



Wednesday, July 14, 2021

ASAS-NANP Symposium

Chair: Luis Tedeschi, Texas A&M University

8:50 AM - 5:00 PM

M108/M111

8:50 a.m. **ASAS-NANP Symposium Introduction: The Evolution and Application of Information Technology to Assist with Animal Production Analytics**

Luis O. Tedeschi ¹

¹Texas A&M University

8:55 a.m. 78 **Opportunities and Limitations of Modeling and Data Analytics for Precision Livestock Farming**

Aline Remus ¹, Candido Pomar ², Daniel Warner ³

¹Agriculture and Agri-Food Canada, ²Agriculture and Agri-food Canada, ³Lactanet

9:35 a.m. 82 **Application of Precision Sensor Technologies, Real-time Data Analytics, and Dynamic Models on Extensive Western Rangeland Grazing Systems**

Hector M. Menendez ¹, Jameson Brennan ¹

¹South Dakota State University

10:15 a.m. **ASAS-NANP Symposium Break I**

10:25 a.m. 83 **Mapping Resilience Indicators and Measuring Emotions of Farm Animals Using Sensor Data**

Suresh Neethirajan ¹

¹Wageningen University & Research

11:05 a.m. 84 **The Adoption of AI in the Core Scientific Cycle of Feed Research**

Marc Jacobs ¹

¹Trouw Nutrition

11:45 a.m. **ASAS-NANP Symposium Round Table Discussion/Updates**

12:15 p.m. **ASAS-NANP Symposium Lunch Break**

1:05 p.m. 85 **Integrating Mechanistic Models with AI for Precision Feeding of Sows**

Charlotte Gaillard ¹, Raphaël Gauthier ², Jean-Yves Dourmad ¹

¹INRAE, ²PEGASE, INRAE, Institut Agro, Le Clos, 35590 Saint-Gilles, France

1:45 p.m. 81 **EnROADS: Overview of Climate Change Modeling**
Charles Jones¹
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2:25 p.m. **ASAS-NANP Symposium Round Table Q&A**

2:40 p.m. 79 **Statistical Graphics and Interactive Visualization in Animal Science**
Gota Morota¹
¹School of Animal Sciences, Virginia Polytechnic Institute and State University

3:40 p.m. **ASAS-NANP Symposium Break II**

3:55 p.m. 80 **A Brief Overview, Comparison and Practical Applications of Machine Learning Models**
Dan Tulpan¹
¹University of Guelph

4:55 p.m. **ASAS-NANP Symposium Closing**

CSAS Graduate Student Oral Competition: MS

Chair: Obioha Durunna, Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5; Younes Miar, 1 Department of Animal Science and Aquaculture, Dalhousie University
1:00 PM - 3:45 PM
M100/M103

1:00 p.m. 149 **Integration of Selection Signatures Analyses and Weighted Single-step GWAS to Prioritize Candidate Genes for Body Conformation Traits in Pigs**
Seyed Milad Vahedi¹, Siavash Salek Ardestani², Duy Ngoc Do³, Karim Karimi³, Younes Miar⁴
¹Department of Animal Science and Aquaculture, Dalhousie University, Truro, NS, B2N 5E3, Canada, ²Department of Animal Science and Aquaculture, Dalhousie University, Truro, NS, B2N 5E, Canada, ³Department of Animal Science and Aquaculture, Dalhousie University, ⁴1 Department of Animal Science and Aquaculture, Dalhousie University

1:15 p.m. 150 **Effect of Ergot Alkaloids and a Mycotoxin Deactivating Product on in vitro Rumen Fermentation Using the Rumen Simulation Technique (RUSITEC)**
Jenna M. Sarich¹, Kim Stanford², Karen S. Schwartzkopf-Genswein³, Timothy A. McAllister³, Barry Blakley¹, Greg B. Penner⁴, Gabriel O. Ribeiro⁴
¹University of Saskatchewan, ²Biological Sciences Department, University of Lethbridge, ³Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ⁴Department of Animal and Poultry Science, University of Saskatchewan

1:30 p.m. 153 **Differences in Health and Carcass Characteristics of Yearling Steers That Received Free-choice Garlic-infused Mineral Supplements**

Iris Cheang ¹, Oluwatobi Oyediji ², Hushton Block ³, Kateryn Rochon ⁴, Mika Asai-Coakwell ⁵, Nathan Erickson ⁶, Herbert A. Lardner ⁵, Obioha N. Durunna ⁷

¹University of Saskatchewan, ²Lakeland College, ³Agriculture and Agri-Food Canada,

⁴University of Manitoba, ⁵Department of Animal and Poultry Science, University of Saskatchewan, ⁶Western College of Veterinary Medicine, University of Saskatchewan,

⁷Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5

1:45 p.m. 148 **Multiple Dysregulated Novel Pathways and Genes in Aleutian Mink Disease Revealed by Selection Signatures and Gene Network Analyses Using Whole-genome Sequence Data**

Seyed Milad Vahedi ¹, Karim Karimi ², Siavash Salek Ardestani ³, Younes Miar ⁴

¹Department of Animal Science and Aquaculture, Dalhousie University, Truro, NS, B2N 5E3,

Canada, ²Department of Animal Science and Aquaculture, Dalhousie University, ³Department of Animal Science and Aquaculture, Dalhousie University, Truro, NS, B2N 5E, Canada, ⁴

Department of Animal Science and Aquaculture, Dalhousie University

2:00 p.m. 143 **Effect of Supplementary Selenium Source on Dairy Cow Performance, Antioxidant Status, and Apparent Absorption and Retention**

Keira M. Cruickshank ¹, Bayissa Hatew ², Amanda M. Gehman ³, Karen M. Koenig ⁴, Eduardo S. Ribeiro ¹, Michael A. Steele ⁵

¹University of Guelph, ²University of Alberta, ³Alltech Inc., ⁴Agriculture and Agri-Food Canada,

⁵Department of Animal Biosciences, University of Guelph

2:15 p.m. 152 **Comparison of an Antioxidant Source and Antioxidant Plus BCAA on Athletic Performance and Post Exercise Recovery of Horses**

Tanja Hess ¹, Emily Kent ¹, Renan Regatieri Casagrande ¹, Christine Levihn ¹, Grace Romo ¹, Stephen J. Coloman ¹, Kevin Herkelman ²

¹Colorado State University, ²Cooperative Research Farms

2:30 p.m. 151 **Intake, Growth, and Insectifugal Outcomes Associated with Free-choice Supplementation of Garlic Products to Feedlot Steers**

Iris Cheang ¹, Herbert A. Lardner ², Kateryn Rochon ³, Oluwatobi Oyediji ⁴, Hushton Block ⁵, Mika Asai-Coakwell ², Nathan Erickson ⁶, Obioha N. Durunna ⁷

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

Saskatchewan, ³University of Manitoba, ⁴Lakeland College, ⁵Agriculture and Agri-Food Canada,

⁶Western College of Veterinary Medicine, University of Saskatchewan, ⁷Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5

2:45 p.m. 144 **The Epidemiology of Hoof-related Lameness in Western Canadian Feedlot Cattle**

Sarah E. Erickson ¹, Murray D. Jelinski ², Karen S. Schwartzkopf-Genswein ³, Calvin W. Booker ⁴, Eugene Janzen ⁵

¹Feedlot Health Management Services by TELUS Agriculture; Western College of Veterinary Medicine Department of Large Animal Clinical Sciences, ²University of Saskatchewan,

³Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ⁴Feedlot Health Management Services by TELUS Agriculture, ⁵University of Calgary

3:00 p.m. 145 **Conservation Grazing by Goats in Eastern Oak-hickory Forest: Browsing Behavior and Forage Selectivity**
Wanderson Novais ¹, Benjamin Wenner ¹, Jeremy Block ¹, Power Simon ¹, Porteus Elizabeth ¹, G. Matt Davies ¹
¹The Ohio State University

3:15 p.m. 147 **Use of Productivity Enhancing Technologies in Beef Steers Reduces Greenhouse Gas Emission Intensity**
Sydney S. Fortier ¹, Timothy A. McAllister ², Herbert A. Lardner ³, Aklilu Alemu ⁴, Getahun Legesse ⁵, Kim H. Ominski ¹, John J. McKinnon ³
¹University of Manitoba, ²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Department of Animal and Poultry Science, University of Saskatchewan, ⁴Swift Current Research and Development Centre, Agriculture and Agri-Food Canada, ⁵Manitoba Agriculture

3:30 p.m. 146 **Specific Gravity as an Objective Assessment of Embryonic Viability to Improve Implantation Rates of Bovine Embryos**
Katylyn J. Richardson ¹, Tommy L. Perkins ¹, David G. Lust ¹, Cara W. Wessells Wells ²
¹West Texas A&M University, ²EMGenisys, Inc.

Growth and Development Symposium

Chair: Anna Dilger, University of Illinois at Urbana-Champaign

1:30 PM - 5:15 PM

M112

1:30 p.m. **Growth and Development Symposium Introduction**

2:05 p.m. 193 **Single Cell RNA-sequencing Reveals a Role of Lipid Metabolism in Muscle Satellite Cells**
Shihuan Kuang ¹, Feng Yue ¹, Stephanie Oprescu ¹
¹Purdue University

2:50 p.m. 195 **Maternal Impact on Fetal Muscle and Adipose Tissue Development**
Min Du ¹
¹Washington State University

3:35 p.m. **Growth and Development Symposium Break**

3:45 p.m. 196 **Invited Speaker Dr. Robert P Rhoads Jr**
Robert P. Rhoads ¹
¹Virginia Tech

4:30 p.m. 194 **Avian Breast Muscle Development and Growth: Influence of Temperature on Growth Mediated by Breast Muscle Adult Myoblasts (Satellite Cells)**
Sandra G. Velleman ¹
¹The Ohio State University

Ruminant Nutrition Symposium I
Chair: Matt Hersom, Clemson University
1:30 PM - 5:15 PM
Ballroom A/B

1:30 p.m. **Ruminant Nutrition Symposium I Introduction**

1:35 p.m. **Presentation of the AFIA Award in Nonruminant Nutrition Research**

Geoffrey E. Dahl ¹

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

1:40 p.m. 349 **Awardee Talk: How the Immune System Interacts with Ruminant Nutrient Partitioning**

Lance H. Baumgard ¹, Robert P. Rhoads ²

¹Iowa State University, ²Virginia Tech

2:05 p.m. **Presentations of the Animal Industry Service Award**

Aubrey Schroeder ¹

¹Zoetis

2:10 p.m. 351 **Awardee Talk: Advances in Animal Nutrition Research**

David L. Harmon ¹

¹University of Kentucky

2:35 p.m. 245 **Greenhouse Gas Emissions Mitigation Strategies**

Ermias Kebreab ¹, Mallory Honan ², Breanna Roque ¹, Juan Tricarico ³

¹UC Davis, ²University of California, ³Innovation Center for U.S. Dairy

3:05 p.m. 347 **Enteric Methane: Current Measurement and Assessment Techniques**

Alexander N. Hristov ¹

¹The Pennsylvania State University

3:35 p.m. **Ruminant Nutrition Symposium I Break**

3:45 p.m. 350 **Nutrient Movement in the Environment: Confined versus Grazing Systems**

Andre F. Brito ¹, Kleves V. Almeida ¹

¹University of New Hampshire

4:15 p.m. 346 **Nutritional Strategies to Enhance Nutrient Retention in Cattle, Fields, and Farms**

Robin R. White ¹

¹Virginia Tech School of Animal Sciences

4:45 p.m. 348 **Integration of Nutrition with Air and Water Environmental Concerns**

Alan Rotz ¹

¹USDA Agricultural Research Service

Animal Behavior and Well-Being Symposium

Chair: Courtney Daigle, Department of Animal Science, Texas A&M University

1:45 PM - 5:00 PM

M104/M107

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

1:50 p.m. 11 **Cattle Management at the Slaughterhouse and Feedlot During a Pandemic**

Tiffany Lee ¹

¹North American Meat Institute

2:35 p.m. 13 **Innovative Strategies for Managing Swine Welfare During Natural Disasters**

Anna K. Johnson ¹, Christopher Rademacher ¹, Jamee Eggers ², Nicholas K. Gabler ¹, Laura L. Greiner ¹, Jeffery Kaisand ³, Suzanne Millman ¹, John Patience ⁴, Lee Schulz ¹, Sherrie Webb ⁵, Jason W. Ross ¹

¹Iowa State University, ²Iowa Pork Producers Association, ³State Veterinarian, ⁴Oxford Nutrition Consulting, LLC, ⁵American Association of Swine Veterinarians

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

3:30 p.m. 12 **Heat Stress: Risk Assessment and Amelioration Strategies – An Australian Perspective**

John B. Gaughan ¹, Angela M. Lees ²

¹School of Agriculture and Food Sciences, The University of Queensland, Gatton, Qld., Australia, 4343, ²School of Agriculture and Food Sciences, The University of Queensland, Gatton, Qld., Australia, 4343

4:15 p.m. 10 **The Impact of Global Disasters on Our Pets: Lessons from COVID-19**

Alexandra Protopopova ¹

¹The University of British Columbia

CSAS Graduate Student Oral Competition: PHD

Chair: Obioha Durunna, Department of Applied Research, Lakeland College Vermilion, AB, Canada T9X 1K5; Younes Miar, 1 Department of Animal Science and Aquaculture, Dalhousie University

4:00 PM - 5:30 PM

M100/M103

4:00 p.m. 158 **The Identification of Pig Calcium-sensing Receptor (pCaSR) Expression in Porcine Intestinal Enterocytes**

Xiaoya Zhao ¹, Qianru Hui ², Paula Azevedo ³, Charles Martin Nyachoti ², Karmin O ⁴, chengbo Yang ⁵

¹University of manitoba, Department of Animal Science, ²University of Manitoba, ³Department of Animal Science, University of Manitoba, ⁴University of manitoba, ⁵Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

4:15 p.m. 155 **Low Insulin Sensitivity Is Associated with Increased Body Fat and Changes in Gene Expression of Lipogenic Enzymes in the Adipose Tissue of Finishing Pigs**

Hector H. Salgado ¹, Marie-France Palin ², H  l  ne Lapierre ³, Aline Remus ², Marie-Pierre L  tourneau-Montminy ⁴, Candido Pomar ³

¹Agriculture and Agri-food Canada/ University Laval, ²Agriculture and Agri-Food Canada,

³Agriculture and Agri-food Canada, ⁴Universit   Laval

4:30 p.m. 154 **Virulence Potential of Antimicrobial Resistant Extraintestinal Pathogenic Escherichia coli from Poultry in a Caenorhabditis Elegans Model**

Chongwu Yang ¹, Moussa Diarra ², Muhammad Attiq Rehman ², Linyan Li ³, Hai Yu ², Xianhua Yin ², Mueen Aslam ², Catherine Carrillo ², chengbo Yang ⁴, Joshua Gong ⁵

¹Department of Animal Science, University of Manitoba, ²Agriculture Agri-Food Canada, ³State Key Laboratory of Food Science and Technology, Nanchang University, ⁴Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada, ⁵Guelph Research and Development Centre, Agriculture Agri-Food Canada

4:45 p.m. 159 **In vitro Characterization of Potential Pig Calcium-sensing Receptor (CaSR) Ligands and Cell Signaling Pathways Related to Casr Activation by a Dual-luciferase Reporter Assay**

Xiaoya Zhao ¹, Qianru Hui ², Paula Azevedo ³, Karmin O ⁴, chengbo Yang ⁵

¹University of manitoba, Department of Animal Science, ²University of Manitoba, ³Department of Animal Science, University of Manitoba, ⁴University of manitoba, ⁵Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

5:00 p.m. 156 **Genome-wide DNA Methylation Profile of Mammary Gland Tissues from Holstein Cattle Producing Various Milk Protein Yields**

Mengqi Wang ¹, Pier-Luc Dudemaine ¹, Nathalie Bissonnette ¹, Xin Zhao ², Eveline M. Ibeagha-Awemu ¹

¹Agriculture and Agri-Food Canada, ²Department of Animal Science, McGill University

5:15 p.m. 157 **Starch and Dry Matter Digestibility Values Are Not Associated with Improved Growth and Feed Efficiency in Weanling Pigs Fed a Therapeutic Multi-antimicrobial-supplemented Diet**

Jiali Chen ¹, Min Wang ¹, Tania L. Archbold ¹, Weijun Wang ¹, Wenyi Fan ¹, Xindi Yin ¹, Laurence Cheng ¹, Ming Z. Fan ¹

¹University of Guelph

Thursday, July 15, 2021

POSTER SESSION I

7:00 AM – 8:15 AM

(ASAS GRADUATE STUDENT POSTER COMPETITION: MS I)

PSI-1 A minimum amount of hydrochloric acid for pig urine collection to inhibit nitrogen volatilization

Jongkeon Kim ¹, Bokyoung Hong ¹, Myung Ja Lee ¹, Beob Gyun G. Kim ¹

¹Konkuk University

PSI-2 A procedure for urine collection in pre-weaned heifer calves

Guadalupe Ceja ¹, Jacquelyn P. Boerman ¹, Rafael C. Neves ², Nicholas S. Johnson ¹, Jon P. P. Schoonmaker ¹, Matthew W. Jorgensen ³, Jay S. Johnson ³

¹Purdue University, ²Purdue University, Department of Veterinary Clinical Sciences, ³USDA-ARS Livestock Behavior Research Unit

PSI-3 An assessment of the barrier function of canine skin after repeated decontamination

Dakota R. Discepolo ¹, Russell Kelley ², Jamie Wayman ², Elizabeth Fuess ², Erin B. Perry ¹

¹Southern Illinois University, ²Royal Canin

PSI-4 Animal and agronomic performance while grazing winter stockpiled novel endophyte tall fescue established with three pasture renovation strategies

Charlotte L. Talbott ¹, Deidre D. Harmon ¹, Matt H. Poore ¹, Alan J. Franluebbers ², Carolyn A. Young ³, Emily H. Griffith ¹

¹North Carolina State University, ²USDA-ARS, ³Noble Research Institute

PSI-5 Changes in the expression of MyD88, TRAF6, NFKB1, and NFKB1a on digestive tracts of 0 to 42 days-old calves from the tropics of Mexico

Mariana Álvarez Pérez ¹, Carolina Robles-Rodríguez ², Laura González Dávalos ², Armando Shimada ², Alfredo Varela ², Ofelia Mira Izaguirre ²

¹Universidad Nacional Autónoma de México, ²UNAM

PSI-6 Characterization of in vitro stability for two multi-functional processive endoglucanases as exogenous biocatalysts in pig nutrition

Laurence Cheng ¹, Weijun Wang ¹, Ming Z. Z. Fan ¹

¹University of Guelph

PSI-7 Comparison of 6-day versus 7-day CIDR protocol with GnRH and PGF α to synchronize crossbred beef cows for fixed-timed ai with sexed semen at two different times

Nicole N. Noga ¹, Jeremy G. Powell ², Brittni P. Littlejohn ³, Whitney L. Rook ⁴, Martin Mussard ⁵, Alvaro Garcia-Guerra ⁵, Reagan N. Cauble ⁶, Charles R. Looney ⁴

¹University of Arkansas Department of Animal Science, ²University of Arkansas Department of Animal Science, Fayetteville, ³University of Arkansas, ⁴University of Arkansas Department of Animal Science, Hope, ⁵The Ohio State University, ⁶Ten Triple X Ranch

PSI-8 Determining the effect of dam milk production and mastitis infection during pregnancy on blood biochemistry in dairy bull calves

Elisabeth Ricks ¹, Jordan Lally ¹, Amanda Barney ¹, Maria L. Hoffman ¹, Rachael Gatley ²

¹University of Rhode Island, ²Tufts University

PSI-9 Digestibility and metabolizable energy content of supplemented diets based on native shrubs and buffelgrass for small ruminants in northeastern Mexico

Víctor Manuel Perrusquía Tejeida ¹, Nydia Corina Vásquez Aguilar ¹, Humberto González Rodríguez ¹, Hugo Bernal Barragán ¹, Fernando Sánchez Dávila ¹, Néstor Arce Vázquez ², Estela Garza Brenner ¹

¹Universidad Autónoma de Nuevo León, ²Universidad Autónoma de Baja California

PSI-10 Effect of a plant extract mixture (pronutrients) on serum cytokines, intestinal integrity indicators and productive performance in broilers with raw soybean inclusion in the diet

Alejandra V. Ruiz ¹, Liliana L Betancourt López ¹

¹Universidad Nacional de Colombia

PSI-11 Effects of a supplemental water source and trace-mineral based electrolyte drinking solution on intake and blood cell count of newly received feedlot calves

Mackenzie M. Smithyman ¹, Vinícius N. Gouvêa ¹, Dayna L. Campbell ¹, Glenn C. Duff ¹, Mark E. Branine ²

¹Department of Animal and Range Sciences, Clayton Livestock Research Center, New Mexico State University, ²Zinpro Corporation

PSI-12 Effects of increasing rumen propionate on dry matter intake, feeding behavior, glucose clearance, and insulin response in cattle on a finishing ration

Abigail R. Rathert ¹, Hunter L. McConnell ¹, Carlee M. Salisbury ¹, Nick Uzee ¹, Dagan Montgomery ¹, Andrew P. Foote ¹

¹Oklahoma State University

PSI-13 Effects of maternal nutrient restriction and melatonin supplementation on fetal mammary gland vascularity

Emily K. DeShazo ¹, Zully E. Contreras-Correa ², Robin Sessums ¹, Thomas H. Duncan ¹, Caleb Lemley ¹

¹Mississippi State University, ²Mississippi State University, Animal and Dairy Sciences

PSI-14 Effects of maternal nutrient restriction during late gestation on neonatal beef calf serum chemistry and complete blood cell count

Lindsey G. Wichman ¹, Colby A. Redifer ¹, Allison M. Meyer ¹

¹Division of Animal Sciences, University of Missouri

PSI-15 Embryo viability based upon energy

Sydney L. Hickerson ¹, Cara W. Wells ², Noah P. Jesko ¹, Thomas L. Perkins ¹, Russell Killingsworth ³

¹West Texas A&M University, ²EmGenisys, ³Shamrock Gas Analysis, Inc.

