc., St. Joseph, MO, USA, ⁴Institute of Human and Food Science, University of Kiel, Kiel, Germany

2:45 p.m. PSXIII-10 **Impacts of inoculation with *Pediococcus pentosaceus* in combination with chitinase on bale core temperature, nutrient composition, microbial ecology, and ruminal digestion of high moisture alfalfa hay**

Yuxi Wang ¹, Jayakrishnan Nair ², Long Jin ¹, Eric Chevaux ³, Tim A. McAllister ⁴

¹AAFC, ²School of Agricultural Sciences, Southern Illinois University, ³Lallemand SAS, ⁴Agriculture and Agri-Food Canada - Editor in Chief Canadian Journal of Animal Science

2:45 p.m. PSXIII-24 **Inclusion of dried distiller's grains with solubles (DDGS) in feedlot diets containing flint corn and citrus pulp: metabolism and performance of finishing Nelore bulls**

Lívia M. Benez ¹, Bárbara M. Brixner ², Sílvio Luis Antunes ³, Pedro S. Lamas ³, Larissa M. Coelho ⁴, Mário O. Oliveira ³, Murilo Carlos de Lima ³, João Eduardo S. W. Duarte ³, Lucas S. C. de Carvalho ³, Gabriel C. de Melo ³, Luis O. Tedeschi ⁵, Flávio Augusto Portela Santos ⁶

¹Escola Superior de Agricultura "Luiz de Queiroz", ²"Luiz de Queiroz" College of Agriculture, ³Escola Superior de Agricultura 'Luiz de Queiroz', ⁴Luiz de Queiroz College of Agriculture, ⁵Texas A&M university, department of Animal Science, ⁶Sao Paulo University

2:45 p.m. PSXIII-22 **Intake, digestibility, and ruminal parameters of Nelore cattle fed with amylolytic and fibrolytic enzymes in feedlot**

Igor Machado Ferreira ¹, Aline Naime Naime Rodrigues ², Mateus José Inácio de Abreu ¹, Saulo T. Teixeira Rodrigues de Almeida ³, Gabriel Santos Souza David ², Bianca Rodrigues Domingos ⁴, Fiorella L. Viquez-Umana ⁵, Arlan Araújo Rodrigues ⁵, Hilário C. Cuquetto Mantovani ⁵, Luiz Fernando Costa e Silva ⁶, Anne Koontz ⁷, Gustavo Rezende Siqueira ⁸, Flávio Dutra de Resende ⁸

¹Department of Animal Science, São Paulo State University, ²Department of Animal Science, Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), Jaboticabal, São Paulo, Brazil, ³Department of Animal Science, São Paulo State University "Júlio de Mesquita Filho" (UNESP), Jaboticabal, SP, Brazil / FAPESP grant: 2022/08742-5, ⁴Department of Animal Science, Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), Jaboticabal, São Paulo, Brazil, ⁵Department of Animal and Dairy Science, University of Wisconsin-Madison, Madison, WI, USA, ⁶Alltech, Maringa 87030-405, Parana, Brazil, ⁷Alltech Inc, Nicholasville, KY, USA, ⁸Agência Paulista de Tecnologia dos Agronegócios (APTA), Colina, SP, Brazil

2:45 p.m. PSXIII-16 **Kinematics and viability of spermatozoa from Criollo and Angus bulls in a low-input system**

René A. Ramírez-Sosa¹, JOSE A A. MARTINEZ-QUINTANA¹, Horacio Álvarez-Gallardo², David Urbán-Duarte², Felipe A. RODRÍGUEZ-ALMEIDA³, Javier Antillón-Ruiz¹

¹Universidad Autónoma de Chihuahua, Facultad de Zootecnia y Ecología, ²Centro Nacional de Recursos Genéticos INIFAP, ³Universidad Autónoma de Chihuahua

2:45 p.m. PSXIII-11 **Large-scale profiling of non-conventional peptides in several tissues of Yak (*Bos mutus*) by peptidogenomic pipeline**

Biao Li¹, Zihua Jiang², Jinzeng Yang³

¹Key Laboratory of Qinghai-Tibetan Plateau Animal Genetic Resource Reservation and Utilization, Southwest Minzu University, ²Department of Animal Sciences and Center for Reproductive Biology, Washington State University, ³Dept of Human Nutrition, Food and Animal Sciences, University of Hawaii at Manoa

2:45 p.m. PSXIII-19 **Levels of multicarbohydase complexes on digestibility and rumen fermentation characteristics for feedlot cattle**

Bárbara M. Brixner¹, Bruno Garcia de Carvalho Dias¹, Murillo A. Meschiatti¹, Daiana Dos Santos De Oliveira², Sílvio Luis Antunes³, Fernanda Lopes⁴, Daniel Montanher Polizel⁵, Flávio Augusto Portela Santos⁶, Larissa M. Coelho⁷

¹"Luiz de Queiroz" College of Agriculture, ²Escola Superior de Agricultura, ³Escola Superior de Agricultura 'Luiz de Queiroz', ⁴Adisseo Company, ⁵Universidade Estadual Paulista, ⁶Sao Paulo University, ⁷Luiz de Queiroz College of Agriculture

2:45 p.m. PSXIII-23 **Phytogenic feed additive to improve performance by grazing Nellore growing cattle**

Isabelle E. Matos¹, Aline G. Silva¹, Alexandre Perdigão², Victor Carvalho³, Tiago S. S. Acedo², Gislaine J. Silva⁴, Edvan C. Teixeira⁴, Henrique J. Fernandes⁴

¹Federal University of Mato Grosso do Sul, MS, Brazil, ²dsm-firmenich, ³dsm-firmenich, Department of Innovation and Applied Science, São Paulo, Brazil, ⁴State University of Mato Grosso do Sul, MS, Brazil

2:45 p.m. PSXIII-18 **Prenatal transportation differentially affects the adrenal cortical and adrenomedullary transcriptomes of Brahman bull calves**

Thomas H. Welsh¹, Rodolfo C. Cardoso¹, Thomas B. Hairgrove¹, Charles R. Long², George A. Perry³, David R. Riley⁴, Ronald D. Randel²

¹Texas A&M University System, ²Texas A&M AgriLife Research, ³Texas A&M AgriLife Research and Extension Center, Overton, TX, ⁴Texas A&M University

2:45 p.m. PSXIII-3 **Regrowth interval and propionic acid effects on warm-season grass silage nutritive value and fermentation characteristics**

Chadwade Anderson¹, Joao M. B. Vendramini², Philippe Moriel², Lynn Sollenberger¹, Hiran da Silva¹, Jaime Garzon³, Joao V. Lazarin¹, Debora Siniscalchi⁴, Andre Miranda¹

¹University of Florida, ²University of Florida, IFAS - Range Cattle Research & Education Center, ³University of Maine, ⁴Sap Paulo State University

2:45 p.m. PSXIII-1 **Sensory additives improved the recovery of commercially marketed and transported unweaned dairy beef calves at rearing farm arrival**

Sonia Marti ¹, Maria Devant ¹, Marta Blanch ²

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

2:45 p.m. PSXIII-30 **Using conventional and slow-growing broilers to determine differences in early life developmental physiology of muscle and adipose tissue.**

Lindsey Eppinger ¹, Sophia Ascolese ², Jonathan E. Beever ³, Trevor Freeman ⁴, Taylor B. Seay ⁵, Brynn H. Voy ²

¹University of Tennessee, Knoxville, ²University of Tennessee, ³University of Tennessee - Knoxville, ⁴University of Tennessee, Knoxville, ⁵University of Tennessee, Knoxville

2:45 p.m. PSXIII-6 **Weed encroachment reduces soil organic carbon stock in bermudagrass pastures**

José C B Dubeux ¹, Igor Brêtas ², Luana Queiroz ², Courtland Kelly ³, Scott Flynn ³, Sam Ingram ³, Kevin Trumpp ², Kenneth Oduor ², Javier Portuquez ², Marilia Bernardini ², Martin Ruiz-Moreno ²