PSI-16 Estimation of pigs live body weight from digital images using reference objects

Zhuoyi Wang ¹, Dan Tulpan ¹, Renee Bergeron ¹

¹Department of Animal Biosciences, University of Guelph

PSI-17 Genetic analysis of weaning weight in Hungarian Simmental cattle

Afees Ajasa ¹, Barnabás Vágó ², Imre Füller ², István Komlósi ¹, János Posta ¹

¹University of Debrecen, Debrecen, Hungary, ²Association of Hungarian Simmental Breeder's

PSI-18 Identifying genetic variants associated with grazing, walking, and slope use of cattle experiencing mild heat load

Morgan R. Stegemiller ¹, Melinda J. Ellison ¹, John B. Hall ¹, James E. Sprinkle ¹, Brenda M. Murdoch ¹

¹University of Idaho

PSI-19 Influence of cattle breed and forage type on organic dairy heifer performance

Sawyer Fannesbeck¹, Kara J. Thornton¹, Blair Waldron², Rusty Stott¹, Alexis Sweat¹, Kerry Rood¹, Earl Creech¹, Allen Y. Young¹, Clay Isom¹

¹Utah State University, ²Forage and Range Research, USDA

POSTER SESSION I-B

7:15 AM – 8:15 AM

(ANIMAL BREEDING AND GENETICS)

PSI-B-20 A scan for signatures of selection in Russian Romanov sheep breed based on ROH hot spots analysis

Tatiana E. Deniskova¹, Alexandra S. Abdelmanova¹, Arsen V. Dotsev¹, Olga Koshkina¹, Andrey Rodionov¹, Gottfried Brem², Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSI-B-21 Alternative SNP weighting for multi-step and single-step genomic BLUP in the presence of causative variants

Bruna Santana¹, Molly Riser¹, Breno O. Fragomeni¹

¹University of Connecticut

PSI-B-22 Analysis of the development of high-quality corpus luteum of the ovaries in recipient heifers

Oksana Shcherbak¹, Svitlana Sidashova², Iryna Popova³, Svitlana Kovtun¹

¹Institute of Animal Breeding and Genetics nd. a. M.V.Zubets of National Academy of Agrarian Science of Ukraine, ²Agricultural Limited Liability Company Agricultural Firm Petrodolynske, ³Odesa State Agrarian University

PSI-B-23 Assessment of genomic inbreeding in Russian local and commercial dairy breeds of cattle

Arina I. Mishina¹, Alexandra S. Abdelmanova¹, Arsen V. Dotsev¹, Alexander A. Sermyagin¹, Gottfried Brem², Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSI-B-24 Assessment of the combined use of antibacterial substances on the in vitro model in the development of veterinary drugs

Zhanara Sulimenova¹, Yulia Plotnikova¹, Alexey Sizentsov¹, Elena Barysheva¹, Elena Bibartseva¹

¹Orenburg State University

PSI-B-25 Assessment of the genetic resources of Russian local cattle breeds by genome-wide SNP analysis

Alexandra S. Abdelmanova¹, Arsen V. Dotsev¹, Alexander A. Sermyagin¹, Gottfried Brem², Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSI-B-26 Association of leptin gene polymorphisms (C73T and C528T) on the development of internal organs in Aberdeen-angus cattle

Alexandra Lapshina ¹, Nikolay Gerasimov ¹, Kinispay Dzhulamanov ¹, Vladimir Kolpakov ¹, Erzhan Dzhulamanov ¹

¹Federal Research Center for Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSI-B-27 Association of multiple SNP in the LRP4 gene with features of the cattle elemental status

Ekaterina Tarasova ¹, Svetlana Notova ², Irina Markova ¹, Vladimir Kataev ³, Andrey Plotnikov ³

¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences, ²Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences; Orenburg State University, ³Institute for Cellular and Intracellular Symbiosis of the Ural Branch of the Russian Academy of Sciences

PSI-B-28 Breed effect on weight gain of broilers

Sodiq Oladipo ¹, Khadeejah Kareem-Ibrahim ¹, Olatunji T. Abanikannda ¹

¹Lagos State University

PSI-B-29 Breeding influence on dairy productivity of Kholmogory cattle

Semen Nikolaev ¹

¹A. V. Zhuravsky Institute of Agro-Biotechnologies of the Komi Science Center of the Ural Branch of the Russian Academy of Sciences

SSASAS Graduate Student Competition MS

Chair: John Richeson, West Texas A&M University

8:00 AM - 8:40 AM

M109 & 110

8:00 a.m. **SSASAS Graduate Student Competition MS Introduction**

8:05 a.m. 532 **Plant Growth-promoting Rhizobacteria: Effects on Yield and Nutritive Value of 'Russell' Bermudagrass and 'KY 31' Tall Fescue**

Madison Cole ¹, Leanne L. Dillard ¹

¹Auburn University

8:10 a.m. 392 **Carcass Traits of Growing Meat Goats Fed Different Levels of Hempseed Meal**

Reshma Gurung ¹, Frank W. Abrahamsen ², Katie Moyer ³, Jason T. Sawyer ⁴, Nar K. Gurung ⁵

¹Integrative Biosciences Ph.D. Program, Tuskegee University, Tuskegee, AL 36088, USA,

²Tuskegee University, ³Kentucky Hemp Works, ⁴Auburn University, ⁵Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA

8:15 a.m. 388 **Effect of Diet and Location Within the Longissimus Dorsi Muscle on the Quality and Fat Composition of Pork Loins Collected from Market Hog**

Amberly A. Dennis ¹, Dana S. Reid ², Dianna Wilson ³, Thu Dinh ¹, Derris D. Burnett ⁴

¹Mississippi State University, ²Department of Animal and Dairy Sciences, Mississippi State University, ³Department of Food Science, Nutrition, and Health Promotion, Mississippi State University, ⁴PhD

8:20 a.m. 389 **Effects of Dried Distillers' Grains Cube Supplementation for Steers Grazing Introduced Pastures on Animal Performance and Forage Production**

Jordan Adams ¹, Rodney Farris ¹, Scott Clawson ¹, Earl Ward ¹, Paul A. Beck ¹

¹Oklahoma State University

8:25 a.m. 391 **Evaluation of Kemtrace[®] Chromium on Animal Performance and Immune System of Weaned Beef Calves**

Reshma Gurung ¹, Frank W. Abrahamsen ², Kim K. Mullenix ³, Woubit Abdela ², Wendell McElhenney ², Nar K. Gurung ⁴

¹Integrative Biosciences Ph.D. Program, Tuskegee University, Tuskegee, AL 36088, USA,

²Tuskegee University, ³Auburn University, ⁴Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA

8:30 a.m. 371 **Investigating Plasma Metabolomic Profiles at the Time of Weaning, Based on Pregnancy Outcome, in *bos Taurus* heifers**

Lauren V. Rutledge ¹, Landon Marks ², Soren P. Rodning ¹, Josh Elmore ¹, Kent Stanford ², Paul W W. Dyce ¹

¹Auburn University, ²Alabama Cooperative Extension

8:35 a.m. 411 **Evaluation of Whole Cottonseed Intake and *in Situ* digestibility in Beef Cattle**

Luke L. Jacobs ¹, Kim K. Mullenix ², Russell B. Muntifering ², Leanne L. Dillard ², Russell C. Carrell ³

¹Clemson University, ²Auburn University, ³Cargill Animal Nutrition

Ruminant Nutrition I: Feed Additives

Chair: Matt Hersom, Clemson University

8:00 AM - 10:45 AM

L005/009

8:00 a.m. 286 **Effects of Supplementation of Quebracho Extract Supplementation on Ruminal Ph of Growing Beef Steers**

Luiz Fernando Dias Batista ¹, Aaron B. Norris ², Jordan Adams ³, Luis O. Tedeschi ¹

¹Texas A&M University, ²Texas Tech University, ³Oklahoma State University

8:15 a.m. 290 **Encapsulated Sodium Butyrate (Ultramix GF) for Transitioning Neonatal Calves from Milk to Calf Starter**

David P. Casper ¹, Keith Klanderman ², Mark A. Giesemann ³

¹Casper's Calf Ranch, ²Adisseo North America, ³Adisseo USA, Inc.

8:30 a.m. 291 **Weaned Holstein Calves Fed an Experimental Botanical Extract Alone or in Combination with an Eubiotic Product**

David P. Casper ¹, Michael Officer ², Keith Klanderman ³

¹Casper's Calf Ranch, ²Pacer Technology, ³Adisseo North America

8:45 a.m. 287 **Effects of a Novel Rumen-protected Folic Acid Supplement on Feedlot Performance and Carcass Characteristics of Beef Steers**

Erin L. Deters¹, Emma Niedermayer¹, Olivia N. Genter Schroeder², Christopher Blank¹, Remy Carmichael¹, Sarah Hartman¹, Elizabeth M. Messersmith¹, Katherine VanValin³, Mark E. Branine⁴, Stephanie L. Hansen¹

¹Iowa State University, ²Purina Animal Nutrition, ³University of Kentucky, ⁴Zinpro Corporation

9:00 a.m. 288 **Inclusion Effects of Quebracho (*Schinopsis Balansaie*) Extract and Active Dry Yeast (*Saccharomyces Cerevisiae*) in Beef Cattle Limit-fed a Grower Ration**

Madeline E. Rivera¹, Luiz Fernando Dias Batista¹, Aaron B. Norris², Genevieve M. D'Souza¹, Luis O. Tedeschi¹

¹Texas A&M University, ²Texas Tech University

9:15 a.m. 295 **Effects of Live Yeast and Ruminant Environment on Beef Cattle Diet Digestibility: An in vitro Approach**

Kaliu Gabriel Scaranto Silva¹, Jhones O. Sarturi¹, Darren D. Henry¹, Kip Karges¹, Jordan K. Hinds¹, Kaue Tonelli Nardi¹, Igor Gomes Fávero¹, Yasmim Saes¹, Camron J. Rush¹

¹Texas Tech University

9:30 a.m. 289 **Phytogenic Feed Additives as a Potential Strategy to Mitigate the Negative Effects of Heat Stress in Growing Heifers**

Shelby M. Ramirez¹, Janaka Wickramasinghe², Nadiia Stepanchenko², Maria Oconitrillo², Jayamuni Silva², Brady M. Goetz³, Megan A. Abeyta³, G.Raj Murugesan⁴, Antonia Tacconia⁵, Lance H. Baumgard³, Ranga Appuhamy²

¹BIOMIN America Inc., ²Department of Animal Science, Iowa State University, ³Iowa State University, ⁴DSM Nutritional Products, ⁵BIOMIN Holding GmbH

9:45 a.m. 296 **Effects of Phytogenic Additives Combinations on in vitro Methane Production and Ruminant Fermentation**

Nelson Vera¹, Sandra Suescun-Ospina², Rita Astudillo¹, Antonia Muñoz³, Rodrigo Allende¹, Jorge Avila-Stagno¹

¹Faculty of Veterinary Science, Universidad de Concepción, Chillán, Chile, ²School of Animal Sciences, Universidad de los Llanos, ³Nutrition and Technical Assistance Department, Veterquímica, Chile

10:00 a.m. 293 **Effect of Supplementing Rumen-protected Methionine on Blood Parameters and Ruminant Metabolites in Lactating Holstein Dairy Cows**

Jialin Wei¹, Zhijun Cao², Yuanxiao Li³

¹China Agricultural University, ²State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, ³Henan University of Science and Technology

10:15 a.m. 294 **Effect of Supplementing Rumen-protected Methionine on Production, Apparent Digestibility and Economic Effectiveness in Lactating Holstein Dairy Cows**

Jialin Wei¹, Zhijun Cao², Yuanxiao Li³

¹China Agricultural University, ²State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, ³Henan University of Science and Technology

10:30 a.m. 292 **Reducing the Fermentability of Wheat with a Starch Binding Agent Has the Potential to Ameliorate Heat Stress in Sheep**

Pragna Prathap¹, Surinder S. Chauhan¹, Brian J. Leury¹, Jeremy J. Cottrell¹, Aleena Joy¹, Bereket Z. Tunkala¹, Kristy DiGiacomo¹, Minghao Zhang¹, Peter Jefferis², Ian Sawyer³, Frank R. Dunshea¹

¹The University of Melbourne, ²PJ Consultancy, ³Feedworks Pty Ltd

Ruminant Nutrition Symposium II

Chair: Shawn Archibeque, Colorado State University

8:00 AM - 11:30 AM

Ballroom A/B

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

8:05 a.m. **Presentation of the Extension Award**

Aubrey Schroeder¹

¹Zoetis

8:10 a.m. 354 **Awardee Talk: Midwest Cattle Feeding Over the Past 40 Years**

Daniel D. Loy¹

¹Iowa State University

8:35 a.m. 353 **From Phlogiston to Chromatin Structure: The Deepening Our Understanding of Animal Energy Use**

Kristen A. Johnson¹

¹Washington State University

9:15 a.m. 352 **A Century and a Half of Nitrogen and Protein Metabolism in Ruminants**

Gerald B. Huntington¹, Joan Eisemann¹

¹North Carolina State University

9:55 a.m. **Ruminant Nutrition Symposium II Break**

10:05 a.m. 355 **Mineral Metabolism**

Jerry W. Spears¹

¹North Carolina State University

10:45 a.m. 356 **Anomalies of Carbohydrate Digestion and Metabolism by Ruminants**

Fredric N. Owens¹

¹Oklahoma State University

Physiology and Endocrinology Symposium

Chair: Ryan Ashley, New Mexico State University

8:00 AM - 5:00 PM

Ballroom D/E

8:00 a.m. **Physiology and Endocrinology Symposium Introduction**

8:05 a.m. **Presentation of the Animal Physiology and Endocrinology Award**
Meghan Wulster-Radcliffe ¹
¹ASAS

8:10 a.m. 257 **Awardee Talk: Pursuit of Novel Factors that Regulate Ovarian Follicular Function**
Leon J. Spicer ¹
¹Oklahoma State University

8:35 a.m. 258 **W112 Reproductive Performance in Domestic Ruminants: 50 Years of accomplishment: a USDA-NIFA Multistate Research Project**
Milan P. Shipka ¹
¹University of Alaska Fairbanks

9:05 a.m. 266 **Effects of Inflammatory States on Ovarian Biology and Oocyte Competence**
Jennifer A. Hernandez Gifford ¹, Emily Ferranti ¹, Kylee Forrest ¹, Craig A. Gifford ¹
¹New Mexico State University

9:50 a.m. **Physiology and Endocrinology Symposium Break**

10:00 a.m. 262 **Reproductive Microbiomes as Predicators of Fertility in Beef Cattle**
Rebecca K. Poole ¹
¹Texas A&M University

10:25 a.m. 263 **Characterizing Vaginal Bacterial Community Composition in Brangus Heifers**
Riley D. Messman ¹, Zully E. Contreras-Correa ¹, Henry A. Paz ¹, Caleb O. Lemley ¹
¹Mississippi State University

10:50 a.m. 259 **The Role of Extracellular Vesicles in Mitigating the Effect of Heat Stress**
Dawit Tesfaye ¹
¹Colorado State University

11:15 a.m. 253 **Physiological Responses to Heat Stress of Holstein Heifers Carrying the SLICK1 Allele of the Prolactin Receptor (PRLR) Gene**
Anna C. Denicol ¹, Allie T. Carmickle ¹, Jessica Pereira ², Fernanda C. Ferreira ³, Colleen C. Larson ⁴, Froylan Sosa ⁵, Laura Jansen ⁵, McKenzie L. Haimon ⁵, Peter J. Hansen ⁵
¹University of California, Davis, ²Universidade Federal de Vicosa, Vicosa , MG - Brasil. Veterinary Medicine Teaching and Research Center - University of California Davis, Tulare, CA - USA, ³Veterinary Medicine Teaching and Research Center, Department of Population Health and Reproduction. School of Veterinary Medicine. University of California Davis, Tulare, CA, 93274, USA, ⁴UF IFAS, ⁵University of Florida

11:40 a.m. **Physiology and Endocrinology Symposium Lunch Break**

1:05 p.m. 261 **Effects of Dam Nutrition on Offspring Metabolism**
Kristen E. Govoni ¹
¹Dept. of Animal Science, University of Connecticut

1:45 p.m. 256 **Effects of Transition Period Nutrition on Uterine Health**

Felipe Cardoso ¹

¹University of Illinois at Urbana-Champaign

2:25 p.m. 260 **Effect of Dam Nutrition on Offspring Reproductive Performance**

John B. Hall ¹

¹University of Idaho

2:50 p.m. 254 **Effects of Nutrition on Bull Fertility**

Tom W. Geary ¹, Carl R. Dahlen ², Abby L. Zezeski ¹

¹USDA-ARS, ²North Dakota State University

3:15 p.m. **Physiology and Endocrinology Symposium Break**

3:25 p.m. **Presentation of the Early Career Achievement Award**

Meghan Wulster-Radcliffe ¹

¹ASAS

3:30 p.m. 265 **Awardee Talk: Maternal and Paternal Contributions to Fertility**

Ky G. Pohler ¹, Sydney T. Reese ¹, Gessica A. Franco-Johannsen ², Gabriela Dalmaso ¹,
Ramiro V. Oliveira ¹, Rebecca K. Poole ¹

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

4:05 p.m. 264 **Using in vivo RNA Interference to Investigate Ruminant Placental Function**

Russell V. Anthony ¹, Amelia R. Tanner ¹, Cameron S. Lynch ¹, Victoria C. Kennedy ¹, Paul J. Rozance ², Quinton A. Winger ¹

¹Colorado State University, ²University of Colorado School of Medicine

4:45 p.m. 255 **W4112 Reproductive Performance in Domestic Ruminants: The next 50 years--A USDA-NIFA Multistate Research Project**

Thomas R. R. Hansen ¹

¹Animal Reproduction and Biotechnology Laboratory, Department of Biomedical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO, USA

POSTER SESSION II

8:30 AM – 9:45 AM

(ASAS UNDERGRADUATE STUDENT POSTER COMPETITION)

PSII-1 Adapting to the new normal: Feedlot cattle circadian rhythm and behavior-based management

Xandra Christine A. Meneses ¹, Rachel M. Park ², Emily Ridge ³, Courtney L. Daigle ¹

¹Texas A&M University, ²North Carolina State University, ³Where Food Comes From, Inc.

PSII-2 Daily patterns for respiration rates and internal temperatures of heat stressed lactating sows with or without electronically controlled cooling pads

Jason R. Graham ¹, Michaiiah J. Galvin ¹, Taylor L. Jansen ¹, Tyler C. Field ¹, Robert M. Stwalley ¹, Jay S. Johnson ², Allan P. Schinckel ³

¹Purdue University, ²USDA-ARS Livestock Behavior Research Unit, ³Department of Animal Sciences, Purdue University

PSII-3 Daily weather patterns associated with colostrum production in dry cows

Andrea Connor ¹, Kayla Alward ¹, Alexandra Nin-Leary ¹, Jane Duncan ¹, Rebecca Cockrum ¹
¹Virginia Polytechnic Institute and State University

PSII-4 Effect of increased ruminal propionate on the expression of hepatic gluconeogenic genes in cattle on a finishing ration

Hunter L. McConnell ¹, Abigail R. Rathert ¹, Andrew P. Foote ¹
¹Oklahoma State University

PSII-5 Effect of progressive limit feeding in feedlot steers: A pilot study

Hattie Duncan ¹, Michael Murphy ¹, Bruce Hannon ¹, Daniel W. Shike ¹, Joshua C. McCann ¹
¹University of Illinois

PSII-6 Electronically controlled cooling pads improve litter growth and thermoregulatory measures and increase total heat production in heat stressed lactating sows

Taylor L. Jansen ¹, Michaiiah J. Galvin ¹, Tyler C. Field ¹, Jason R. Graham ¹, Robert M. Stwalley ¹, Allan P. Schinckel ², Jay S. Johnson ³
¹Purdue University, ²Department of Animal Sciences, Purdue University, ³USDA-ARS Livestock Behavior Research Unit

PSII-7 Farrowing age is a predictor of sow lifetime performance

Masahiro Wakatsuki ¹, Carlos Piñeiro ², Yuzo Koketsu ¹
¹Meiji University, ²PigCHAMP Pro Europe

PSII-8 Free amino acids in blood plasma of beef cattle under induced oxidative stress by hydrogen peroxide

Bethaney M. Penrod ¹, Corbin R. Fornes ¹, Thu Dinh ¹, Daniel Rivera ¹
¹Animal and Dairy Sciences Department, Mississippi State University

PSII-9 Free amino acids in pre- and post-rigor muscles from beef cattle under induced oxidative stress by hydrogen peroxide

Corbin R. Fornes ¹, Bethaney M. Penrod ¹, Daniel Rivera ¹, Thu Dinh ¹
¹Animal and Dairy Sciences Department, Mississippi State University

PSII-10 Growth rates in piglets after the introduction of spot genetics

Rachel Kromer ¹, Chris Gambino ¹
¹Delaware Valley University

PSII-11 Herd size associated with sow lifetime performance in Spanish breeding herds

Moe Hiramatsu ¹, Carlos Piñeiro ², Yuzo Koketsu ¹
¹Meiji University, ²PigCHAMP Pro Europe

PSII-12 Identifying behaviors and the 'normal' daily ethogram using accelerometers on grazing animals

Cassidy C. Catrett ¹, Ira L. Parsons ², Jane E. Dentinger ², Durham A. Norman ², Stephen L. Webb ³, Amanda E. Stone ¹, Garrett Street ², Brandi B. Karisch ¹
¹Mississippi State University, Department of Animal and Dairy Sciences, ²Mississippi State University, Department of Wildlife, Fisheries, and Aquaculture, ³Noble Research Institute

PSII-13 Impact of maternal phosphorus intake on colostrum quality, calf growth, and calf immunoglobulin concentrations in primiparous beef cows

Elizabeth Lafferty ¹, Beth B. Kegley ¹, Jana Reynolds ¹, Ben P. Shoulders ¹, Jeremy G. Powell ¹
¹University of Arkansas, Department of Animal Science

PSII-14 Inclusion of popcorn and crawfish shells as components in non-feedstock silage production

Lauren P. Bielamowicz ¹, Jennifer A. Keele ¹, Lauren M. Nix ¹, William B. Smith ¹
¹Tarleton State University

PSII-15 Investigations of feeding preferences for common palatants in equine weanlings

Cierra N. Crowell ¹, Erin B. Perry ¹
¹Southern Illinois University

PSII-16 Potential of sensor technology to detect changes in behavior related to health status of ewes following exposure to mold-contaminated feed

Sara C. Gurule ¹, Melissa Aguirre ¹, Kylee Forrest ¹, Victor V. Flores ¹, John Wenzel ¹, Colin Tobin ¹, Derek Bailey ¹, Jennifer A. Hernandez Gifford ¹
¹New Mexico State University

PSII-17 The differential expression pattern of messenger RNA for key hepatic glycogen metabolizing proteins is consistent with hepatic glycogen content in suckling pigs

Chloe DeGiorgio ¹, Sarah Elefson ¹, Merlin D. Lindemann ¹, James C. Matthews ¹
¹University of Kentucky

PSII-18 The effects of fish oil supplementation on markers of inflammation and skeletal muscle and adipose growth in pigs

Lillian L. Okamoto ¹, Caleb C. Reichhardt ¹, Sierra Lopez ¹, Anthony F. Alberto ¹, Reganne K. Briggs ¹, Laura A. Smith ¹, Fernanda Batistel ², Kara J. Thornton ¹
¹Utah State University, ²Department of Animal, Dairy, and Veterinary Sciences, Utah State University

PSII-19 The Effects of Maternal Programming on Dairy Bull Calf Response to an Intravenous Glucose Tolerance Test

Lindsey Eaton ¹, Amanda Barney ¹, Jordan Lally ¹, Rachael Gately ², Maria L. Hoffman ¹
¹University of Rhode Island, ²Tufts University Cummings School of Veterinary Medicine

Animal Health I

Chair: Sunday Peters, Department of Animal Science, Berry College

8:30 AM - 10:00 AM

L007/008

8:30 a.m. 61 **Oral Dosing Loline Alkaloid and Its Effects Against Mixed Infection of L4 Teladorsagia Circumcincta, and Trichostrongylus Colubriformis, and Adult Haemonchus Contortus**

Kelly Froehlich ¹, Andrew Greer ²

¹South Dakota State University, ²Lincoln University

8:45 a.m. 65 **Immunological Changes in Response to Treatment of Bovine Respiratory Disease in Newly Received Commercial Stocker Calves**

Afroza Akter ¹, Elizabeth Shepherd ², Marc Caldwell ², Gina Pighetti ², Liesel G. Schneider ³
¹The university of Tennessee, ²The University of Tennessee, ³Animal Science Department, University of Tennessee Institute of Agriculture

9:00 a.m. 64 **Feeding Chicory-plantain Silage and Se-yeast on Lactating Ewe Subjected to Intramammary Infection: Effect on Performance and Milk Quality**

Hunter Ford ¹, Massimo Bionaz ¹, Serkan Ates ¹, Joseph J. Klopfenstein ¹, Jorge Vanegas ¹, Gracia M. P. Hernandez ¹, Callan Stowell ¹, Paige Tafoya ¹, Michele McCann ¹, Mustafa Bozkus ¹

¹Oregon State University

9:15 a.m. 62 **Feeding Chicory-plantain Silage and Se-yeast to Lactating Ewes Subjected to Intramammary Infection: Effect on the Immune System**

Hunter Ford ¹, Massimo Bionaz ¹, Serkan Ates ¹, Joseph J. Klopfenstein ¹, Jorge Vanegas ¹, Sebastiano Busato ¹, Daniella Hasan ¹, Shelby Park ¹, Carolyn Pearce ¹, Tyler Quinones ¹, Kate Ness ¹, Mariangel Aleman Torres ¹

¹Oregon State University

9:30 a.m. 63 **Effect of Chicory Silage and Se-yeast on Peripartum Ewes: Performance Data**

Hunter Ford ¹, Massimo Bionaz ¹, Serkan Ates ¹, Joseph J. Klopfenstein ¹, Daniella Hasan ¹, Gracia M. P. Hernandez ¹, Julia VanDerZanden ¹, Magdalena Ibarra ¹, Caitlynn Dougherty ¹, Samantha Heney ¹

¹Oregon State University

9:45 a.m. 60 **The Effect of Neomycin Inclusion in Milk Replacer on Gut Health and Development in Preweaned Male Holstein Calves**

Lauralise Buss ¹, Taylor Yohe ¹, Lautaro Rostoll Cangiano ², Aaron Keunen ³, Leluo Guan ⁴, David Renaud ¹, Michael A. Steele ⁵

¹University of Guelph, ²University of Wisconsin-Madison, ³Mapleview Agri. Ltd., ⁴University of Alberta, ⁵Department of Animal Biosciences, University of Guelph

Teaching/Undergraduate and Graduate Education Symposium

Chair: Kathrin Dunlap, Texas A&M University

8:30 AM - 12:45 PM

M112

8:30 a.m. **Teaching/Undergraduate and Graduate Education Symposium Introduction**

8:45 a.m. **Presentation of the Distinguished Teacher Award**

Meghan Wulster-Radcliffe ¹

¹ASAS

8:50 a.m. 493 **Awardee Talk: Filling Knowledge Gaps in Quantitative Genetics Through Online Education**

Ronald M. Lewis ¹

¹Department of Animal Science, University of Nebraska–Lincoln

9:15 a.m. 496 **Higher Education and the Pandemic: What We've Learned, Where We're Headed**

Liv Gjestvang ¹

¹formerly The Ohio State University

10:00 a.m. 494 **Walk the Talk – Teaching Is Still Teaching – Just Expanding Your Tool Box**

Andy D. Herring ¹

¹Texas A&M University

10:20 a.m. 491 **Supporting Virtual Student Inclusivity**

Janice M. Siegford ¹

¹Michigan State University

10:40 a.m. **Teaching/Undergraduate and Graduate Education Symposium Break**

10:50 a.m. 490 **Hiflex Delivery: How Do You Turn It Around When Things Go Bad?**

Paige Linne ¹

¹Texas A&M University

11:10 a.m. 495 **Diverse, Equitable, and Inclusive Teaching: In Person and Virtually**

Shannon Archibeque-Engle ¹

¹Colorado State University

11:55 a.m. 533 **Awardee Talk: Teaching in a Post-pandemic World: Face-to-Face (ish): LTE, Career Everywhere and FYE**

Steven A. Zinn ¹

¹Dept. of Animal Science, University of Connecticut

12:25 p.m. **Teaching/Undergraduate and Graduate Education Symposium Q&A**

POSTER SESSION II-B

8:45 AM – 9:45 AM

(TEACHING/UNDERGRADUATE AND GRADUATE EDUCATION)

PSII-B-20 Benefits of a lecture teaching assistant in hiflex courses

Taylor Barnes ¹, Jessica L. Leatherwood ¹, Kathrin Dunlap ¹

¹Texas A&M University, Animal Science Department

PSII-B-21 Development of an industry relevant graduate certificate for regulatory affairs in animal health

Haley E. Larson ¹, Alison P. Adams ¹, Rebekkah Stuteville ¹

¹Kansas State University

PSII-B-22 High-impact minimester course in animal science

Ciana Bowhay¹, Tryon Wickersham¹, Kathrin Dunlap²

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

PSII-B-23 Implementation of a design thinking approach to problem-based learning in an animal science capstone

Sushil Paudyal¹, Leslie Frenzel¹, Jonan Donaldson², Kathrin Dunlap¹, Jeffrey Wiegert¹

¹Texas A&M University, Department of Animal Science, ²Texas A&M University, Center for Teaching Excellence

PSII-B-24 Use of the Elnady technique of tissue preservation to preserve specimens for use in undergraduate animal science courses

Jay A. Daniel¹, Isabella Kukor¹

¹Berry College

(GROWTH AND DEVELOPMENT)

PSII-B-25 Age-related changes in growth hormone-insulin like growth factor 1 axis-regulating factors and metabolic hormones in Korean cattle steer

Jinoh Lee¹, Seok-Hyeon Beak¹, Do Hyun Kim¹, Jae Sung Lee¹, In Gu Cho¹, Myunggi Baik¹

¹Seoul National University

PSII-B-26 Comparison of Suffolk and Texel sired lamb growth and satellite cell proliferation in the early postnatal period

Maslyn A. Greene¹, Susan K. Duckett¹

¹Clemson University

PSII-B-27 miRNA transcriptome of lamb skeletal muscle during hypertrophic growth from mid-gestation to market weight

Maslyn A. Greene¹, Jessica Britt², S. Maggie M. Justice³, Susan K. Duckett¹

¹Clemson University, ²Prisma Health, ³Auburn University

PSII-B-28 Investigation of the presence of bacterial microbiota in 12-week-old bovine fetuses

Samat Amat¹, Devin B. Holman², Kaycie Schmidt¹, kacie L. L. McCarthy³, Sheri T. T. Dorsam¹, Alison K. K. Ward¹, Pawel P. P. Borowicz¹, Lawrence P. P. Reynolds¹, Joel Caton¹, Kevin K. K. Sedivec¹, Carl R. Dahlen⁴

¹North Dakota State University, ²Agriculture and Agri-Food Canada, ³University of Nebraska-Lincoln, ⁴Department of Animal Sciences, North Dakota State University

PSII-B-29 Effects of piglet cross-fostering on pre-weaning growth

Jennifer M. Young¹, Christopher J. Byrd¹

¹North Dakota State University

SSASAS Graduate Student Competition PHD

Chair: John Richeson, West Texas A&M University

9:00 AM - 9:30 AM

M109 & 110

9:00 a.m. **SSASAS Graduate Student Competition PHD Introduction**

9:05 a.m. 397 **The Effect of Melatonin Supplementation on Dam Milking Traits and Calf Performance in Beef Cattle**

Dana S. Reid¹, Tom W. Geary², Abby L. Zezeski², M. Susan Reil³, Richard C. Waterman³, Derris D. Burnett⁴, Caleb O. Lemley⁵

¹Department of Animal and Dairy Sciences, Mississippi State University, ²USDA-ARS, ³USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, ⁴PhD, ⁵Mississippi State University

9:10 a.m. 413 **The Effect of Storage Length on the Nutritive Value of Baleage in the Southeastern United States**

Justin C. Burt¹, Taylor Hendricks², Jennifer J. J. Tucker¹, Lisa Baxter¹, Robert Lawton Stewart¹

¹University of Georgia, ²Abraham Baldwin Agricultural College

9:15 a.m. 398 **Effects of Melatonin Supplementation During Mid- to Late-gestation Nutrient Restriction on Maternal and Fetal Amino Acid Concentrations**

Rebecca M. Swanson¹, Zully E. Contreras-Correa¹, Thu Dinh¹, Heath H. King², Darcie R. Sidelinger¹, Derris D. Burnett³, Caleb O. Lemley¹

¹Mississippi State University, ²Mississippi State University College of Veterinary Medicine, ³PhD

9:20 a.m. 395 **Changes in Metabolite and Protein Expression Profiles of Atypical Dark-cutting and Normal-ph Beef**

Frank Kiyimba¹, Steven Hartson², Janet Rogers³, Gretchen G. Mafi², Ranjith Ramanathan²

¹Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK,

²Oklahoma State University, ³Oklahoma State university

9:25 a.m. 399 **Effects of Exogenous Glucocorticoid Administration on Appetitive Center Brain Development in Dairy Bull Calves**

Keelee J. McCarty¹, Nathan Long¹

¹Clemson University

Animal Breeding and Genetics I: Biology of Complex Traits–Disease

Chair: Jack Dekkers, Department of Animal Science, Iowa State University

9:00 AM - 10:15 AM

M105 & 106

9:00 a.m. 14 **Genome-wide Association Studies of Disease Resilience Traits from a Natural Polymicrobial Disease Challenge in Pigs**

Jian Cheng¹, Rohan Fernando¹, Hao Cheng², Stephen D. Kachman³, kyu-Sang Lim¹, John Harding⁴, Michael Dyck⁵, Frederic Fortin⁶, Graham Plastow⁵, Jack C.M. Dekkers⁷

¹Iowa State University, ²University of California, Davis, ³University of Nebraska-Lincoln,

⁴Department of Large Animal Clinical Sciences, University of Saskatchewan, ⁵Livestock Gentec,

Department of Agricultural, Food and Nutritional Science, University of Alberta, ⁶Centre de

Développement du Porc du Québec Inc., ⁷Department of Animal Science, Iowa State University

9:15 a.m. 17 **Genome-wide Association Study for Heat Stress Tolerance in Swine Using Weighted Single-step GBLUP**

Gabriella R. Dodd¹, Breno O. Fragomeni², Kent A. Gray³, Yijian Huang³

¹University of Connecticut, ²University of Connecticut, ³Smithfield Premium Genetics

9:30 a.m. 16 **Identification of Structural Variants Associated with Mastitis in Holstein Dairy Cows Using Whole Genome Sequencing and Rna-sequencing**

Victoria Asselstine¹, Juan F. F. Medrano², Malane M. M. Muniz¹, Angela Cánovas³

¹Department of Animal Biosciences, University of Guelph, ²Department of Animal Science, University of California-Davis, 95616, Davis, California, United States of America., ³Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada

9:45 a.m. 15 **Differentially Expressed Long Non-coding RNA Associated with Gastrointestinal Nematode Infection in Divergent Immune Response Sheep**

M. Malane M. Muniz¹, Mohammed Boareki², Samantha Dixon³, Andrew S. Perergrine⁴, Paula I. Menzies⁵, Niel A. Karrow⁶, Angela Cánovas⁶

¹University of Guelph, Department of Animal Biosciences, Centre for Genetic Improvement of Livestock, Guelph, ON, Canada, ²Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Road East, Guelph, Ontario, Canada, ³Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Road East, Guelph, Ontario, Canada., ⁴Ontario Veterinary College, University of Guelph, Department of Pathobiology, ⁵Ontario Veterinary College, University of Guelph, Department of Population Medicine, ⁶Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada

10:00 a.m. 18 **Genetic and Phenotypic Parameters for Aleutian Disease Tests and Their Correlations with Pelt Quality, Reproductive Performance, Packed-cell Volume, and Harvest Length in Mink**

Guoyu Hu¹, Duy Ngoc Do¹, Karim Karimi¹, Younes Miar²

¹Department of Animal Science and Aquaculture, Dalhousie University, ²1 Department of Animal Science and Aquaculture, Dalhousie University

Companion Animals Symposium I

Chair: Amanda Dainton, Department of Grain Science and Industry, Kansas State University

9:00 AM - 12:15 PM

M100/M103

9:00 a.m. **Companion Animals Symposium I Introduction**

9:15 a.m. **Presentation of the Early Career Achievement Award**

Meghan Wulster-Radcliffe¹

¹ASAS

9:20 a.m. 119 **Awardee Talk: A Matter of the Heart: The Use of Pulses in Canine and Feline Nutrition**

Maria R C de Godoy¹

¹University of Illinois at Urbana-Champaign

9:45 a.m. 116 **Statistics for Reproducible Research in Companion Animal Nutrition**

Nora M. Bello¹

¹Department of Statistics, Kansas State University

10:15 a.m. 120 **Analytical Strategies for Survey Data in Pet Nutrition and Management**

Sandra L. Rodrigues-Zas¹

¹University of Illinois at Urbana Champaign

10:45 a.m. **Companion Animals Symposium I Break**

11:00 a.m. 118 **The Use of Meta-analysis in Companion Animal Research**
Emma N. Bermingham ¹
¹AgResearch

11:30 a.m. 117 **Nutrition Modelling: What Can the Pet Field Learn (or Steal) from Recent Directions in Other Species?**
Jen L. Ellis ¹
¹University of Guelph

12:00 p.m. **Companion Animals Symposium I Q&A**

SSASAS Undergraduate Student Competition
Chair: Jessica Leatherwood, Texas A&M University
9:15 AM - 9:35 AM
M101 & 102

9:15 a.m. **SSASAS Undergraduate Student Competition Introduction**

9:20 a.m. 471 **Effect of Increased Ruminal Propionate on the Expression of Gluconeogenic Genes in the Liver of Cattle on a Finishing Diet**
Carlee M. Salisbury ¹, Abbey R. Rathert ¹, Andrew P. Foote ¹
¹Oklahoma State University