¹University of Florida, ²University of Florida - NFREC, ³Corteva

Animal Behavior and Well-Being IV

Chair: Juliana Ranches, Oregon State University

3:15 PM - 4:15 PM

Glen 206

3:15 p.m. 421 **An evaluation of Spanish-speaking animal caretakers attitudes towards piglet euthanasia in a large commercial swine production system in Southwestern U.S.**

Brooke L. Kitting ¹, Arlene Garcia ², Pablo Lamino ³, Faby Hernandez ¹, Daniela Chojolan ², Miguel Hernandez ²

¹Seaboard Foods, ²Texas Tech University, ³University of Florida

3:30 p.m. 422 **The use of 3D kinematics for improved gait assessment in broilers**

Clover Bench ¹, Emily Lowen ¹, Nicole Desrosiers ¹, Doug Korver ¹

¹University of Alberta

3:45 p.m. 423 **Comparative post-weaning performance characteristics of four breeds of rabbit in hot humid climate of Nigeria**

Olatunji TF Abanikanda ¹, Khadeejah O. Kareem-Ibrahim ¹, Faidat O. Olukoya ¹, Aisha Sanni ¹, Temiloluwa Okulaja ¹, Islamiyyah O. Otun ¹

¹Lagos State University

4:00 p.m. 424 **Examining the effect of genetics between bos Taurus and bos Indicus influenced cattle on production performance, carcass characteristics, and feeding behavior**

Lillian Okamoto ¹, Morgan R. Stegemiller ², Caleb C. Reichhardt ³, Anthony F. Alberto ¹, Sarah A. Bayles ¹, Bryce W. Roholt ¹, Brenda M. Murdoch ², Kara J. Thornton-Kurth ¹

¹Utah State University, ²University of Idaho, ³University of Hawaii at Manoa

**CSAS Symposium IIB - Strategies to improve the efficiency of rumen function
- Sponsored by RDAR**

Chair: Tim A. McAllister, Agriculture and Agri-Food Canada, Lethbridge Research Centre,
Lethbridge

3:20 PM - 5:00 PM

Glen 201/202

3:20 p.m. 434 **Strategies for improving the efficiency of rumen function**

Robert J. Gruninger¹, Eóin O'Hara², Stephanie A. Terry¹, Nikita A. Payne³, Megan M. Dubois⁴, Tim A. McAllister⁵, Gabriel O. Ribeiro Jr⁶

¹Agriculture and Agri-Food Canada, ²University of Alberta, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴University of Saskatchewan, ⁵Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, ⁶Agriculture and Agri-Food Canada; Lethbridge Research and Development Centre

3:35 p.m. 435 **Use of plant bioactives to improve the efficiency of rumen function**

Obioha N. Durunna¹, Emmanuel Gonzalez², Katherine E. Gzyl³, Oluwatobi Oyedele⁴, Iris Cheang⁵, Arun Kommadath⁶, Hushton Block³, Tim A. McAllister⁷, Leonard Fong⁸, H.

(Bart) A. Lardner⁹, Devin B. Holman¹⁰

¹Lakeland College, ²University of McGill, ³Agriculture and Agri-Food Canada, ⁴Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5, ⁵University of Saskatchewan, ⁶Agriculture and Agri-food Canada, ⁷Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, ⁸Olam Food Ingredients, ⁹Department of Animal and Poultry Science, University of Saskatchewan, ¹⁰Agriculture Agri-Food Canada, Lacombe Research and Developmental Center

4:10 p.m. 433 **Use of polyclonal antibodies to improve the efficiency of rumen function**

Gleise Medeiros da Silva¹

¹University of Alberta

4:45 p.m. 432 **Genomic strategies to improve the efficiency of rumen function**

Leluo Guan¹

¹Faculty of Land and Food Systems, The University of British Columbia

Companion Animal Symposium II: New technologies and techniques in companion animal research

Chair: Amanda Dainton, Freshpet

3:45 PM - 5:00 PM

Telus 104/105/106

3:55 p.m. **Companion Animal Symposium II Introduction**

4:00 p.m. 164 **Combining in silico, in vitro, and in vivo approaches for studying taste perception and preferences of domestic cats and dogs.**