9:25 a.m. 419 **Equine in Vitro Digestibility Using Different Cecal Fluid Dilutions**
Cody Davis ¹, Russell C. Carrell ², Serena Thompson ¹, Madison Cole ¹, Leanne L. Dillard ¹
¹Auburn University, ²Cargill Animal Nutrition

9:30 a.m. 404 **Impact of Retail Case Type and Lighting Intensity on Instrumental Color Traits of Ground Beef Patties**
Mesa B. Kutz ¹, Kelly R. Vierck ², Janeal W. Yancey ²
¹University of Arkansas, ²Department of Animal Science, Division of Agriculture, University of Arkansas System, Fayetteville

ARPAS Symposium
Chair: Jason Apple, Texas A&M University-Kingsville
9:30 AM - 12:30 PM
M108/M111

9:30 a.m. **ARPAS Symposium Introduction**

9:35 a.m. 77 **ARPAS Introduction**

9:45 a.m. 74 **Lessons from the COVID-19 Pandemic for Food Supply Chains**
John D. Anderson ¹, Joshua Maples ², James Mitchell ¹
¹University of Arkansas, ²Department of Agricultural Economics

10:30 a.m. 76 **Cattle Production's Response to Packing Capacity Disruption**
Ben P. Holland¹, Kaitlyn R. Wesley¹, Alyssa B. Word², Casey Maxwell¹
¹Cactus Feeders, ²Cactus Research

11:15 a.m. **ARPAS Symposium Break**

11:30 a.m. 75 **Can Regionalized Livestock Production and Meat Packing Meet the Food Needs of Today's Consumers?**
Jason Apple¹
¹Texas A&M University-Kingsville

12:15 p.m. **ARPAS Symposium Q&A**

SSASAS: Teaching and Undergraduate Education

Chair: Jessica Leatherwood, Texas A&M University

9:45 AM - 10:15 AM

M101 & 102

9:45 a.m. 469 **Designing a High Enrollment Asynchronous Core Curriculum Science Course, General Animal Science for Declared Non-animal Science Majors**
Leslie Frenzel¹, Sushil Paudyal², Kathrin Dunlap²
¹Texas A&M University-Department of Animal Science, ²Texas A&M University

10:00 a.m. 467 **Influencing Perceptions in Non-animal Science Majors: Impact of a High Enrollment, Asynchronous Core Curriculum Science General Animal Science Course**

Sushil Paudyal¹, Leslie Frenzel², Kathrin Dunlap¹

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

SSASAS: SERA 41 / SCC 81 Joint Symposium

Chair: Kim Mullenix, Auburn University

10:00 AM - 12:05 PM

M104/M107

10:00 a.m. **SSASAS: SERA 41/SCC 81 Joint Symposium Introduction**

10:05 a.m. 451 **Incorporating Alfalfa into Warm-season Grass Systems in the Southeast**

Jennifer J. J. Tucker¹

¹University of Georgia

10:45 a.m. 452 **Use of Sericea Lespedeza (*Lespedeza Cuneata*) as a Nutraceutical Forage for Livestock**

Thomas H. Terrill¹, Niki C. Whitley¹, Joan M. Burke², Jim E. Miller³

¹Fort Valley State University, ²USDA ARS Dale Bumpers Small Farms Research Center,

³Louisiana State University

11:25 a.m. 450 **Economics and Feasibility of Legume Inclusion in Southeastern Perennial Grass-based Systems**

Chris Prevatt¹, Jennifer J. J. Tucker²

¹University of Florida, ²University of Georgia

Animal Health II

Chair:

10:15 AM - 11:45 AM

L007/008

10:15 a.m. 67 **Association of Morbidity and Failure of Transfer of Passive Immunity in Beef-dairy Crossbred Calves**

Jessica Pereira ¹, Marcos I. Marcondes ², Pedro V. Carvalho ³, Noelia Silva Del Rio ⁴, Joao Bittar ⁵, Fernanda C. Ferreira ⁴

¹Universidade Federal de Vicosa, Vicosa, MG - Brasil. Veterinary Medicine Teaching and Research Center - University of California Davis, Tulare, CA - USA, ²Department of Animal Sciences, Dairy Cattle Nutrition, Washington State University, Pullman, Washington, 99163, USA, ³University of California - Davis, ⁴Veterinary Medicine Teaching and Research Center, Department of Population Health and Reproduction. School of Veterinary Medicine. University of California Davis, Tulare, CA, 93274, USA, ⁵University of Florida

10:30 a.m. 68 **Effects of Intranasal or Parenteral Respiratory Vaccination Administered on Arrival or Delayed in Auction-derived Feedlot Heifers**

Hudson McAllister ¹, Sherri Halsted ¹, Tim Parks ², Marshall N. Streeter ², John P. Hutcheson ², John T. Richeson ¹

¹West Texas A&M University, ²Merck Animal Health

10:45 a.m. 66 **Blood MicroRNAomes Revealed Signatures of Lameness Phenotypes in Feedlot Cattle**

Wentao Li ¹, Eóin O'Hara ¹, Hui-Zeng Sun ², Karen S. Schwartzkopf-Genswein ³, Leluo Guan ¹
¹University of Alberta, ²Zhejiang University, ³Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada

11:00 a.m. 70 **Occurrence of Mycotoxins in 2020 US Corn Silage and Dairy Total Mixed Rations**

Paige N. Gott ¹, Erin F. Schwandt ¹, Shelby M. Ramirez ², Ursula Hofstetter ³, G.Raj Murugesan ¹

¹DSM Nutritional Products, ²BIOMIN America Inc., ³Biomin

11:15 a.m. 69 **Occurrence of Mycotoxins in 2020 US Corn Grain and Corn By-product Feeds**

Paige N. Gott ¹, Erin F. Schwandt ¹, Shelby M. Ramirez ², Ursula Hofstetter ³, G.Raj Murugesan ¹

¹DSM Nutritional Products, ²BIOMIN America Inc., ³Biomin

11:30 a.m. 71 **The Use of Medium Chain Fatty Acids to Reduce Porcine Reproductive Respiratory Syndrome Virus Replication in MARC-145 Cells**

Stacie Crowder ¹, Roman Pogranichniy ², Brenda de Rodas ³, Peter Karnezos ³, John Scott Radcliffe ⁴

¹PMI Additives, ²Kansas State University, ³Purina Animal Nutrition, ⁴Purdue University

SSASAS: Nutrition

Chair: Flint Harrelson, Morehead State University

11:00 AM - 12:00 PM

L005/009

11:00 a.m. 410 **Effect of Increased Ruminal Propionate on the Expression of Gluconeogenic Genes in the Liver of Cattle on a Finishing Diet**

Carlee M. Salisbury¹, Abbey R. Rathert¹, Andrew P. Foote¹

¹Oklahoma State University

11:15 a.m. 408 **Determination of Blood Micromineral and Fat-soluble Vitamin Values for White-tailed Deer**

Megan P. Greenwood¹, Stanley F. Kelley¹, Marcy M. Beverly¹, Phil M. Urso¹, Mark Anderson¹

¹Sam Houston State University

11:30 a.m. 409 **Evaluation of Kemtrace[®] Chromium on Animal Performance and Immune System of Weaned Beef Calves**

Reshma Gurung¹, Frank W. Abrahamsen², Kim K. Mullenix³, Woubit Abdela², Wendell McElhenney², Nar K. Gurung⁴

¹Integrative Biosciences Ph.D. Program, Tuskegee University, Tuskegee, AL 36088, USA,

²Tuskegee University, ³Auburn University, ⁴Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA

11:45 a.m. 387 **Evaluation of Whole Cottonseed Intake and *in Situ* digestibility in Beef Cattle**

Luke L. Jacobs¹, Kim K. Mullenix², Russell B. Muntifering², Leanne L. Dillard², Russell C. Carrell³

¹Clemson University, ²Auburn University, ³Cargill Animal Nutrition

POSTER SESSION III

12:00 PM – 1:15 PM

(ASAS GRADUATE STUDENT POSTER COMPETITION: MS II)

PSIII-1 Influence of prenatal or postnatal exposure to gossypol from cottonseed meal on semen quality in commercial boars: a preliminary study on feral hog control

Randi F. Benefield¹, Richard A. Mudarra¹, Tsung-Cheng Cheng. Tsai¹, Christopher R. Hansen¹, Charles V. Maxwell¹, Rick W. Rorie¹, Brittini P. Littlejohn¹

¹University of Arkansas

PSIII-2 Infrared technology: A potential tool for improved pork production

Samuel O. Ereke¹, Jennifer Brown¹, Cyril Roy¹, Shand Phyllis¹, Bernardo Predicala¹, Nigel Cook²

¹University of Saskatchewan, ²Alberta Agriculture and Forestry

PSIII-3 Metabolizable utilization of energy and protein for egg production by addition of dried citrus pulp and eggshell into diet for laying quails (*coturnix japonica*)

Carlos Alfredo Gaona Rodríguez ¹, Hugo Bernal Barragán ¹, Nydia Corina Vásquez Aguilar ¹, Estela Garza Brenner ¹, Néstor Arce Vázquez ², Fernando Sánchez Dávila ¹

¹Universidad Autónoma de Nuevo León, ²Universidad Autónoma de Baja California

PSIII-4 Nutritional evaluation of yeast biomass from *Candida utilis* as a protein source in cat diets

Dalton A. Holt ¹, Charles G. Aldrich ¹

¹Department of Grain Science and Industry, Kansas State University

PSIII-5 Predicting live weight using linear body measurements in growing beef calves

Vanessa Rotondo ¹, Dan Tulpan ¹, Katharine M. Wood ², Marlene Paibomesai ³, Vern R. Osborne ²

¹University of Guelph, ²Department of Animal Biosciences, University of Guelph, ³OMAFRA

PSIII-6 Relationship of geographical location, cattle type, sex, and pen size to rates of liver abnormalities

Becca B. Grimes ¹, Jay W. Johnson ², Trent McEvers ³, Travis C. Tennant ¹, Loni W. Lucher ¹, Ty E. Lawrence ¹

¹West Texas A&M University, ²Huvepharma, ³Dean Cluck Feedyards

PSIII-7 Seasonal effects on nutritional value of Oklahoma prairie grass when grazed in extensive or intensive systems

Dagan Montgomery ¹, David Lalman ¹, Paul A. Beck ¹, Darren Hagen ², Carlee M. Salisbury ¹, Andrew P. Foote ¹

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

PSIII-8 Sire breed differences for carcass attributes in feedlot steers using ultrasound technology

Harley Buie ¹, Noah P. Jesko ¹

¹West Texas A&M University

PSIII-9 Supplementation of beta-carotene or fatty acids alters production of prostaglandins in bovine endometrial epithelial cells

Allison R. Harman ¹, Rebecca Swanson ¹

¹Mississippi State University

PSIII-10 The effect of a direct-fed microbial (10-G) on live animal performance and carcass characteristics of fed beef heifers

Lauren M. Mayer ¹, Kevin Martens ², Loni W. Lucher ¹, Ty E. Lawrence ¹, Travis C. Tennant ¹

¹West Texas A&M University, ²Life Products Inc.

PSIII-11 The effect of feeding supplemental zeolite (clinoptilolite) of two different particle sizes on measures of nitrogen utilization and nutrient digestibility in finishing beef heifers

Cheyenne A. Myers ¹, Mario de haro marti ¹, mireille chahine ¹, Gwinyai E. Chibisa ¹

¹University of Idaho

PSIII-12 The effect of maternal dietary isoflavone supplementation and infection with porcine reproductive and respiratory syndrome virus on the growth performance of offspring

Xuenan Chen ¹

¹University of Illinois

PSIII-13 The Effect of the inclusion of liquid brewers yeast during gestation on colostrum quality and passive transfer of immunity in lambs

Julissa Navarrete ¹, Jennifer E. Earing ¹, Mieke Holder ², Justin W. Rickard ¹, Drew W. W. Lugar ¹

¹Illinois State University, ²University of Kentucky

PSIII-14 The influence of dietary barley supplementation on American Wagyu feedlot performance

Briana V. Tangredi ¹, Meghan P. Thorndyke ¹, Octavio Guimaraes ¹, Rebecca K. Barrington ¹, Shaniece M. Borgerding ¹, Tyler A. Thomas ¹, Harrison Hallmark ¹, Huey Yi Loh ¹, Ryan J. Gifford ¹, Jonah R. Levenson ¹, Terry E. Engle ¹

¹Colorado State University

PSIII-15 The interactions of change in nutrition after artificial insemination on plasma metabolites, steroid hormones, and uterine histotroph in beef heifers

Taylor Andrews ¹, Julie Walker ¹, Kaitlin M. Epperson ², Jerica J. Rich ³, Adalaide C. Kline ¹, Lacey Quail ², Sarah McCoski ⁴, Carla Sanford ⁴, Abigail L. Zezeski ⁵, Tom W. Geary ⁵, George A. Perry ⁶

¹South Dakota State University, ²Texas A&M University, ³Arkansas State University, ⁴Montana State University, ⁵USDA-ARS Fort Keogh, ⁶Texas A&M AgriLife Research, Overton

PSIII-16 Use of soybean hulls in diets for drylot beef cows

Rebecca L. Moore ¹, Wayde J. Pickinpaugh ¹, Joel Caton ¹, Bryan W. Neville ¹

¹North Dakota State University

(CSAS GRADUATE STUDENT POSTER COMPETITION: MS)

PSIII-18 Identification of microbial interactions and markers associated with Shiga toxin-producing bacteria colonization in the rectum of beef steers

Zhe Pan ¹, Yanhong Chen ¹, Tim A. McAllister ²

¹Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, Canada, ²Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre

PSIII-19 Soil nutrient profile from cool-season forages fertilized with manure from steers supplemented with titrated levels of dried distillers grains

Abigail R. Hines ¹, Kacie Gray ¹, James P. Muir ², Barbara Bellows ¹, Francis Rouquette ³, William B. Smith ¹

¹Tarleton State University, ²Texas A&M AgriLife Research, ³Texas A&M AgriLife Research and Extension Center

(CSAS GRADUATE STUDENT POSTER COMPETITION: PHD)

PSIII-20 Antimicrobial resistance phenotype and genotype of generic Escherichia coli from encapsulated cinnamaldehyde and citral fed-broiler chicken

Chongwu Yang¹, Muhammad Attiq Rehman², Xianhua Yin², Catherine Carrillo², Qi wang², Chengbo Yang³, Joshua Gong², Moussa Diarra²

¹Department of Animal Science, University of Manitoba, ²Agriculture Agri-Food Canada,

³University of Manitoba

PSIII-21 Efficacy of deoxynivalenol detoxification by sodium metabisulfite (SMBS) containing nanofibrous mats using an in vitro intestinal epithelial cell IPEC-J2

Changning Yu¹, Quintin Litke¹, Peng Lu¹, Shangxi Liu¹, Joshua Gong², Song Liu¹, Chengbo Yang¹

¹University of Manitoba, ²Agriculture Agri-Food Canada

PSIII-23 Maternal metabolizable protein level and rumen-protected methionine impacts on beef steer progeny gene expression in muscle and liver

Kortney Acton¹, Ira B. Mandell¹, Lee-Anne Huber¹, Michael A. Steele¹, Katharine M. Wood²

¹University of Guelph, ²Department of Animal Biosciences, University of Guelph

PSIII-25 The effects of varying levels of trace mineral supplementation on mineral balance and antibody concentrations in feedlot cattle

Brittany A. Lippy¹, Blake K. Wilson¹, Colton A. Robison¹

¹Oklahoma State University

PSIII-26 The effects of maternal melatonin supplementation during pregnancy on longissimus dorsi muscle morphometrics in bovine fetuses at 240 days of gestation

Thomas W. Dobbins¹, Zully E. Contreras-Correa², Amberly A. Dennis², Dana S. Reid², Darcie R. Sidelinger³, Heath H. King³, Caleb O. Lemley¹, Derris D. Burnett¹

¹Mississippi State University, ²Department of Animal and Dairy Sciences, Mississippi State University, ³Mississippi State University College of Veterinary Medicine

Beef Species Symposium

Chair: Ben Holland, Cactus Feeders

12:30 PM - 5:00 PM

Ballroom A/B

12:30 p.m. **Beef Species Symposium Award Introduction**

12:35 p.m. **Presentation of the Agri-King Outstanding Animal Science Graduate Student Award**

David Jones¹

¹Agri-King

12:40 p.m. 101 **Awardee Talk: Impacts of Gestational and Early-life Nutrition on Productive Responses of Beef Cattle**

Kelsey M. M. Harvey¹

¹Mississippi State University

1:05 p.m. **Presentation of the Wettemann Graduate Scholar in Physiology Award**

Michael L. Looper ¹

¹University of Arkansas System Division of Agriculture, Department of Animal Science
Fayetteville, AR

1:10 p.m. 97 **Awardee Talk: Feeding Essential Fatty Acids to Late-gestating Beef Cows Optimizes Performance and Health Responses of the Offspring**

Alice P. Brandão ¹

¹Texas A&M University

1:35 p.m. **Beef Species Symposium Introduction**

1:40 p.m. 103 **The Economics and Role of Beef X Dairy Calves in the Beef Supply Chain**

Jason K. Smith ¹, Juan M. Piñeiro ¹, Justin Benavidez ¹

¹Texas A&M AgriLife Extension

2:15 p.m. 100 **Management Strategies to Optimize Health and Performance of Pre-weaned Calves**

Vinicius Machado ¹, Michael Ballou ²

¹Texas Tech University, ²Texas Tech

2:50 p.m. **Beef Species Symposium Break**

3:00 p.m. 98 **What We Think We “know” About Beef X Dairy Crossbred Cattle in the Feedlot**

Tara L. Felix ¹

¹Dept. of Dairy and Animal Sciences, Pennsylvania State University

3:35 p.m. 102 **Beef x Dairy Animals in the Beef System: Industry Observations**

Luis Burciaga-Robles ¹

¹

4:10 p.m. 99 **Packer and End-Product Considerations**

Dale R. Woerner ¹

¹Texas Tech University

4:45 p.m. **Beef Species Symposium Discussion**

Forages and Pastures I

Chair: Ian McGregor, Oregon State University

1:00 PM - 2:45 PM

M109 & 110

1:00 p.m. 178 **Grazing Toxic Endophyte-infected Tall Fescue Alters Monocyte Abundance and White Blood Cell Expression of Prolactin and Nf-kb Pathway Genes in Beef Steers**

Cecilia Winfrey ¹, Merlin D. Lindemann ¹, James Matthews ²

¹University of Kentucky, ²Univ of Kentucky

1:15 p.m. 177 **Ad Libitum Consumption of a 1:1 Blend of inorganic:organic Se by Steers Grazing Endophyte-infected Tall Fescue Increases Serum Prolactin and Alkaline Phosphatase Activity, but Not Average Daily Gain**

Kelsie Webb ¹, Ronald J. Trotta ¹, Phillip Bridges ¹, James Matthews ²

¹University of Kentucky, ²Univ of Kentucky

1:30 p.m. 174 **Forage Production and Nutritive Value of Alfalfa-bermudagrass Mixtures Managed Under Contrasting Defoliation Strategies in the Southeast US**

Liliane Silva ¹, Justin C. Burt ², Kim K. Mullenix ³, Jennifer J. J. Tucker ²

¹Clemson University, ²University of Georgia, ³Auburn University

1:45 p.m. 176 **Evaluating Dual-purpose Wheat Varieties in the Southeastern U.S**

Micayla H. West ¹, Russell C. Carrell ², Leanne L. Dillard ³

¹Auburn University, ²Cargill Animal Nutrition, ³Auburn University

2:00 p.m. 173 **Grazing Cover Crops: Effects of Cattle Removal Date on Forage Production and Cattle Performance**

Russell C. Carrell ¹, Leanne L. Dillard ², Kim K. Mullenix ², Audrey Gamble ², Russell B. Muntifer ²

¹Cargill Animal Nutrition, ²Auburn University

2:15 p.m. 175 **GPS Tracking Collars and Accelerometers Provide Detailed Tracking of Foraging Behavior and Space Use in Grazing Steers in Bermudagrass and Tall Fescue Pasture**

Ira L. Parsons ¹, Brandi B. Karisch ², Stephen L. Webb ³, Amanda E. Stone ⁴, Cassidy C. Catrett ⁵, Jane E. Dentinger ⁶, Durham A. Norman ⁶, Garrett Street ⁷

¹South Dakota State University West River Research and Extension, Department of Animal Science, ²Mississippi State University, ³Noble Research Institute, ⁴Mississippi State University, Department Animal and Dairy Science, ⁵Mississippi State University Dept of Animal and Dairy Science, ⁶Mississippi State University Dept. Wildlife, Fisheries and Aquaculture, ⁷Mississippi State University, Dept. Wildlife, Fisheries and Aquaculture

2:30 p.m. 179 **The Effect of Sward Type on the Performance of Co-grazed Cattle and Sheep**

Gaspard Beaucarne ¹, Cornelia Grace ¹, Jane Shackleton ¹, Jean Kennedy ¹, Helen Sheridan ², Tommy Boland ²

¹Devenish/UCD, ²UCD

SSASAS: SCC 81 Symposium

Chair: Stephan Wildeus, Virginia State University

1:00 PM - 3:05 PM

M104/M107

1:00 p.m. **SSASAS: SCC 81 Symposium Introduction**

1:05 p.m. 447 **Best Management Practices for Parasite Control in Beef Herds in the Southeastern United States**

Christine B. Navarre ¹

¹LSU AgCenter

1:45 p.m. 448 **Multi-species Grazing for Control of Gastrointestinal Nematodes – a Review**

Joan M. Burke ¹, Jim E. Miller ²

¹USDA ARS Dale Bumpers Small Farms Research Center, ²Louisiana State University

2:25 p.m. 449 **BioWorma as an Aid for Controlling Ruminant Nematode Parasites**

Jim E. Miller ¹, Joan M. Burke ², Thomas H. Terrill ³

¹Louisiana State University, ²USDA ARS Dale Bumpers Small Farms Research Center, ³Fort Valley State University

POSTER SESSION IV

1:30 PM – 2:45 PM

(ASAS GRADUATE STUDENT POSTER COMPETITION: PHD I)

PSIV-1 A comparison of chromatography methods to estimate ruminal VFA concentrations

Genevieve M. D'Souza ¹, Kelsey Harvey ², Luiz Fernando Dias Batista ¹, Reinaldo F. Cooke ¹, Luis O. Tedeschi ¹

¹Texas A&M University, ²Mississippi State University

PSIV-2 A comparison of feedlot growth and performance of beef x Holstein crossbred steers and Holstein steers

Bailey L. Basiel ¹, Chad D. Dechow ¹, Tara L. Felix ¹

¹Pennsylvania State University

PSIV-3 Canine olfaction as a disease detection technology: A systematic review

Aiden E. Juge ¹, Courtney L. Daigle ¹

¹Texas A&M University

PSIV-4 Characterization of heat stress condition on productive performance and physiological indicators, milk composition, gene expression, and metabolomics in blood and milk of early lactating Holstein cows

JangHoon Jo ¹, Jalil Ghassemi Nejad ¹, WonSeob Kim ¹, Hyeran Kim ², SnagHo Kim ², HongGu Lee ¹

¹Department of Animal Science and Technology, Sanghuh College of Life Sciences, Konkuk University, Seoul, Republic of Korea, ²Animal Nutrition and Physiology Team, National Institute of Animal Science, Republic of Korea

PSIV-5 Definition of environmental variables and critical periods to evaluate heat tolerance in maternal-line pigs based on single-step genomic reaction norms

Pedro Henrique F. Freitas ¹, Jay S. Johnson ², Shi-Yi Chen ³, Sirlene F. Lázaro ⁴, Yijian Huang ⁵, Youping Gu ⁵, Allan P. Schinckel ¹, Francesco Tiezzi ⁶, Luiz F. Brito ⁷

¹Department of Animal Sciences, Purdue University, ²USDA-ARS Livestock Behavior Research Unit, ³Farm Animal Genetic Resources Exploration and Innovation Key Laboratory of Sichuan Province, Sichuan Agricultural University, ⁴Department of Animal Science, São Paulo State University (UNESP), ⁵Smithfield Premium Genetics, ⁶Department of Animal Science, North Carolina State University, ⁷Department of Animal Sciences, Purdue University; Centre for Genetic Improvement of Livestock, University of Guelph

PSIV-6 Differential gene expression of fibro/adipogenic progenitors between Wagyu and Brahman cattle: A possible contribution to their different meat quality

Chaoyang Li ¹, Qianglin Liu ¹, Matt Welborn ¹, Leshan Wang ¹, Yuxia Li ¹, Buhao Deng ¹, Kenneth McMillin ¹, Xing Fu ¹

¹Louisiana State University

PSIV-7 Effect of maternal infection and dietary supplementation of isoflavones on offspring postnatal immune function

Erin Bryan ¹

¹University of Illinois

PSIV-8 Effect of pre-grazing herbage mass, post-grazing sward height and finishing diet on performance of late-maturing beef steers

Peter R. Doyle ¹, Mark McGee ¹, Aidan P. Moloney ¹, Alan K. Kelly ², Edward G. O'Riordan ¹

¹Teagasc, ²University College Dublin

PSIV-9 Effective ruminal degradability of steam-flaked corn is influenced by flake density and starch retrogradation

Ronald J. Trotta ¹, Kelly K. Kreikemeier ², Randy F. Royle ³, Todd Milton ⁴, David L. Harmon ¹

¹University of Kentucky, ²Footo Cattle Co., ³Servi-tech Inc., ⁴Midwest PMS

PSIV-10 Effects of chronic molybdenum exposure in drinking water or feed on molybdenum and copper status and production performance of gestating and lactating beef cattle consuming a low-quality forage diet

Meghan P. Thorndyke ¹, Octavio Guimaraes ¹, Matheus Medrado ², Briana V. Tangredi ¹, Huey Yi Loh ¹, Rebecca K. Barrington ¹, Renan R. Casagrande ¹, Ken Schmitt ¹, Joanis T.

Zervoudakis ³, Nicole M. Tillquist ⁴, Liping Li ⁵, Jim A. Ippolito ¹, John J. Wagner ¹, Terry E. Engle ¹

¹Colorado State University, ²Faculdade de Ciências Agrárias e Jaboticabal - UNESP,

³Universidade Federal de Mato Grosso, ⁴University of Connecticut, ⁵Henan University of Technology

PSIV-11 Effects of feeding a 50% cranberry vine pellet on milk components during lactation in sheep

Delaney Smith ¹, Michael Thonney ², Katherine Petersson ¹, Maria L. Hoffman ¹

¹University of Rhode Island, ²Cornell University

PSIV-12 Effects of feeding a novel alfalfa leaf pellet product (ProLEAF MAX™) and alfalfa stems (ProFiber Plus™) on production of lactating dairy cows

Laura A. Smith ¹, Allen Y. Young ¹, Chris Pratt ², Kara J. Thornton ¹

¹Utah State University, ²Green Leaf Global

PSIV-13 Effects of oral administration of vitamin E and selenium on stress indicators and oxidative biomarkers in road-transported pregnant Holstein heifer

da Jin Sol Jung ¹, Do Hyun Kim ¹, Seok-Hyeon Beak ¹, In Gu Cho ², Soo Jong Hong ¹, Jae Sung Lee ¹, Jinoh Lee ¹, HyunJin Kim ¹, Mohammad MalekKhahi ¹, Myunggi Baik ¹

¹Seoul National University

PSIV-14 Evidence for functional G-coupled protein receptors 43 and 120 in subcutaneous and intramuscular adipose tissue of Angus crossbred steers

Lindsay Westbrook¹, Stephen Smith¹, Gyoungok Gang¹
¹Texas A&M University

PSIV-15 Examining the relationship between breed type and anabolic implant protocols in performance in the feedlot, health, and temperament of beef steers

Caleb C. Reichhardt¹, Anthony F. Alberto¹, Reganne K. Briggs¹, Laura A. Smith¹, Lillian L. Okamoto¹, Bryce Roholt¹, Brett Bowman¹, Matthew D. Garcia¹, Kara J. Thornton¹
¹Utah State University

PSIV-16 Genome-wide association study of Rambouillet rams with angular limb deformities

Gabrielle M. Becker¹, Morgan R. Stegemiller¹, Christopher S. S. Schauer², Whit C. C. Stewart³, Brenda M. Murdoch¹
¹University of Idaho, ²North Dakota State University, ³University of Wyoming

PSIV-17 Impacts of high forage crude protein concentrations on the equine fecal microbiome

Jennifer R. Weinert¹, Amy S. Biddle², Carey A. Williams¹
¹Department of Animal Sciences, Rutgers, The State University of New Jersey, ²Department of Animal and Food Sciences, University of Delaware

PSIV-18 Poor gestational nutrition impacts sheep offspring growth but not feed efficiency

Nicole M. Tillquist¹, Amanda S. Reiter¹, Mia Y. Kawaida¹, Brandon I. Smith¹, Sarah A. Reed¹, Steven A. Zinn¹, Kristen E. Govoni¹
¹University of Connecticut

Comparative Gut Physiology Symposium

Chair: Rajesh Jha, University of Hawaii at Manoa

1:30 PM - 5:00 PM

M108/M111

1:30 p.m. **Comparative Gut Physiology Symposium Introduction**

1:35 p.m. 130 **Early Developmental Exposure to Stress and Programming of Lifelong Gut and Immune Function**

Adam J. Moeser¹

¹Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University

2:10 p.m. 132 **Early Establishment of the Human Gut Microbiome—a Tale of Moms, Their Diets, and Babes Guts**

Kjersti M. Aagaard¹

¹Baylor College of Medicine and Texas Children's Hospital

2:40 p.m. 131 **Can Maternal Nutrition in Dairy Cattle Impact Gut Health in Dairy Calves?**

Lautaro Rostoll Cangiano ¹, Nilusha Malmuthuge ², Tao Ma ³, Leluo Guan ⁴, Michael A. Steele ⁵
¹University of Wisconsin-Madison, ²Agriculture and Agri-Food Canada, ³Chinese Academy of Agricultural Sciences, ⁴University of Alberta, ⁵Department of Animal Biosciences, University of Guelph

3:10 p.m. **Comparative Gut Physiology Symposium Break**

3:15 p.m. 133 **The Potential for Maternal Nutrition to Influence, Health, Development and Subsequent Lifetime Performance of the Pig**

Stafford Vigers ¹, Torres Sweeney ¹, John O'Doherty ¹
¹University College Dublin

3:45 p.m. 134 **Effect of Sow Nutrition on Offspring's Gut Microbiota**

Nadia Everaert ¹
¹University of Liège

4:15 p.m. 129 **Maternal Nutrition and in Ovo Feeding Affect Gut Health and Performance of Poultry**

Rajesh Jha ¹, Razib Das ¹, Pravin Mishra ¹
¹University of Hawaii at Manoa

4:45 p.m. **Comparative Gut Physiology Symposium Discussion**

CSAS Symposium I

Chair: Flavio Schenkel, Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada

1:30 PM - 5:00 PM

M112

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

1:35 p.m. 162 **Fetal Programming and Meat Quality**

Marcio S. Duarte ¹, Mateus P. Gionbelli ²
¹University of Guelph, ²Universidade Federal de Lavras, Brazil

2:10 p.m. 163 **DNA Methylation Across Generation in Bovine**

Marc-André A. Sirard ¹
¹Department of Animal Science, Laval University

2:45 p.m. 164 **Genome-wide DNA Methylation Profiling in in Utero Heat-stressed Pigs as Measured by Whole-genome Bisulfite Sequencing**

Luiz F. Brito ¹, Jacob M. Maskal ², Shi-Yi Chen ¹, Hinayah R. Oliveira ³, Jason R. Graham ¹, Allan P. Schinckel ¹, Jay S. Johnson ⁴
¹Purdue University, ²Department of Animal Sciences, Purdue University, ³Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada; ⁴Department of Animal Sciences, Purdue University, West Lafayette, IN, USA, ⁴USDA-ARS Livestock Behavior Research Unit

3:20 p.m. **CSAS Symposium I Break**

3:45 p.m. 160 **Studies of Sperm DNA Methylation Variations and Their Potential Regulations on Production and Reproduction Traits in Cattle and Pigs**

YIng Yu¹, Siqian Chen¹, Shuli Liu¹, Lingzhao Fang², Shengli Zhang¹

¹China Agricultural University, ²China Agricultural University / The University of Edinburgh

4:10 p.m. 161 **Epigenetic Changes in Poultry Due to Reprogramming of the Gut Microbiota at an Early Stage of Embryonic Development**

Aleksandra Dunislawska¹

¹UTP University of Science and Technology

4:45 p.m. **CSAS Symposium I Discussion**

POSTER SESSION IV-B

1:45 PM – 2:45 PM

(NONRUMINANT NUTRITION)

PSIV-B-18 Performance response of weanling and grower pigs fed graded levels of poultry byproduct meal (PBM) in the diet

Jung Wook Lee¹, Tyler B. Chevalier¹, Jim J. Monegue¹, Merlin D. Lindemann¹

¹University of Kentucky

PSIV-B-19 Effects of root extract from *Achyranthes japonica* Nakai on the growth performance, blood profile, fecal microbial community, fecal gas emission, and meat quality of finishing pigs

Koo Deokho¹, Dang De Xin¹, Raihanul Hoque¹, Lim Chain Bin¹, Kim Inho¹

¹Dankook University

PSIV-B-20 A fecal arsenic excretion pattern in pigs fed arsenic-containing rice bran

Shengfa F. Liao¹, Shamimul Hasan¹, Andrew W. Stevens², Zhongyue Yang¹, Jean M. Feugang¹, Zhaohua Peng¹

¹Mississippi State University, ²University of Wisconsin–Madison

PSIV-B-21 Broilers as an animal model to assess different copper, manganese and zinc mineral sources on absorption

Angela R. Boyer¹, Heaven Roberts¹, Dennis Nuzback¹, Miriam Garcia¹

¹Phibro Animal Health Corporation

PSIV-B-22 Comparative effects of nanoparticle-selenium, selenium-enriched yeast and sodium selenite antagonize cadmium-induced cardiotoxicity in chicken (*Gallus gallus*) via modulating AHR/CAR/PXR/Nrf2 pathways

Jing Ge¹, Yan Huang², Jinlong Li³

¹Northeast Agricultural University, College of Veterinary Medicine, Harbin, China and Department of Animal Science, Division of Agriculture, University of Arkansas, ²University of Arkansas, ³Northeast Agricultural University

PSIV-B-23 Dietary Forsythia suspensa extract supplementation improves antioxidant capacity and meat quality in 85 to 110 kg finishing pigs

Shenfei Long ¹, Qinghui Shang ¹, Jiayu Ma ², Jian Wang ², Sujie Liu ¹, Xiangshu Piao ¹

¹College of Animal Science and Technology, China Agricultural University, ²China Agricultural University

PSIV-B-24 Dietary supplementation of botanicals changed blood profiles and intestinal morphology of weaned pigs experimentally infected with a pathogenic Escherichia coli

Braden Wong ¹, Yijie He ¹, Kwangwook Kim ¹, Sharon Xu ¹, Christopher Lingga ¹, Emma Wall ², Yanhong Liu ¹

¹Department of Animal Science, University of California, Davis, ²AVT Natural

PSIV-B-25 Digestible energy and metabolizable energy of high-fiber ingredients in growing pig diets

Jongkeon Kim ¹, Yun Yeong Jo ², Beob Gyun G. Kim ¹

¹Konkuk University, ²Sunjin Company Limited

PSIV-B-26 Effect of different intakes of sulfur amino acids on the productive response and egg quality of commercial laying hens

Elías Salvador Tasayco ¹, Julio Narvaez Reyes ¹, Lorenzo Rios Junchaya ¹, Luis Lujan Valenzuela ¹

¹Universidad Nacional "San Luis Gonzaga"

PSIV-B-27 Effect of feed flavour on the feeding behaviour and kinetics of daily feed intake of lactating high-prolific sows during summer

Bruno Alexander N. Silva ¹, Simon Eskinazi ², David V. Jacob ², Wagner Araújo ³, Iara Ataíde ⁴, Rafaela Evangelista ⁴, Stephane A. Motta ¹, Flavio Igor G. Rebordoes ¹, Dalton Araújo ⁴, Larissa A. Cardoso ¹, Steve Habit ⁴, Mateus F. Gonçalves ¹, Hysla M. Cardoso ¹, Sara Brito ⁴, Larissa Martins ⁴

¹Universidade Federal de Minas Gerais, ²ADISSEO, ³IFNMG, ⁴UFMG

PSIV-B-28 Effect of feeding acidified or fermented barley grain using Limosilactobacillus reuteri with or without supplemental phytase on diet nutrient digestibility in growing pigs

Charlotte M. E. Heyer ¹, Li F. Wang ¹, Eduardo Beltranena ¹, Michael G. Gänzle ¹, Ruurd T. T. Zijlstra ¹

¹University of Alberta, Edmonton, Alberta, Canada

PSIV-B-29 Evaluating the effect of different feeding strategies in feeding behavior through a novel behavior index integrating several components of the feeding behavior of finishing pigs

Hector H. Salgado ¹, Steve Méthot ², Aline Remus ³, Marie-Pierre Letourneau-Montminy ⁴, Candido Pomar ²

¹Agriculture and Agri-food Canada/University Laval, ²Agriculture and Agri-food Canada, ³AAFC, ⁴University Laval

Animal Breeding and Genetics II: Biology of Complex Traits–Production

Chair: Ignacy Misztal, University of Georgia

2:00 PM - 3:45 PM

M105 & 106

2:00 p.m. 24 The Effects of Vaginal Ph on Fertility of Beef Cows and Heifers Enrolled in the 7-d Co-synch + Controlled Internal Drug Release (CIDR) Protocol

Nicholas W. Dias¹, Stefania Pancini¹, Hannah Haines², Vitor R G. Mercadante³

¹Virginia Tech, ²Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA, USA, ³Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences

2:15 p.m. 22 Characterization of tRNA Expression Profiles in Large Offspring Syndrome

Anna K. Goldkamp¹, Yahan Li², Rocio M. Rivera², Darren E. Hagen¹

¹Oklahoma State University, ²University of Missouri

2:30 p.m. 19 Comparative Evaluation of Human-edible Animal Products Derived from Offspring of Genome Edited and Control Cattle

Josephine F. Trott¹, Amy E. Young¹, Brett R. McNabb², Xiang Yang¹, Thomas F. Bishop¹, Alison L. Van Eenennaam³

¹University of California, Davis, ²UC Davis, ³University of California, Davis Department of Animal Science

2:45 p.m. 23 Exploring the Role of Gut Microbiota in Host Feeding Behavior Among Breeds in Swine

Yuqing He¹, Francesco Tiezzi², Jeremy T. Howard³, Yijian Huang³, Kent A. Gray³, Christian Maltecca¹

¹North Carolina State University, ²Department of Animal Science, North Carolina State University, ³Smithfield Premium Genetics

3:00 p.m. 25 Gut Microbiome Information Enables Additional Discovery in Genome-wide Association Studies in Swine

Francesco Tiezzi¹, Christian Maltecca²

¹Department of Animal Science, North Carolina State University, ²North Carolina State University

3:15 p.m. 20 Profiling circRNA and lncRNA Expression in Key Bovine Metabolic Tissues

Jian Wang¹, Hui-Zeng Sun², Eóin O'Hara¹, Hong Chen³, Leluo Guan¹

¹University of Alberta, ²Zhejiang University, ³Northwest A&F University

3:30 p.m. 21 Unravelling Transmission Ratio Distortion Across the Genome of a Crossbreed Beef Cattle Population

Daiane C. Becker Scalez¹, Samir Id-Lahoucine¹, Pablo A.S Fonseca², Joaquim Casellas³, Angela Cánovas⁴

¹Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada, ²Department of Animal Biosciences, Centre for Genetic Improvement of Livestock, University of Guelph, N1G 2W1, Guelph, Ontario, Canada.,