Scott J. McGrane¹

¹Waltham Petcare Science Institute - Mars Petcare

4:30 p.m. 166 **Development of non-model organoids in animal research: A paradigm shift in in vitro models**

Christopher Zdyrski¹, Hannah Nicholson², Michael Catucci², Mohamed Elbadawy², Abigail Ralston¹, Ryan Feauto¹, Patrick Barko³, David Williams³, Jayati Chakrabarti⁴, Yana Zavros⁴, Maru Orbay², Emily Rawlings², Corey Saba², Jonathan Mochel², Karin Allenspach²

¹3D Health Solutions, ²University of Georgia, ³University of Illinois at Urbana-Champaign,

⁴University of Arizona

Forages and Pastures II: Grazing

Chair: S. Leanne Dillard, Auburn University

4:00 PM - 5:15 PM

Telus 101/102

4:00 p.m. 393 **The role of on-animal sensors in understanding feed intake, behaviour, and performance of grazing livestock**

James C.H Dougherty¹, Adam C. Liedloff², Shuwen Hu¹, Aaron B. Ingham¹, Ed Charmley¹, Gregory J. Bishop-Hurley¹, Sabrina L. Greenwood¹, Dean T. Thomas¹

¹CSIRO Agriculture & Food, ²CSIRO Environment

4:15 p.m. 394 **Cover crops for efficient grazing systems**

Sofia A. Suazo¹, Jose D. Pereira¹, Kim Mullenix¹, W. Brandon B. Smith¹, S. Leanne L. Dillard¹

¹Auburn University

4:30 p.m. 395 **The effect of forage allocation on steer performance when grazing cereal rye**

Shelby L. Davies-Jenkins¹, Abigail M. Sartin¹, Kallie J. Calus¹, Mary E. Drewnoski¹

¹University of Nebraska-Lincoln

4:45 p.m. 396 **Effects of allocation timing on cattle performance and forage utilization when swath grazing a sorghum-sudangrass hybrid in Eastern Nebraska**

Thomas Aquino¹, Mary E. Drewnoski², Pedro Henrique Jota Fernandes²

¹University of Nebraska - Lincoln, ²University of Nebraska-Lincoln

5:00 p.m. 397 **Effect of corn harvest with a chopping head on performance of cattle grazing corn residue**

Connor K. Biehler¹, Shelby L. Davies-Jenkins², Thomas Aquino¹, Sofia Suarez Lorences², Rebecca L. McDermott², James C. MacDonald², Mary E. Drewnoski²

¹University of Nebraska - Lincoln, ²University of Nebraska-Lincoln

Thursday, July 25, 2024

Nonruminant Nutrition IV: Nutrition for Growth and Production

Chairs: Larissa Becker, Kansas State University;
Su A Lee, University of Illinois at Urbana-Champaign
8:00 AM - 11:00 AM
Glen 206

8:00 a.m. 440 The effects of reducing dietary nutrient density after the second dose of GnRF immunization (Improvest) on growth performance and carcass characteristics of gilts and intact males

Benjamin M. Bohrer¹, Blaine Hansen², Steve Pollmann³, Jose Landero⁴, Malachy Young⁴
¹The Ohio State University, ²BCH Consulting LLC, ³DSP Consulting LLC, ⁴Gowans Feed Consulting

8:15 a.m. 441 Development of a multi-objective feed formulation to improve sustainability of swine production

Francine DE QUELEN¹, Etienne LABUSSIÈRE², Aurélie WILFART³, Jean-Yves DOORMAD¹, Florence Garcia-Launay¹
¹INRAE UMR PEGASE, ²INRAE UMR PEGASE-UE3P, ³INRAE UMR SAS

8:30 a.m. 442 Effects of added 25(OH)D3 with varying standardized total tract digestible phosphorus levels on nursery pig performance, bone and urine characteristics, and serum vitamin D

Larissa L. Becker¹, Jordan T. Gebhardt¹, Mike D. Tokach¹, Robert D. Goodband¹, Joel M. DeRouchey¹, Jason C. Woodworth¹, Jon R. Bergstrom²
¹Kansas State University, ²dsm-firmenich