³Department of Animal and Food Science, Autonomous University of Barcelona, Bellaterra 08193, Spain, ⁴Centre for Genetic Improvement of Livestock, Department of Animal

Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada

Ruminant Nutrition II: Mineral and Vitamin Additives

Chair: Phillip Myer, Department of Animal Science- University of Tennessee

2:00 PM - 4:00 PM

L005/009

2:00 p.m. 301 Milk Replacer Biosalt Supplementation for Neonatal Calves

David P. Casper¹

¹Casper's Calf Ranch

2:15 p.m. 298 The Effects of Chromium Propionate Supplementation to Calf-fed Steers in a Commercial Feedyard on Growth Performance, Carcass Characteristics and Health

Sara J. Trojan¹, Jerilyn Hergenreder², Landon Canterbury³, Tyler Leonhard³, John M. Long⁴

¹Peak Beef Cattle Nutrition and Management Consulting LLC, ²Kemin Industries Inc., ³Kemin Industries, ⁴Texas A&M University

2:30 p.m. 297 The Effects of Chromium Propionate Supplementation to Yearling Steers in a Commercial Feedyard on Growth Performance, Carcass Characteristics and Health

Sara J. Trojan¹, Jerilyn Hergenreder², Landon Canterbury³, Tyler Leonhard³, John M. Long⁴

¹Peak Beef Cattle Nutrition and Management Consulting LLC, ²Kemin Industries Inc., ³Kemin Industries, ⁴Texas A&M University

2:45 p.m. 304 Effects of Supplementing Phix-up® on Productive, Physiological, and Rumen Responses of Feedlot Cattle Consuming a Corn-based Finishing Diet

Eduardo Colombo¹, Reinaldo F. Cooke¹, Kelsey M. M. Harvey², Jacob Wiegand¹, Ana Clara Araujo³, Vitor Ferreira³, Julie Duclos⁴, Alice P. Brandão¹

¹Texas A&M University, ²Mississippi State University, ³UNESP-FMVZ, ⁴TIMAB Magnesium

3:00 p.m. 303 Effects of Supplementing Plexomin Zn™ on Post-transit Growth Performance and Plasma Zn and Serum Lactate Concentrations of Beef Steers

Katie J. Heiderscheit¹, Stephanie L. Hansen¹

¹Iowa State University

3:15 p.m. 302 Vitamin and Mineral Supplementation and Rate of Gain in Beef Heifers: Effects on Fetal Trace Mineral Reserves at Day 83 of Gestation

Ana Clara B. Menezes¹, Kacie L. McCarthy², Cierrah Kassetas³, Friederike Baumgaertner¹, James D. Kirsch¹, Sheri T. Dorsam¹, Tammi L. Neville⁴, Alison K. Ward¹, Pawel P. Borowicz¹, Larry P. Reynolds¹, Kevin K. Sedivec⁵, J. Chris Forcherio⁶, Ronald Scott⁶, Joel S. Caton¹, Carl R. Dahlen¹

¹North Dakota State University, ²University of Nebraska, ³United States Department of Agriculture National Institute of Food and Agriculture, ⁴USDA- NIFA, ⁵North Dakota State University - Central Grasslands Research Extension Center, ⁶Purina Animal Nutrition

3:30 p.m. 299 Combination of Essential Oils, α -amylase and 25-hydroxy-vitamin-d3 Increases Carcass Production by feedlot Cattle

Maria B. Niehues¹, Hugo L. Lenon Correa², Victor Valério de Carvalho³, Alexandre Perdigão⁴, Tiago S. S. Acedo⁵, Luis Tamassia⁶, Cyntia L. L. Martins², Mário B. D. B. Arrigoni²

¹São Paulo State University, Botucatu, Brazil, ²São Paulo State University (Unesp), FMVZ Botucatu, SP, Brazil, ³dsm-firmenich, ⁴DSM Nutritional Products Brazil, ⁵DSM Nutritional Products, ⁶DSM Nutritional Products Switzerland

3:45 p.m. 300 **Effects of Associating Feed Additives on Rumen Ph Dynamics by Feedlot Cattle Fed a High-concentrate Diet**

Maria B. Niehues¹, Alexandre Perdigão², Victor Valério de Carvalho³, Tiago S. S. Acedo⁴, Guilherme S. F. M. Vasconcellos⁵, Luis Tamassia⁶, Cyntia L. L. Martins⁷, Danilo D. Millen⁸, Mário B. D. B. Arrigoni⁷

¹São Paulo State University, Botucatu, Brazil, ²DSM Nutritional Products Brazil, ³dsm-firmenich, ⁴DSM Nutritional Products, ⁵DSM Nutritional Products A.S, SP, Brazil, ⁶DSM Nutritional Products Switzerland, ⁷São Paulo State University (Unesp), FMVZ Botucatu, SP, Brazil, ⁸São Paulo State University (UNESP), Jaboticabal campus, Brazil

Production, Management and Environment I

Chair: Brian Richert, Purdue University

2:00 PM - 4:30 PM

L007/008

2:00 p.m. 267 **Effect of Hay Type on the Winter Growth of Bos Grunniens Raised in Eastern Kentucky**

Jeffrey W. Lehmkuhler¹, Gregory Dike², Mary McCarty³, Benjamin Crites¹

¹University of Kentucky, ²Zhi-ba Shing-ga Yaks, ³University of Kentucky Cooperative Extension

2:15 p.m. 269 **Validation of an Automatic Scale Equipped with Solar Panels for Grazing Beef Cattle**

Stefania Pancini¹, Gabriel J. Pent², Robin R. White³, Guillermo Goncherenko⁴, Nicholas W. Dias¹, Hannah Haines⁵, Vitor R.G R. G. Mercadante¹

¹Virginia Tech, ²Virginia Tech - SVAREC, ³Virginia Tech School of Animal Sciences, ⁴Department of Animal and Poultry Sciences, Virginia Tech, ⁵Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA, USA

2:30 p.m. 271 **Assessment of Efficacy of Deworming Options in Recently Weaned Beef Cattle Utilizing Different Anthelmintic Programs in the Southeast**

Shane R. Hernandez¹, Dylan Blake B. Davis², Jennifer J. J. Tucker², Brent C. Credille², Robert Lawton Stewart²

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

2:45 p.m. 276 **Relationship Between Water Use Efficiency and Feedlot Steer Performance and Health**

Kelsey Bruno¹, Cashley Ahlberg², Levi J. McPhillips³, Heather Meador¹, Alex Taylor¹, Michelle S. Calvo-Lorenzo⁴, Udaya DeSilva¹, Clint Krehbiel⁵, Raluca G. Mateescu⁶, Sara Place⁴, Megan M. Rolf², Deb VanOverbeke¹, Blake K. Wilson¹, Chris Richards¹

¹Oklahoma State University, ²Kansas State University, ³University of Nebraska, ⁴Elanco Animal Health, ⁵University of Nebraska-Lincoln, ⁶University of Florida

3:00 p.m. 274 **Comparison of Two Ultrasound Systems for Estimation of Carcass Attributes in Feedlot Steers**

Noah P. Jesko¹, Tommy L. Perkins¹, Ty E. Lawrence¹, John T. Richeson¹, Charles R. Looney²

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

3:15 p.m. 272 **Effect of Frame Size and Supplementation on Performance and Carcass Characteristics of Beef Cattle Finished on Novel Endophyte-infected Tall Fescue Pastures**

Adam R. Murray ¹, Richard L. Moore ², Mikayla F. Moore ³, Olga Isengildina-Massa ⁴, Scott P. Greiner ⁵, Gabriel J. Pent ⁶, Thomas B. Wilson ¹

¹Department of Animal and Poultry Sciences, Virginia Tech, ²Southern Piedmont Agricultural Research and Extension Center, Virginia Tech, ³Oklahoma State University, ⁴Department of Agricultural and Applied Economics, Virginia Tech, ⁵Virginia Tech, ⁶Virginia Tech - SVAREC

3:30 p.m. 268 **Growth Performance of Weaned Angus Bulls Housed in a Compost-bedded Pack Barn**

Flint W. Harrelson ¹, Patricia L. Harrelson ¹, Courtney Branham ¹, Anna Meyers ¹

¹Morehead State University

3:45 p.m. 273 **Effect of Bioadditives on the Bioproductive Behavior and Histomorphometric Changes of Cobb-500 Chicks**

José E. Miranda ¹, Fabian Astudillo ², Alfredo Marin ³

¹Universidad de Cuenca / Facultad de Ciencias Agropecuarias / Carrera de Medicina Veterinaria, ²Universidad de Cuenca, ³Universidad Central de Las Villas

4:00 p.m. 275 **Access to Shade Mitigate Heat Stress and Improves Growth Performance in Lambs During Summer**

Aleena Joy ¹, Frank R. Dunshea ¹, Brian J. Leury ¹, Iain J. Clarke ¹, Kristy DiGiacomo ¹, Pragna Prathap ¹, Minghao Zhang ¹, Surinder S. Chauhan ¹

¹The University of Melbourne

4:15 p.m. 270 **Evaluation of Steer Implant Strategies for Long-season Grazing of Cool-season Annuals**

Taylor J. Garcia ¹, Ryan R. Reuter ¹, Frank White ², Ken Blue ³, Daniel Rivera ⁴

¹Oklahoma State University, ²Elanco, ³Elanco AH, Inc., ⁴Animal and Dairy Sciences Department Mississippi State University

Companion Animals

Chair: Susanna Kitts-Morgan, Lincoln Memorial University

2:00 PM - 5:00 PM

M101 & 102

2:00 p.m. 115 **Stability of Thiamine Supplied by Vitamin Premix and Yeast Ingredients in Canned Cat Food**

Amanda N. Dainton ¹, Markus F. Miller ², Brittany L. White ³, Leah K. Lambrakis ², Charles G. G. Aldrich ⁴

¹Department of Grain Science and Industry, Kansas State University, ²Simmons Pet Food, Inc., ³Simmons Pet Food, ⁴Kansas State University

2:15 p.m. 112 **Modulating Effects of Miscanthus Grass and Prebiotic Blends on Canine Fecal Microbiota, Metabolites, and Digestibility**

Shannon E. Finet ¹, Fei He ², Lindsay V. Clark ¹, Maria R C de Godoy ¹

¹University of Illinois at Urbana-Champaign, ²University of Illinois at Urbana Champaign

2:30 p.m. 110 **Evaluation of Macronutrient Composition and Amino Acid Digestibility of Select Novel Dietary Proteins for Use in Canine and Feline Nutrition**

Victoria A. Gomez¹, Pamela L. Utterback¹, Carl M. Parsons¹, Maria R C de Godoy¹, Haley Russell²

¹University of Illinois at Urbana-Champaign, ²Chippin Pet

2:45 p.m. 497 **Late-Breaking: Low Number of Owner Reported Suspected Transmission of Foodborne Pathogens from Raw Meat-based Diets Fed to Dogs And/or Cats**

Nicole R. Cammack¹, Ryan M. Yamka², Vicki Adams³

¹BTD Science & Nutrition Inc., ²Luna Science & Nutrition, ³Vet Epi

3:00 p.m. 114 **Evaluation of Extrusion Processing Method and Protein Source on Standardized Amino Acid Digestibility**

Clare Hsu¹, Gary M. Davenport², Galen Rokey³, Maria R C de Godoy¹

¹University of Illinois at Urbana-Champaign, ²Archer Daniels Midland Company, ³Wenger Manufacturing, Inc.

3:15 p.m. 108 **Evaluation of Graded Levels of Grain Distillers Dried Yeast (GDDY) on Apparent Nutrient Digestibility and Stool Quality in Healthy Adult Dogs**

Logan Kilburn-Kappeler¹, Melissa L. Jolly-Breithaupt², Derek Balk², Charles G. G. Aldrich¹

¹Kansas State University, ²Flint Hills Resources

3:30 p.m. 109 **Diet-induced Clinical Responsiveness of Translational Dog Model for Human Western Diet (WD)-related Disease Research**

Chelsea A. Iennarella-Servantez¹, Aarti Kathrani², Dipak Sahoo¹, Elizabeth Long¹, Christopher Zdyrski¹, Vojtech Gabriel¹, Sichao Mao¹, Agnes Bourgois-Mochel¹, Mara Resop¹, Lili Rund¹, Mariana C. Rossoni-Serao¹, Albert Jergens¹, Jonathan Mochel¹, Karin Allenspach¹

¹Iowa State University, ²Royal Veterinary College

3:45 p.m. 107 **Quality Parameters of Pet Treats Generated from Beef Processing Co-products**

Marc R. Presume¹, Rigo F. Soler², Jorge L. Sandoval³, Luis P. Avila², Moses E. Chilenje¹, Catherine M. Odom², Laura J. Garner², Amit U. Morey², Robert P. Mason⁴, Eric K. Altom⁴, Charles W. Starkey¹

¹Auburn University, ²Auburn University Department of Poultry Science, ³Department of Poultry Science, Auburn University, ⁴Balchem Corp

4:00 p.m. 499 **Late-Breaking: Impact of a High Calcium Diet in Growing Labrador Retriever Puppies**

Jessica L. Varney¹, Charlene F. Watson¹, Craig N. Coon¹

¹Four Rivers Kennel, LLC

4:15 p.m. 113 **Owner Dietary and Exercise Regimens Influence Perception of Ideal Body Weight in Dogs**

Sydney Banton¹, Andrew Baynham¹, Julia Guazzelli Pezzali², Michael von Massow¹, Adronie Verbrugge³, Anna Kate K. Shoveller¹

¹University of Guelph, ²university of guelph, ³Ontario Veterinary College

4:30 p.m. 498 **Late-Breaking: Identifying Meaningful Measures of Dam and Puppy Welfare in Commercial-breeding (CB) Kennels**

Aynsley Romaniuk¹, Shanis Barnard¹, Jennifer Weller¹, Traci Shreyer¹, Candace Croney¹
¹Purdue University

4:45 p.m. 111 **Validation of the Indicator Amino Acid Oxidation Technique in the Domestic Cat**

Julia Guazzelli Pezzali¹, Mahroukh Rafii², Glenda Courtney-Martin², Anna Kate K. Shoveller³
¹University of Guelph, ²University of Toronto, ³University of Guelph

POSTER SESSION V

3:00 PM – 4:15 PM

(ASAS GRADUATE STUDENT POSTER COMPETITION: PHD II)

PSV-1 Injectable trace mineral supplementation on grazing beef cows: Effect on subsequent offspring birth weight and weaning weight

Stefania Pancini¹, John Currin², Jamie L. Stewart², Sherrie Clark², Tracey Redifer², Nicholas W. Wege Dias¹, Claire L. Timlin¹, Alvaro Sales¹, Vitor R. G. Mercadante¹

¹Animal and Poultry Sciences, Virginia Tech, ²Virginia Tech, Large Animal Clinical Sciences

PSV-2 Maternal nutrient restriction and re-alimentation influences liver and muscle tissue development and gene expression

Brandon I. Smith¹, Manuel A. Vasquez-Hidalgo², Kimberly A. Vonnahme³, Anna T. Grazul-Bilska², Kendall C. Swanson², Neha Mishra¹, Sarah A. Reed¹, Steven A. Zinn¹, Kristen E. Govoni¹

¹University of Connecticut, ²North Dakota State University, ³Zoetis

PSV-3 Ovarian dynamics of brahman cows submitted to five-day or twelve-day progesterone-based estrus synchronization protocol

Ramiro Oliveira Filho¹, Rafael R. Paiva¹, Gabriela Dalmaso de Melo¹, Rodolfo C. Cardoso¹, George A. Perry², G. Cliff C. Lamb¹, Ky G. Pohler³

¹Texas A&M University, ²Texas A&M AgriLife Research, Overton, ³Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University

PSV-4 Peri-estrus ovarian, uterine, and hormonal variables influence the uterine luminal fluid metabolome in beef heifers

Felipe Alves Correa Carvalho da Silva¹, Gabriela da Silva², Bruna Vieira², Adomar Neto², Cecilia Constantino Rocha¹, Gilmar Arantes Junior², Amanda Silva², Edson Lo Turco³, Guilherme D. Nogueira⁴, Guilherme Pugliesi², Mario Binelli¹

¹University of Florida, ²University of Sao Paulo, ³Federal University of Sao Paulo, ⁴Sao Paulo State University

PSV-5 Relationship between sire conception rate, sperm motility, sperm SERPINA5 relative concentration, and in vitro produced embryos in dairy bulls

Saulo Menegatti Zoca¹, Julie Walker¹, Taylor Andrews¹, Adalaide C. Kline¹, Jerica J. Rich², Kaitlin M. Epperson³, Jessica Nora Drum⁴, M. Sophia Ortega⁴, George A. Perry⁵

¹South Dakota State University, ²Arkansas State University, ³Texas A&M University, ⁴University of Missouri, ⁵Texas A&M AgriLife Research, Overton

PSV-6 Single nucleotide polymorphisms associated with advanced skeletal maturity in finished beef heifers

Katie A. Walker-Shira ¹, Brenda M. Murdoch ¹, Antonetta M. Colacchio ¹, Kimberly M. Davenport ¹, Michael J. Colle ¹, Phillip D. Bass ¹, Gordon K. Murdoch ²

¹University of Idaho, ²University of Idaho; Washington State University

PSV-7 Sire fecal egg count EBV are predictive of offspring response to an artificial gastrointestinal nematode infection in Rambouillet sheep

Jacob W. Thorne ¹, Scott A. Bowdridge ², Brenda M. Murdoch ¹, Reid Redden ³

¹University of Idaho, ²West Virginia University, ³Texas A&M AgriLife Extension

PSV-8 Sire field fertility does not correlate with sire conception rate (SCR) score

Gessica A. Franco-Johannsen ¹, Marcos Henrique C. Pereira ², M. Sophia Ortega ³, Sydney T. Reese ¹, Jose Luiz M. Vasconcelos ², Thomas E. Spencer ³, Ky G. Pohler ⁴

¹Texas A&M University, ²UNESP, ³University of Missouri, ⁴Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University

PSV-9 The effect of management practices on eggshell cleanliness, bacteria levels and cuticle deposition in free-range poultry

Julie Bosland ¹, Becky Sartini ¹

¹University of Rhode Island

PSV-10 The effects of maternal programming on postnatal growth and inflammation in neonatal dairy bull calves

Amanda Barney ¹, Jordan Lally ¹, Rachael Gately ², Maria L. Hoffman ¹

¹University of Rhode Island, ²Tufts University Cummings School of Veterinary Medicine

PSV-11 The effects of pelleting and extrusion on nutrient composition and protein quality measurements in a variety Canadian pulses

Cara Cargo-Froom ¹, Anna-Kate Shoveller ¹, Daniel A. Columbus ², Chris Marinangeli ³, Elijah Kiarie ¹, Rex N. Newkirk ², John Smilie ², Yongfeng Ai ²

¹University of Guelph, ²University of Saskatchewan, ³Pulse Canada

PSV-12 The impact of modern diets and growth technologies on animal growth performance and the carbon footprint of cattle feeding

David M. Crawford ¹, Kristin E. Hales ², Taylor M. Smock ², Andy Cole ³, Kendall L. Samuelson ¹

¹West Texas A&M University, ²Texas Tech University, ³USDA-ARS-Conservation and Production Research Laboratory

PSV-13 Understanding the role of zinc and manganese in proliferation and protein synthesis of primary bovine satellite cells

Anthony F. Alberto ¹, Laura A. Smith ¹, Caleb C. Reichhardt ¹, Stephanie L. Hansen ², Kara J. Thornton ¹

¹Utah State University, ²Iowa State University

PSV-14 Using Bayesian Hamiltonian Monte Carlo and a nonlinear model for the estimation of genetic parameters for lactation curves in goats

Andre C. Araujo ¹, Leonardo Gloria ², Paulo Abreu ³, Fabyano Silva ⁴, Marcelo Rodrigues ⁴, Luiz F. Brito ⁵

¹Department of Animal Science, Purdue University, ²Laboratório de Zootecnia, Universidade Estadual do Norte Fluminense Darcy Ribeiro, ³Departamento de Estatística, Universidade Federal de Viçosa, ⁴Departamento de Zootecnia, Universidade Federal de Viçosa, ⁵Department of Animal Sciences, Purdue University, Centre for Genetic Improvement of Livestock, University of Guelph