8:45 a.m. 443 Awardee Talk: Calcium and phosphorus requirement estimates for gestating and lactating sows

Larissa L. Becker¹, Jordan T. Gebhardt¹, Mike D. Tokach¹, Jason C. Woodworth¹, Robert D. Goodband¹, Joel M. DeRouchey¹
¹Kansas State University

9:15 a.m. 444 The effects of increasing standardized ileal digestible lysine-to-net energy ratio during at 24-day lactation period on primiparous sow nitrogen utilization and lactation performance

Nicole Gregory¹, Lee-Anne Huber²
¹University of Guelph-Department of Animal Bioscience, ²University of Guelph - Department of Animal Biosciences (OAC)

9:30 a.m. Nonruminant Nutrition IV Break

9:45 a.m. 445 Effects of feed restriction on growth, blood chemistry and reproductive performance in replacement gilts

Debora M. Holanda¹, Sarah Stephens¹, Huaigang Lei², Jonatan R. Sanchez-Osorio³, Julia L. Moroni⁴, Louisa J. Zak⁵, Egbert F. Knol⁵, C. Martin Nyachoti¹
¹University of Manitoba, ²Topigs Norsvin Canada Inc., ³Topigs Norsvin Spain, ⁴Topigs Norsvin International B.V., ⁵Topigs Norsvin Research Center B.V.

10:00 a.m. 446 **A stochastic, dynamic agent-based model of swine nutrient requirements for the growing finishing production phase**

Atefeh Rahimifar¹, Karun Kaniyamattam², Jeffrey Wiegert³, Luis O. Tedeschi⁴

¹Texas A&M Animal Science, ²ANSC & AgriLife Research, Texas A&M University, ³Texas A&M University, ⁴Texas A&M university, department of Animal Science

10:15 a.m. 447 **Ex-food4feed: keeping nutrients in the food chain - Sponsored by EAAP**

Luciano Pinotti¹

¹University of Milan

10:30 a.m. 448 **Interactive effects of extrusion and particle size reduction of corn on metabolizable energy by weanling pigs**

Caleb M. Marshall¹, Su A Lee¹, Hans H. Stein¹

¹University of Illinois at Urbana-Champaign

10:45 a.m. 449 **Comparative study on performance, carcass traits and meat quality of different varieties of guinea fowl**

Md. Sazedul Karim Sarker¹, NN Lisa², S Faruque², MA Rashid³, Farhana Sharmin⁴

¹Poultry Research Center, Bangladesh Livestock Research institute, Savar, Dhaka, Bangladesh, ²Poultry Research Center, ³PRC, BLRI, Savar, ⁴Bangladesh Jute Research institute, Manik Mia Avenue, Dhaka, Bangladesh

Cell Biology Symposium: Impacts of DNA methylation on fetal development in livestock - Sponsored by ASAS-ADSA Northeast Section

Chair: Sarah Reed, University of Connecticut

8:00 AM - 11:30 AM

Telus 104/105/106

8:00 a.m. **Cell Biology Symposium Introduction**

8:05 a.m. 439 **Bovine embryo epigenetic analysis according to periconceptual conditions and new information on post natal phenotypes**

Marc Andre A. Sirard¹

¹Laval University

8:50 a.m. 437 **Fetal Programming in Sheep: Epigenetic modifications in offspring from poorly nourished dams**

Nicole M. Tillquist¹, Sarah A. Reed¹, Steven A. Zinn¹, Kristen E. Govoni¹

¹University of Connecticut

9:35 a.m. **Cell Biology Symposium Break**

9:50 a.m. 438 **DNA methylation patterns and transcriptional regulation during pig fetal skeletal muscle development**

Catherine W. Ernst¹

¹Michigan State University

10:35 a.m. 436 **Regulation of brain-placental axis in mouse versus pig**
SUSANTA K. BEHURA ¹

¹Division of Animal Sciences, University of Missouri, Columbia

Physiology and Endocrinology Symposium: Artificial Intelligence and Machine Learning to Improve Livestock Farming

Chair: Juan Loor, University of Illinois Urbana Champaign

8:00 AM - 12:15 PM

Telus 101/102

8:00 a.m. **Physiology and Endocrinology Symposium Introduction**

8:05 a.m. 458 **Advanced computing and information technology to address challenges in livestock production**

Dan Tulpan ¹

¹University of Guelph

8:50 a.m. 459 **A new approach to measuring dry matter intake, from drylot to pasture: activities of the alliance for regenerative livestock**

Matthew E. Wilson ¹, Nathan Blake ², Matthew Walker ², Ida Holaskova ², Eswar ArunKumar Kalaga ²

¹Davis College, West Virginia University, ²West Virginia University

9:35 a.m. **Physiology and Endocrinology Symposium Break**

9:50 a.m. 461 **Machine learning and AI to improve genetic prediction in beef cattle: Potential uses and misuses**

Matthew L. Spangler ¹

¹University of Nebraska-Lincoln

10:35 a.m. 462 **Artificial intelligence and machine learning to improve livestock farming**

Joao Dorea ¹, Guilherme Lobato Menezes ²

¹University of Wisconsin-Madison, ²University of Wisconsin-Madison

11:20 a.m. 463 **Cyber-Physical Systems with robots and AI for precision dairy farming**

Upinder Kaur ¹

¹Purdue University

Swine Species

Chair: Aileen Joy Mercado, Purina Animal Nutrition

8:30 AM - 11:00 AM

Telus 108/109

8:30 a.m. 464 **Awardee Talk: Gastrointestinal tract physiology in young pigs**

John Pluske ¹

¹The University of Melbourne

9:00 a.m. 465 **Comparative analysis of semantic segmentation and deep regression models with supervised pre-training for accurate prediction of pig body weight from video data: insights from industry-scale datasets**

Ye Bi ¹, Jianhua Xuan ¹, Yijian Huang ², Gota Morota ¹

¹Virginia Tech, ²Smithfield Premium Genetics

9:15 a.m. 466 **Dietary microalgae (*Chlorella vulgaris*) may stimulate GSH-antioxidant system in response to increased deposition of muscle omega-3 polyunsaturated fatty acids in post-weaning piglets**

Miguel F. Pedro ¹, Manólis Matzapetákis ², Susana P. Alves ³, María Zervou ², Margarida RG Maia ⁴, António JM de Fonseca ⁵, Ana R. Cabrita ⁵, Rui JB Bessa ³, João PB Freire ¹, André M. de Almeida ¹

¹LEAF - Linking Landscape, Environment, Agriculture and Food Research center, TERRA, Instituto Superior de Agronomia, University of Lisbon, Lisboa, Portugal, ²Molecular Analysis Lab, Institute of Chemical Biology, National Hellenic Research Foundation, Athens, Greece, ³CIISA - Centre for Interdisciplinary Research in Animal Health, AL4Animals, Faculty of Veterinary Medicine, University of Lisbon, Lisboa, Portugal, ⁴REQUIMTE, LAQV, ICBAS, School of Medicine and Biomedical Sciences, University of Porto, Portugal. Current address: LEAF - Linking Landscape, Environment, Agriculture and Food Research center, TERRA, Instituto Superior de Agronomia, University of Lisbon, Lisboa, Portugal, ⁵REQUIMTE, LAQV, ICBAS, School of Medicine and Biomedical Sciences, University of Porto, Portugal

9:30 a.m. 467 **Early *Bacillus*-based probiotic exposure in swine starts with the sow, and benefits both reproductive and growing swine**

Keith P. Kinsley ¹, Steve P. Lerner ¹

¹Novonesis

9:45 a.m. **Swine Species Break**

10:00 a.m. 468 **Maternal resilience to gestational social stress impacts suckling pigs' growth and behavior**

Andrea M. Luttman ¹, Janice M. Siegford ¹, Nancy E. Raney ¹, Catherine W. Ernst ¹

¹Michigan State University

10:15 a.m. 469 **Reducing Crude Protein levels with amino acid supplementation in the finishing diets of heavy Duroc sire line pigs: effects on carcass and meat traits in males and females**