PSV-15 Using near infrared reflectance spectroscopy to predict lab scoured yield in Rambouillet sheep

Jordan N. Moody ¹, Reid Redden ², Faron A. Pfeiffer ³, Ronald Pope ³, John W. Walker ³

¹Texas A&M University, ²Texas A&M AgriLife Extension, ³Texas A&M AgriLife

PSV-16 Validation of an algorithm to assess feedbunk replacement events in beef cattle using an electronic feeding system

Keara O'Reilly ¹, Gordon Carstens ¹, Borbala Foris ², Courtney L. Daigle ¹

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

SSASAS Pastures and Forages

Chair: Jennifer J. Tucker, University of Georgia

3:00 PM - 5:00 PM

M109 & 110

3:00 p.m. 418 **Concentrate Supplementation Frequency Effects on Early-weaned Beef Calves Grazing Annual Ryegrass**

Hugo Oliveira ¹, Joao Vendramini ¹, Philippe Moriel ¹, Vinicius Gomes ¹, Hiran Silva ¹, Elizabeth A. Palmer ²

¹University of Florida, ²University of Florida - Range Cattle Research & Education Center

3:15 p.m. 415 **Determining the Rate of Ergot-alkaloid Degradation in Toxic Endophyte-infected Tall Fescue Hay and Haylage During Long Term Storage**

Charles A. Zumbaugh ¹, Susannah A. Gonia ¹, Kathryn M. Payne ², Thomas B. Wilson ¹

¹Department of Animal and Poultry Sciences, Virginia Tech, ²Southern Piedmont Agricultural Research and Extension Center, Virginia Tech

3:30 p.m. 417 **Effects of Dried Distillers' Grains Cube Supplementation for Steers Grazing Introduced Pastures on Animal Performance and Forage Production**

Jordan Adams ¹, Rodney Farris ¹, Scott Clawson ¹, Earl Ward ¹, Paul A. Beck ¹

¹Oklahoma State University

3:45 p.m. 416 **Profitability of Supplementing Dried Distillers' Grains Cubes to Improve Animal Performance and Replace N Fertilizer for Steers Grazing Introduced Pastures**

Jordan Adams ¹, Rodney Farris ¹, Scott Clawson ¹, Earl Ward ¹, Paul A. Beck ¹

¹Oklahoma State University

4:00 p.m. 473 **Equine in Vitro Digestibility Using Different Cecal Fluid Dilutions**

Cody Davis ¹, Russell C. Carrell ², Serena Thompson ¹, Madison Cole ¹, Leanne L. Dillard ¹

¹Auburn University, ²Cargill Animal Nutrition

4:15 p.m. 414 **Plant Growth-promoting Rhizobacteria: Effects on Yield and Nutritive Value of 'Russell' Bermudagrass and 'KY 31' Tall Fescue**

Madison Cole¹, Leanne L. Dillard¹

¹Auburn University

4:30 p.m. 396 **The Effect of Storage Length on the Nutritive Value of Baleage in the Southeastern United States**

Justin C. Burt¹, Taylor Hendricks², Jennifer J. J. Tucker¹, Lisa Baxter¹, Robert Lawton Stewart¹

¹University of Georgia, ²Abraham Baldwin Agricultural College

4:45 p.m. 412 **Evaluating Soybean Cultivars for Forage Yield and Nutritive Values**

Serena Thompson¹, Jenny Koebernick¹, Russell C. Carrell², Madison Cole¹, Leanne L. Dillard¹

¹Auburn University, ²Cargill Animal Nutrition

POSTER SESSION V-B

5:15 PM – 6:15 PM

(COMPANION ANIMALS)

PSV-B-17 Additional dietary choline increases serum metabolites as determined by direct infusion mass spectrometry in post-gonadectomy kittens

Hannah Godfrey¹, Alexandra Rankovic¹, Caitlin E. Grant¹, Anna-Kate Shoveller¹, Sarah Abood¹, Marica Bakovic¹, Adronie Verbrugghe¹

¹University of Guelph

PSV-B-18 Characterization of the fecal microbiome of healthy adult beagle dogs supplemented with graded levels of bacillus coagulans GBI-30, 6086

Heather L. Acuff¹, Tara N. Gaire², Tyler Doerksen³, Andrea Lu³, Michael P. Hays², Rachel M. Palinski³, Philip R. Hardwidge², Charles G. Aldrich⁴

¹Kansas State University, ²Department of Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University, ³Veterinary Diagnostic Laboratory, College of Veterinary Medicine, Kansas State University, ⁴Department of Grain Science and Industry, Kansas State University

PSV-B-19 Dietary choline supplementation increases transmethylation through the one-carbon cycle in overweight cats

Alexandra Rankovic¹, Hannah Godfrey¹, Caitlin E. Grant¹, Anna-Kate Shoveller¹, Marica Bakovic¹, Gordon Kirby¹, Adronie Verbrugghe¹

¹University of Guelph

PSV-B-20 Effects of Saccharomyces Cerevisiae Fermentation Product (SCFP) postbiotic in labrador retrievers during exercise and transport stress

Jessica L. Varney¹, Craig N. Coon¹, Sharon A. Norton²

¹Four Rivers Kennel, LLC., ²Diamond V Mills, Inc.

PSV-B-21 Evaluation of whole soybeans as an ingredient in dog diets: Apparent total tract digestibility and stool quality of extruded diets with graded levels of dehulled whole soybeans by dogs

Hee S. Kim ¹, Charles G. Aldrich ¹

¹Department of Grain Science and Industry, Kansas State University

PSV-B-22 Evaluation of whole soybeans as an ingredient in dog diets: Canine palatability of extruded diets with graded levels of dehulled whole soybeans

Hee S. Kim ¹, Charles G. Aldrich ¹

¹Department of Grain Science and Industry, Kansas State University

PSV-B-23 Metabolomic biomarker assessment of a *Saccharomyces cerevisiae* fermentate in exercise-stressed Labrador retrievers

Hamid R. Eghbalnia ¹, Paul Rosevear ¹, Jessica L. Varney ², Craig N. Coon ², Sharon A. Norton ³

¹Cyrus Analytics, LLC., ²Four Rivers Kennel, LLC., ³Diamond V Mills, Inc.

PSV-B-24 Palatability assessment of graded levels of grain distillers dried yeast (GDDY) fed to healthy adult cats

Logan Kilburn ¹, Melissa L. Jolly-Breithaupt ², Derek Balk ², Charles G. Aldrich ³

¹Kansas State University, ²Flint Hills Resources, ³Department of Grain Science and Industry, Kansas State University

PSV-B-25 Performance of sunflower protein meal and dried yeast as secondary protein sources in canine diets

Lauren Brewer ¹, Matthew Panasevich ¹, Nolan Frantz ¹, Leighann Daristotle ¹

¹Blue Buffalo Company

PSV-B-26 Performance of sunflower protein meal and dried yeast as secondary protein sources in feline diets

Lauren Brewer ¹, Matthew Panasevich ¹, Nolan Frantz ¹, Leighann Daristotle ¹

¹Blue Buffalo Company

PSV-B-27 The effects of carbohydrate hydrocolloids on firmness, toughness, and expressible moisture of wet pet food

Amanda N. Dainton ¹, Hulya Dogan ¹, Charles G. Aldrich ¹

¹Department of Grain Science and Industry, Kansas State University

PSV-B-28 Late-Breaking: Development and validation of a Total Inflammation Index™ for identifying inflammation in Labrador Retrievers using a pressure walkway

Jessica L. Varney ¹, Craig N. Coon ¹

¹Four Rivers Kennel, LLC

PSV-B-29 Late-Breaking: Comparisons of Practices of Raw Diet Versus Kibble Diet Dog Owners

Madison Petree ¹, Lara M. Sypniewski ¹, Dianne McFarlane ¹, Kris Hiney ¹

¹Oklahoma State University

Friday, July 16, 2021

POSTER SESSION VI

7:00 AM – 8:00 AM

(NONRUMINANT NUTRITION)

PSVI-2 Effects of natural capsicum extract as a substitute for chlortetracycline on growth performance, nutrient utilization, antioxidant status, immune function, and meat quality in broilers

Sujie Liu¹, Jian Wang², Tengfei He¹, Hansuo Liu¹, Xiangshu Piao¹

¹College of Animal Science and Technology, China Agricultural University, ²China Agricultural University

PSVI-3 Effect of feeding resistant starch on sow and piglet farrowing performance and blood parameters

Mary L. Markland¹, Donald C. Lay², Brian T. Richert¹

¹Purdue University, ²USDA-ARS

PSVI-4 Effect of phytase on mineral digestibility and growth performance of pigs fed diets with pharmacological levels of Zn

Charmaine D. Espinosa¹, Deepak Velayudhan², Yueming Dersjant-Li², Janet Remus², Hans-Henrik H. Stein¹

¹University of Illinois at Urbana-Champaign, ²Danisco Animal Nutrition (IFF)

PSVI-5 Effect of probiotic supplementation on performance and intestinal integrity in weaned piglets

Illa Carla S. Carvalho¹, Bruno Alexander N. Silva², Elenice A. Moraes¹, Henrique G. Brand³, Maria M. Luspa³, Debora Cristine O. Carvalho¹, Fabrina S. Luna¹, Larissa A. Cardoso², Rodrigo L. Domingos⁴, Flavio Igor G. Rebordoes², Mateus F. Gonçalves², Stephane A. Motta²

¹Universidade Federal do Vale do Sao Francisco, ²Universidade Federal de Minas Gerais,

³Evonik Brasil, ⁴Universidade Federal de Lavras

PSVI-6 Effect of season on the feeding behaviour and kinetics of daily feed intake of high-prolific sows during lactation

Bruno Alexander N. Silva¹, Simon Eskinazi², David V. Jacob², Wagner Araújo³, Iara Ataíde⁴, Flavio Igor G. Rebordoes¹, Mateus F. Gonçalves¹, Larissa A. Cardoso¹, Valesca Lima⁴, Rafaela Evangelista⁴, Hysla M. Cardoso¹, Stephane A. Motta¹, Steve Habit⁴, Dalton Araújo⁴, Thainara Pereira⁴, Bárbara Maia⁴

¹Universidade Federal de Minas Gerais, ²ADISSEO, ³IFNMG, ⁴UFMG

PSVI-7 Effect of substrates of agroindustrial wastes fermented with LAB and yeasts on productive, reproductive and health indicators in primiparous guinea pigs

Juan Taboada¹, Wilfido Briñez², José E. Miranda¹, Alfredo Marin³

¹Universidad de Cuenca, ²Universidad del Zulia, ³Universidad Central de Las Villas

PSVI-8 Effects of a mycotoxin deactivator on performance of gestating and lactating gilts fed diets containing added mycotoxins

Sinthia Siqueira¹, Hébert De Brito¹, Wagner Araújo¹, Hélio Neves¹, Mara Benfato², Diego Canta², Damien Preveraud³, Eduardo Gloria⁴, David V. Jacob³, Bruno Alexander N. Silva⁵, Iara Ataíde⁶, Flavio Igor G. Rebordoes⁵, Mateus F. Gonçalves⁵

¹IFNMG, ²UFRGS, ³ADISSEO, ⁴ESALQ/USP, ⁵Universidade Federal de Minas Gerais, ⁶UFMG

PSVI-9 Effects of dietary boron supplementation on growth performance, fasting and postprandial serum insulin, and glucose concentration of pigs

Tyler B. Chevalier¹, Merlin D. Lindemann¹

¹University of Kentucky

PSVI-10 Effects of dietary spray-dried plasma protein on nutrient digestibility and growth performance in nursery pig

Hansol Kim¹, Beob Gyun G. Kim¹

¹Konkuk University

PSVI-11 Effects of dietary supplementation of enzymatic bio-conversion of *Scutellaria baicalensis* extract as an alternative to antibiotics in growing pigs

Koo Deokho¹, Dang De Xin¹, Gao Shanshui¹, Lim Chain Bin¹, Kim Inho¹

¹Dankook University

PSVI-12 The effects of road transportation with or without homeopathic remedy supplementation on growth performance, nutrient digestibility, microbiota, serum cortisol and superoxide dismutase in growing pigs

Koo Deokho¹, Dang De Xin¹, Palanisamy Thanapal¹, Park Hyun Ju¹, Ahn Je Min¹, Kim Inho¹

¹Dankook University

(ANIMAL BREEDING AND GENETICS)

PSVI-1 Evaluation of the synergistic effect of iron and an aqueous extract of oak bark on rumen microbiome of cattle

Kseniya Atlanderova¹, Galimzhan Duskaev¹

¹Federal Research Center of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSVI-13 Changes in the taxonomic composition of the rumen of ruminants when introducing fat components into the diet

Oksana Shoshina¹, Elena Shejjda¹, Elvina Shajahmetova¹, Svyatoslav Lebedev¹, Galimzhan Duskaev¹, Olga Kvan¹

¹Federal Research Center of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSVI-14 Characteristic of hybrid chicken derived from crossing of Ogye and white leghorn

Hee-Jong Roh¹, Kim Jae-Hwan¹, Seung-Chang Kim¹, Daehyeok Jin¹, Ji-Hye Cha¹, Jun-Heon Lee²

¹National Institute of Animal Science, Republic of Korea, ²Chungnam National University

PSVI-15 Combined effect of C73T × C528T polymorphisms in the leptin gene with quantitative and qualitative indicators of meat productivity

Alexandra Lapshina¹, Vladimir Kolpakov¹, Kinispay Dzhulamanov¹, Nikolay Gerasimov¹, Marina Dubovskova¹

¹Federal Research Center for Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSVI-16 Comparison of univariate and multivariate machine learning applications for genomic predictions of growth and carcass traits from Brangus heifers

Sunday O. Peters ¹, Mahmut Sinecen ², Kadir Kizilkaya ², Milton G. Thomas ³

¹Berry College, ²Aydin Adnan Menderes University, AYDIN, ³Colorado State University

PSVI-17 Dissimilarities in thyroid profiles and pregnancy rates in dairy cows with different polymorphic variants of the DIO1 gene

Olga V. Aleynikova ¹, Olga S. Mityashova ¹, Olga V. Kostyunina ², Nikolay V. Bardukov ¹, Irina Y. Lebedeva ³

¹L.K. Ernst Federal Research Center for Animal Husbandry, Podolsk, Russia, ²L.K. Ernst Federal Research Center for Animal Husbandry, ³L.K. Ernst Federal Science Center for Animal Husbandry

PSVI-18 Efficiency of the use of ultrafine particles of silicon dioxide in the synchronization scheme of estrus of heifers

Stanislav Platonov ¹, Pavel Khristianovsky ¹, Alexey Frolov ¹, Oleg Zavyalov ¹

¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSVI-19 Evaluation of birth weight, weaning weight and average daily weight gain of Holstein female calves carrying the SLICK1 allele of the Prolactin Receptor (PRLR) gene

Allie T. Carmickle ¹, Madison R. Zamaroni ¹, Jessica Pereira ², Peter J. Hansen ³, Anna C. Denicol ¹

¹University of California, Davis, ²Universidade Federal de Vicosa, Vicosa, MG – Brasil, Veterinary Medicine Teaching and Research Center, University of California, Davis, ³University of Florida

PSVI-20 Extent of genetic variation in feeding behavior and genetic associations with performance and feed efficiency in crossbred growing cattle

David N. Kelly ¹, Roy D. Sleator ², Craig P. Murphy ², Stephen B. Conroy ³, Donagh P. Berry ⁴

¹Teagasc, Munster Technological University, ²Munster Technological University, ³Irish Cattle Breeding Federation, ⁴Teagasc

PSVI-21 Fatty acid composition of blood lipids in lambs of different genotypes in ontogeny

Ekaterina Karpova ¹, Ludmila Chizhova ², Eugenia Surzhikova ³

¹Postgraduate Student, ²Doctor of Agricultural Sciences, Full Professor, ³Candidate of Agricultural Sciences

(MEAT SCIENCE AND MUSCLE BIOLOGY)

PSVI-22 Comparison of quality characteristics, palatability, and serum biochemical parameters between normal and PSE-like condition chickens

Boin Lee ¹, Jae Yeong Kim ¹, Young Min Choi ¹

¹Kyungpook National University, Korea

PSVI-23 Depot- specific patterns of mRNA and miRNA gene expression in adipose tissue from Texel-cross and Suffolk lambs

Aliute Udoka ¹, Maslyn A. Greene ¹, Susan K. Duckett ¹

¹Clemson University

PSVI-24 Effects of early-life exposure to topsoil on the muscle fiber characteristics and gene expression of weaned piglets

Yongjie Wang¹, Tsung-Cheng Cheng, Tsai¹, Shilei Zhang¹, Jiangchao Zhao¹, Yan Huang¹
¹University of Arkansas

PSVI-25 Feeding increasing levels of yerba mate in lambs: Effects on fatty acid profile, and physical characteristics meat.

Yuli Andrea Pena Bermudez¹, Richard Roberto Lobo¹, Danny Alexander Rojas Moreno¹,
Rafaela Scalise Xavier de Freitas¹, Ives Claudio C. Da Silva Bueno¹
¹Department of Animal Science, College of Animal Science and Food Engineering,
Pirassununga, SP, Brazil

PSVI-26 Optimized small tissue specific protein isolation through complexed diafiltration technique

Kotenkova Elena¹, Irina M. Chernukha¹, Leonid I. Kovalyov²
¹V. M. Gorbatov Federal Research Centre for Food Systems of RAS, ²Federal State Institution
«Federal Research Centre «Fundamentals of Biotechnology» of the Russian Academy of
Sciences»

PSVI-27 Relationship of volatile compounds and consumer sensory traits from New Zealand grass-fed and American grain-fed beef strip loins varying in marbling level and wet aging time

Travis J. Tilton¹, Loni W. Lucher¹, Travis C. Tennant¹, Ty E. Lawrence¹, Travis O'Quinn²,
Jerrad F. Legako³, Chance Brooks³, Mark F. Miller³
¹West Texas A&M University, ²Kansas State University, ³Texas Tech University

PSVI-28 Performance of hair lambs maintained on stockpiled permanent pasture mixed with Cleome gynandra L. at multiple stocking densities

Ondieki J. Gekara¹, Oliver Sycip¹, Cord Brundage¹, Mohammad Chaichi¹
¹Cal Poly, Pomona

PSVI-29 Late-Breaking: Exposure to 1.8 mM choline chloride does not impact development to the blastocyst stage or pregnancy rate after transfer for embryos produced in vitro.