André M. de Almeida ¹, Guillermo Ripoll ², Maria-Angeles Latorre ³, Javier Alvarez-Rodriguez ⁴

¹LEAF - Linking Landscape, Environment, Agriculture and Food Research center, TERRA, Instituto Superior de Agronomia, University of Lisbon, Lisboa, Portugal, ²Centro de Investigación y Tecnología Agroalimentaria de Aragón, ³Facultad de Veterinaria, Universidad de Zaragoza, ⁴ Universidad de Lleida

10:30 a.m. 470 **Reducing Crude Protein levels with amino acid supplementation in the finishing diets of heavy Duroc sire line pigs: effects on growth performance and Nitrogen balance in males and females**

André M. de Almeida ¹, Javier Alvarez-Rodriguez ², Maria-Angeles Latorre ³

¹LEAF - Linking Landscape, Environment, Agriculture and Food Research center, TERRA, Instituto Superior de Agronomia, University of Lisbon, Lisboa, Portugal, ², Universidad de Lleida, ³Facultad de Veterinaria, Universidad de Zaragoza

10:45 a.m. 471 **The use of infrared imaging of piglets to assess ocular surface temperature change before, during and after routine procedures**

Christina Mulvenna ¹, Adriana Dominguez-Oliva ², Daniel Mote-Rojas ², Ismael Hernández-Ávalos ³, James Taylor ⁴, Ramon Muns ⁴

¹Agri-food and Biosciences Institute, ²Universidad Autónoma Metropolitana, ³Universidad Nacional Autónoma de México, ⁴AFBI

Ruminant Nutrition VII: Liver Abscesses and Animal Health

Chair: Brandon Smith, Auburn University

8:30 AM - 10:15 AM

Glen 203/204

8:30 a.m. 472 **Evaluating the effects of acidosis and bacterial concentrations on the development of liver abscesses in beef steers**

Kallie D. Childress ¹, Kristin E. Hales ¹, T. G. Nagaraja ², Ty Lawrence ³, Raghavendra G. Amachawadi ², Nicole C. Burdick Sanchez ⁴, Zach S. McDaniel ¹, Dalton J. Line ¹, Aubrey Thompson-Smith ¹, Ashlee Noelle Hanratty ¹, Colten W. Dornbach ¹, Mina Abbasi ², Xiaorong Shi ², Michael Galyean ¹, Michael A. Ballou ¹, Vinicius Machado ¹, Rand R. Broadway ⁵

¹Texas Tech University, ²Kansas State University, ³West Texas A&M University, ⁴USDA-ARS, ⁵Livestock Issues Research Unit

8:45 a.m. 473 **Evaluation of hematology outcomes as indicators of liver abscess formation in beef x dairy cross steers**

Macy T. Lawrence ¹, Rand R. Broadway ², Nicole C. Burdick Sanchez ³, Ty Lawrence ⁴, T. G. Nagaraja ⁵, Raghavendra G. Amachawadi ⁵, Michael Galyean ¹, Kristin E. Hales ¹

¹Texas Tech University, ²Livestock Issues Research Unit, ³USDA-ARS, ⁴West Texas A&M University, ⁵Kansas State University

9:00 a.m. 474 **Longitudinal assessment of Salmonella enterica prevalence and concentration throughout the gastrointestinal tract of finishing beef steers with and without liver abscesses**

Colten W. Dornbach ¹, Rand R. Broadway ², Dalton J. Line ¹, Ashlee Noelle Hanratty ¹, Kallie D. Childress ¹, Aubrey Thompson-Smith ¹, Jeff L. Manahan ¹, Zach S. McDaniel ¹, Landon Canterbury ¹, Nicole C. Burdick Sanchez ³, Michael Galyean ¹, Kristin E. Hales ¹

¹Texas Tech University, ²Livestock Issues Research Unit, ³USDA-ARS

9:15 a.m. 475 **Effects of diet composition and feed delivery regimen on growth performance, rumen buffering characteristics, carcass outcomes, and liver abscess prevalence of finishing steers**

Kasi N. Schneid¹, James D. Young², Ty Lawrence², John T. Richeson², Kendall L. Samuelson²

¹West Texas A&M, ²West Texas A&M University

9:30 a.m. 476 **Induced hindgut acidosis in sheep affected gut permeability and ruminal fermentation**

Haley F. Linder¹, Brett R. Loman¹, Ryan C. Fries¹, Santiago D. Gutierrez-Nibeyro¹, Edgar F. Garrett¹, Joshua C. McCann¹

¹University of Illinois Urbana-Champaign

9:45 a.m. 477 **Effect of induced hindgut acidosis on gastrointestinal tract microbiome**

Haley F. Linder¹, Brett R. Loman¹, Santiago D. Gutierrez-Nibeyro¹, Edgar F. Garrett¹, Joshua C. McCann¹

¹University of Illinois Urbana-Champaign

10:00 a.m. 478 **Impact of Crude Protein and Phosphorus Deficiencies on Liver Mitochondrial Content and Transcriptome in Growing Merino Wethers**

Elmer Fernandez¹, Nicholas Hudson¹, David Innes², Simon Quigley³, Dennis Poppi¹

¹University of Queensland, ²Centre for Nutrition Modelling, Department of Animal Bioscience, University of Guelph, Guelph, ON, Canada, ³Central Queensland University

**Production, Management and Environment IV:
Emissions, Producers and Rangeland**

Chair: Obioha Durunna, Lakeland College

9:15 AM - 10:45 AM

Glen 208/209

9:15 a.m. 457 **Prediction of methane emissions using rumination time and milk mid-infrared spectral data via artificial neural networks**

Lucas SF Lopes¹, Saeed Shadpour², Filippo Miglior³, Dan Tulpan⁴, Flávio S. Schenkel⁴, Christine F. Baes⁵

¹Ontario Veterinary College, ²Centre for Genetic Improvement of Livestock, ³Guelph University, ⁴University of Guelph, ⁵Centre for Genetic Improvement of Livestock, University of Guelph

9:30 a.m. 452 **Data-driven strategic sustainability initiatives of beef and dairy genetics consortiums: A comprehensive landscape analysis for USA, Brazil, and Europe**

Karun Kaniyamattam¹, Megha Poyyara Saiju², Miguel Gonzalez³

¹ANSC & AgriLife Research, Texas A&M University, ²Kerala Veterinary and Animal Sciences University, ³B Carbon Inc.

9:45 a.m. 453 **Fluxes of greenhouse gases from pastures and CH₄ emissions from beef cattle in Australia**

Milad Bagheri Shirvan¹, Luciano A. Gonzalez¹, Jillian EM Burgess¹

¹The University of Sydney

10:00 a.m. 454 **Evaluating the effects of grazing native rangeland on enteric emissions**

Aletta L. Husmann¹, Elias R. Velasquez Moreno¹, Jameson R. Brennan¹, Zachary K. Smith¹, Kenneth Olson¹, Amanda Blair¹, Krista Ehlert¹, Tong Wang¹, Joshua Leffler¹, Walter Wafula¹, Ira L. Parsons¹, Hadley Dotts¹, Pablo Guarnido-Lopez², Luis O. Tedeschi³, Hector M. Menendez⁴

¹South Dakota State University, ²Texas A&M university, ³Texas A&M university, department of Animal Science, ⁴South Dakota State University, Department of Animal Science

10:15 a.m. 455 **Evaluating the effect of a phenology-based timeline on the interpretation of enteric methane emission results**

Aletta L. Husmann¹, Jameson R. Brennan¹, Elias R. Velasquez Moreno¹, Zachary K. Smith¹, Joshua Leffler¹, Krista Ehlert¹, Hector M. Menendez²

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

10:30 a.m. 456 **Allocating distribution of pasture utilization across the grazing landscape in grazing steers equipped with virtual fencing collars**

Ira L. Parsons¹, Jameson R. Brennan¹, Hector M. Menendez², Elias R. Velasquez Moreno¹, Aletta Huseman¹, Hadley Dotts¹

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