McKenzie L. Haimon¹, Eliab Estrada- Cortés¹, Thiago F. Amaral¹, Surawich Jeensuk¹,
Froylan Sosa¹, João Bittar², Jeremy Block³, Daniella C. Heredia⁴, Angela Maria M. Gonella-
Díaz¹, Nicolas Di Lorenzo⁴, Peter J. Hansen¹
¹University of Florida, ²Department of Large Animal Clinical Sciences, College of Veterinary
Medicine, University of Florida, Gainesville, ³University of Wyoming, ⁴North Florida Research
and Education Center, University of Florida

(RUMINANT NUTRITION)

PSVI-30 Feedlot performance and carcass characteristics of beef steers under intensive management with or without an added nutritional packet

Andrea M. Osorio¹, Kaue Tonelli Nardi¹, Igor Gomes Fávero¹, Kaliiu G. Scaranto Silva¹,
Kymberly D. Coello¹, Angel A. Raudales¹, Francine M. Ciriaco¹, Jhones Onorino Sarturi¹,
Darren D. Henry¹
¹Texas Tech University

Growth and Development

Chair: Anna Dilger, University of Illinois at Urbana-Champaign

8:00 AM - 8:30 AM

L006

8:00 a.m. 192 Identification of Fos and Fosb as Transcriptional Regulators of Bovine Satellite Cell Differentiation

Pengcheng Lyu¹, Robert Settlege², Honglin Jiang¹

¹Department of Animal and Poultry Sciences, Virginia Tech, ²Advanced Research Computing, Virginia Tech

8:15 a.m. 191 Pulsatile Administration of Leucine Promotes Mtor Signaling and Protein Synthesis in Skeletal Muscle of Continuously Fed Preterm Pigs

Marko Rudar¹, Agus Suryawan², Hanh Nguyen², Barbara Stoll², Doug Burrin², Marta Fiorotto², Teresa A. Davis²

¹Auburn University, ²USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine

Animal Breeding and Genetics III: Modeling

Chair: Jack Dekkers, Department of Animal Science, Iowa State University

8:00 AM - 10:00 AM

M105 & 106

POSTER SESSION VII

8:15 AM – 9:15 AM

(Nonruminant Nutrition)

PSVII-1 Dietary inclusion of mineral detoxified nano-sulfur dispersion on growth performance, fecal score, fecal microbial, gas emission, blood profile, digestibility and meat quality in finishing pigs

Koo Deokho¹, Mohankumar Thamarai Kannan¹, Madesh Muniyappan¹, Song Junho¹, Ahn Je Min¹, Kim Inho¹

¹Dankook University

PSVII-2 Effects of xylanase and its optimal supplementation level on viscosity of jejunal digesta, nutrient digestibility, intestinal health, and growth performance of nursery pigs

Vitor Hugo C. Moita¹, Sung Woo Kim¹, Marcos E. Duarte¹

¹North Carolina State University

PSVII-3 Evaluation of dietary OmniGen AF supplementation and PG600 injection on reproductive characteristics of gilts

Jun Chen¹, Jung Wook Lee¹, Jim J. Monegue¹, Richard Niblett², Kim Williams², Mark J. Estienne², Jim Chapman³, Brooke Humphrey⁴, Merlin D. Lindemann¹

¹University of Kentucky, ²Virginia Tech - Tidewater Agricultural Research and Extension Center,

³Phibro Animal Health Corporation, ⁴Phibro Animal Healthy Corporation

PSVII-4 Flavoured drinking water improves performance of post-weaned piglets

Fabrina S. Luna ¹, Bruno Alexander N. Silva ², Elenice A. Moraes ¹, Debora Cristine O. Carvalho ¹, David V. Jacob ³, Simon Eskinazi ³, Rodrigo L. Domingos ⁴, Illa Carla S. Carvalho ¹, Hysla M. Cardoso ², Larissa A. Cardoso ², Flavio Igor G. Rebordoes ², Mateus F. Gonçalves ²

¹Universidade Federal do Vale do Sao Francisco, ²Universidade Federal de Minas Gerais, ³ADISSEO, ⁴Universidade Federal de Lavras

PSVII-5 Influences of feed intake and fiber source on energy and nutrient digestibility in growing pigs

Dong Uk Ha ¹, Beob Gyun G. Kim ¹

¹Konkuk University

PSVII-6 Hindgut disappearance of nutrients in a diet containing sugar beet pulp was greater than that in a diet containing corn cob with no effect of feed intake in growing pigs

Dong Uk Ha ¹, Beob Gyun G. Kim ¹

¹Konkuk University

PSVII-7 Prematurity alters the regulation of Akt signaling in skeletal muscle of piglets

Teresa A. Davis ¹, Agus Suryawan ², Jane Naberhuis ², Marko Rudar ³, Marta Fiorotto ²

¹CNRC-TCH-BCM, ²Baylor College of Medicine, ³Auburn University

PSVII-8 Influence of different levels of metabolic energy on morpho-biochemical parameters of broiler chicken

Kristina V. Ryazantseva ¹, Elena Sizova ²

¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences, ²Federal Research Centre for Biological Systems and Agricultural Technologies of Russian Academy of Sciences, Orenburg State University

PSVII-9 Influence of lactose and milk oligosaccharides in whey permeate on jejunal mucosa-associated microbiota in nursery pigs during 7 to 11 kg BW

Ki Beom Jang ¹, Sung Woo Kim ¹

¹North Carolina State University

PSVII-10 Growth performance, serum biochemical parameters and intestinal health of piglets as affected by dietary moa at different levels

Jiayu Ma ¹, Qinghui Shang ², Shenfei Long ², Sujie Liu ², Shad Uddin mahfuz ², Xiangshu Piao ²

¹China Agricultural University, ²College of Animal Science and Technology, China Agricultural University

PSVII-11 Long-term evaluation of dietary OmniGen AF supplementation on reproductive performance and milk composition of sows

Jung Wook Lee ¹, Jim J. Monegue ¹, Kim Williams ², Mark J. Estienne ², Jim Chapman ³, Brooke Humphrey ⁴, Merlin D. Lindemann ¹

¹University of Kentucky, ²Virginia Tech - Tidewater Agricultural Research and Extension Center, ³Phibro Animal Health Corporation, ⁴Phibro Animal Healthy Corporation

(RUMINANT NUTRITION)

PSVII-12 The effects of parity and diet on the rumen function and apparent digestibility in dairy cattle

YangYi Hao ¹, Shuai Huang ¹, Shengli Li ¹
¹China Agriculture University

PSVII-13 Performance and environmental benefits from biochar supplementation in beef cattle grazing systems

Emily Conlin ¹, Herbert Lardner ², Jennifer L. Ellis ¹, Ira B. Mandell ¹, Katharine M. Wood ³
¹University of Guelph, ²Department of Animal and Poultry Sciences, University of Saskatchewan, ³Department of Animal Biosciences, University of Guelph

PSVII-14 Feeding carbohydrases to grazing beef cattle under different nutritional strategies on dry season: Ruminal fermentation

Anderson Acosta ¹, Guilherme S. Vasconcellos ², Alexandre Perdigão ², Victor Valério de Carvalho ², Tiago S. Acedo ², Cibele Pedrini ³, Jefferson Gandra ⁴
¹Universidade Estadual de Maringá, Umuarama-PR, Brazil, ²DSM Nutritional Products Brazil S.A., ³Universidade Federal da Grande Dourados- MS, Brazil, ⁴Universidade Federal do Sul e Sudeste do Pará- PA, Brazil

PSVII-15 Effects of electrolyzed reduced water on intake, digestion and ruminal fermentation parameters in beef cattle

Natasha L. Bell ¹, Daisy A. Gonzalez ¹, Kendrah DeLeon ¹
¹Texas A&M University, Kingsville

PSVII-16 Effects of different forms of Cu on in vitro ruminal fermentation and digestibility of a lactation diet

Angela R. Boyer ¹, Yun Jiang ¹, Alon Blakeney ¹, Dennis Nuzback ¹, Brooke Humphrey ¹, Miriam Garcia ¹
¹Phibro Animal Health Corporation

PSVII-17 Use of a dimethyl carbonate extraction for rumen fluid volatile fatty acid quantification by gas chromatograph mass spectrometry

Andrew P. Foote ¹
¹Oklahoma State University

PSVII-18 Association of post-absorptive glucose and acetate metabolism with feed intake, growth, and efficiency in finishing beef heifers

Andrew P. Foote ¹, Abigail R. Rathert ¹, Carlee M. Salisbury ¹, Hunter L. McConnell ¹, David Lalman ¹
¹Oklahoma State University

PSVII-21 Canadian Vytelle technology for determining residual feed intake epdsin raising Qazaq Aqbas bull calves

Dauren Matakbayev ¹, Assel Tilepova ¹, Anuarbek T. Bissembayev ²
¹S. Seifullin Kazakh Agro Technical University, ²Scientific and Production Centre for Animal Husbandry and Veterinary Limited Liability Company

PSVII-24 Blend of essential oils plus 25-hydroxy-vitamin-D3 as alternative to the use monensin on growth performance and dietary energetics in feedlot cattle raised under high ambient temperature

Daniel Mendoza-Cortés ¹, Jorge L. Ramos-Méndez ¹, Adrián Félix-Bernal ¹, Alfredo Estrada-Angulo ¹, Manuel Franco ², Guilherme S. Vasconcelos ³, Tiago S. Acedo ³, Victor Valério de Carvalho ³, Alexandre Perdigão ³, Alberto Barreras ⁴, Alejandro Plascencia ⁵, Jesús Urías-Estrada ¹

¹Universidad Autónoma de Sinaloa, ²DSM Nutritional Products Mexico, ³DSM Nutritional Products Brazil S.A., ⁴Universidad Autónoma de B.C., ⁵Universidad Autónoma de Occidente

PSVII-25 Amount of colostrum feeding impacts performance and potential colostrum biomarkers at arrival at the rearing facility in unweaned male dairy beef calves

Lucía Pisoni ¹, Anna Bassols ², Yolanda Saco ², Nestor Gomez ², Joan Pujols ³, Maria Devant ¹, Sonia Marti ¹

¹IRTA, Ruminant Production, ²UAB, Biochemistry and Molecular Biology, ³IRTA-CReSA

(COMPARATIVE GUT PHYSIOLOGY)

PSVII-20 Optimization of intestinal permeability assays to study the degree of fasting in gut permeability of unweaned Angus-Holstein bull calves

Lucía Pisoni ¹, Maria Devant ¹, Marta Blanch ², Jose J. Pastor ², Sonia Marti ¹

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

PSVII-22 Changes in biochemical composition of saliva and blood of cattle after sunflower husk included in the diet

Kristina Kondrashova ¹, Elena Shejjda ², Elvina Shajahmetova ², Svyatoslav Lebedev ², Sergej Miroshnikov ¹, Galimzhan Duskaev ¹, Olga Kvan ¹, Shamil Rakhmatullin ¹

¹Federal Research Center of Biological Systems and Agrotechnologies of the Russian Academy of Sciences, ²Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSVII-23 Experimental evaluation of the effectiveness of the Quercus cortex extract in the carp feeding system

Mariya Miroshnikova ¹, Elena Miroshnikova ¹, Alexey Sizentsov ¹, Azamat Arinzhanov ¹, Yuliya Kilyakova ¹

¹Orenburg State University

(ANIMAL BREEDING AND GENETICS)

PSVII-19 Change in the taxonomic composition of ruminal microflora against the background of copper and plant extract

Kseniya Atlanderova ¹, Ayna Makaeva ¹, Sergej Miroshnikov ¹, Galimzhan Duskaev ¹

¹Federal Research Center of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSVII-26 Follicular growth in beef cows when using a low dose of FSH and hCG at the time of CIDR removal in a 7-day co-synch + CIDR protocol

Daniella C. Heredia ¹, Oscar A. Ojeda-Rojas ², Federico Tarnonsky ¹, Angela Maria M. Gonella-Diaza ³, Nicolas Di Lorenzo ¹, Marina Almeida ¹

¹University of Florida, North Florida Research and Education Center, ²University of Sao Paulo,

³University of Florida

PSVII-27 Genetic analysis of disease resilience of nursery-to-finish pigs under a natural disease challenge model using reaction norms

Jian Cheng ¹, KyuSang Lim ¹, Austin Putz ², Anna Wolc ³, John Harding ⁴, Michael Dyck ⁵, Frederic Fortin ⁶, Graham Plastow ⁷, Jack C. Dekkers ¹

¹Iowa State University, ²Hendrix Genetics, ³Hy-Line International, ⁴University of Saskatchewan, ⁵University of Alberta, ⁶Centre de Développement du Porc du Québec Inc, ⁷University of Alberta/Agriculture and Agri-Food Canada

PSVII-28 Genetic analysis of frame score and performance traits in Nellore cattle—growth, carcass and efficiency traits

Maria Paula Negreiros ¹, Elisa Peripolli ², Claudio U. Magnabosco ³, Nayanny Guimarães ⁴, Raysildo Lôbo ⁵, Fernando S. Baldi ², Roberto D. Sainz ⁶

¹University of São Paulo - Ribeirão Preto, Brazil, ²State University of São Paulo - Jaboticabal, Brazil, ³Embrapa Cerrados, ⁴Federal University of Goiás - Goiânia, Brazil, ⁵National Association of Breeders and Researchers, Brazil, ⁶University of California, Davis

PSVII-29 Genetic analysis of frame score and performance traits in Nellore cattle – reproduction and productivity traits

Fernando S. Baldi ¹, Maria Paula Negreiros ², Elisa Peripolli ¹, Claudio U. Magnabosco ³, Nayanny Guimarães ⁴, Raysildo Lôbo ⁵, Roberto D. Sainz ⁶

¹State University of São Paulo - Jaboticabal, Brazil, ²University of São Paulo - Ribeirão Preto, Brazil, ³Embrapa Cerrados, ⁴Federal University of Goiás - Goiânia, Brazil, ⁵National Association of Breeders and Researchers, Brazil, ⁶University of California, Davis

PSVII-30 What 30 years of accumulated pregnancy data taught us about the Bos indicus influence on reproductive performance of beef cattle

Thiago Martins ¹, Cecilia Constantino Rocha ¹, Joseph D. Driver ¹, Owen Rae ², Mauricio A. Elzo ¹, Raluca Mateescu ¹, Mario Binelli ¹

¹University of Florida, ²Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida

Contemporary and Emerging Issues Symposium I

Chair: Don Mulvaney, Auburn University; Charles F Rosenkrans, Animal and Veterinary Sciences Department, Clemson University

8:15 AM - 1:30 PM

Ballroom A/B

8:15 a.m. **Contemporary and Emerging Issues Symposium I Introduction**

Don R. Mulvaney ¹, Charles F Rosenkrans ²

¹Auburn University, ²Animal and Veterinary Sciences Department, Clemson University

8:25 a.m. 542 **Rethinking/reexamining Grand Challenges Within Teaching for Workforce Readiness – a Scorecard and Recalibration**

Don R. Mulvaney ¹, Charles F Rosenkrans ²

¹Auburn University, ²Animal and Veterinary Sciences Department, Clemson University

8:50 a.m. 534 **Grand Challenges within Breeding and Genetics**

Fernando Biase ¹

¹Virginia Tech

9:15 a.m. 135 **Grand Challenges in Domestic Agricultural Animal Reproduction**

Thomas E. Spencer¹

¹University of Missouri

9:40 a.m. 537 **Animal Growth and Development – A Scorecard and Recalibration**

Dave E. Gerrard¹, Robert P. Rhoads¹, Honglin Jiang², Samer El-Kadi¹, Elizabeth R. Gilbert¹, A L. Grant¹

¹Virginia Tech, ²Department of Animal and Poultry Sciences, Virginia Tech

10:05 a.m. **Contemporary and Emerging Issues Symposium I Break**

10:20 a.m. 137 **Optimizing Animal Welfare in a Socially Acceptable and Sustainable Manner: The ASAS Grand Challenge That Requires Moral Self-reflection and Scientific Calibration**

Courtney L. Daigle¹, Xandra Christine A. Meneses², Janice Swanson³

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

10:45 a.m. 136 **Beef as a Functional Food for Improving Human Nutrition and Health**

Guoyao Wu¹

¹Department of Animal Science, Texas A&M University

11:10 a.m. 535 **Rethinking Grand Challenges within Sustainable Animal Production**

Frédéric Leroy¹

¹Vrije Universiteit Brussel, Belgium

11:35 a.m. 536 **Diversity, Equity, and Inclusion in Animal Science**

Candace Croney¹, Shawn L. Archibeque²

¹Purdue University, ²Colorado State University

12:00 p.m. **Contemporary and Emerging Issues Symposium I Panel Discussion**

Physiology and Endocrinology I

Chair: Alan Ealy, Virginia Polytechnic Institute and State University

8:30 AM - 10:15 AM

M109 & 110

8:30 a.m. 234 **Pregnancy and Hormonal Response in Suckled Beef Cows Administered High-concentration Prostaglandin F_{2α} in a 5-day Co-synch + CIDR Synchronization Program**

Amin Ahmadzadeh¹, McKenzie Corpron¹, John B. Hall¹, Amin Ahmadzadeh¹, Joseph Dalton¹

¹University of Idaho

8:45 a.m. 233 **Estrus Response and Pregnancy Rates of Beef Replacement Heifers Enrolled in Two Fixed-time Artificial Insemination Protocols, with or Without Pre-synchronization**

Vitor R G. Mercadante ¹, G. Cliff C. Lamb ², Nicky Oosthuizen ³, Nicholas W. Dias ⁴, Stefania Pancini ⁴, Hannah Haines ⁵, John Currin ⁴, Sherrie Clark-Deener ⁴, Jamie L. Stewart ⁴, Gabriel J. Pent ⁶, Matthew P. Holton ⁷, Dylan Blake B. Davis ⁷, Shane R R. Hernandez ⁸, Robert Lawton Stewart ⁷, Pedro L.P. Fontes ⁷

¹Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences, ²Texas A&M University, ³ABS Global, ⁴Virginia Tech, ⁵Animal and Poultry Sciences, Virginia Tech, Blacksburg, VA, USA, ⁶Virginia Tech - SVAREC, ⁷University of Georgia, ⁸University of Georgia, Animal and Dairy Science

9:00 a.m. 239 **Increased Preovulatory Estradiol Improves Pregnancy Success of Embryo Transfer in Beef Cows**

Jaclyn N. Ketchum ¹, George A. Perry ², Kaitlin M. Epperson ¹, Lacey K. Quail ¹, Makayla Ogg ³, Abby L. Zezeski ⁴, Jerica JJ Rich ⁵, Saulo Menegatti Zoca ³, Adalaide C. Kline ⁶, Taylor Andrews ³, M. Sofia Ortega ⁷, Michael F. Smith ⁷, Tom W. Geary ⁴

¹Department of Animal Science, Texas A&M University, College Station, TX, ²Texas A&M AgriLife Research, Overton, TX, ³South Dakota State University, ⁴USDA-ARS, ⁵College of Agriculture, Arkansas State University, ⁶Department of Animal Science, South Dakota State University, ⁷University of Missouri

9:15 a.m. 238 **Luteal Color Doppler Ultrasonography for Early Pregnancy Diagnosis in Postpartum Bos Taurus Beef Cows**

Matthew P. Holton ¹, Nicky Oosthuizen ², Gabriela de Melo ³, Dylan Blake B. Davis ¹, Robert Lawton Stewart ¹, Ky G. Pohler ⁴, G. Cliff C. Lamb ⁴, Pedro L.P. Fontes ¹

¹University of Georgia, ²ABS Global, ³Texas A&M University, Department of Animal Science, ⁴Texas A&M University

9:30 a.m. 236 **Factors Influencing Clearance of Pregnancy-associated Glycoproteins in Postpartum Beef Cattle**

Adalaide C. Kline ¹, Julie Walker ², Taylor Andrews ², Saulo Menegatti Zoca ², Kaitlin M. Epperson ³, Lacey K. Quail ³, Jerica JJ Rich ⁴, George A. Perry ⁵, Jim R. Rhoades ⁶

¹Department of Animal Science, South Dakota State University, ²South Dakota State University, ³Department of Animal Science, Texas A&M University, College Station, TX, ⁴College of Agriculture, Arkansas State University, ⁵Texas A&M AgriLife Research, Overton, TX, ⁶IDEXX Laboratories

9:45 a.m. 237 **Incidence and Implications of Disparate Uterine and Ovarian Development Observed Among Heifers Evaluated During the Peripubertal Period**

Emily G. Smith ¹, Jordan M. Thomas ¹, Christine Spinka ¹

¹University of Missouri

10:00 a.m. 235 **Uterine Function During Maternal Recognition of Pregnancy Differs Due to Size of the Ovarian Reserve in Beef Heifers**

Robert A. Cushman¹, Shelby L. Rosasco², Kaitlin M. Epperson³, Emmalee J. Northrop-Albrecht⁴, Jerica JJ Rich⁵, Chadwick Chase⁶, Jeremy R. Miles⁶, Matthew S. Crouse⁶, George A. Perry⁷, Adam F. Summers⁸, Alexandria P. Snider⁹

¹USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit,

²University of Wyoming, ³Department of Animal Science, Texas A&M University, College Station, TX, ⁴South Dakota State University, ⁵College of Agriculture, Arkansas State University,

⁶USDA, ARS, U.S. Meat Animal Research Center, ⁷Texas A&M AgriLife Research, Overton, TX,

⁸New Mexico State University, ⁹USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit

Forages and Pastures Symposium I

Chair: Sam Wyffels, Montana State University Extension

8:30 AM - 11:00 AM

M108/M111

8:30 a.m. **Forages and Pastures Symposium I: Introduction**

8:35 a.m. 183 **Designing Research for Beef Cattle Production in Extensive Environments**

Timothy DelCurto¹, Sam Wyffels²

¹Montana State University, ²Montana State University Extension

9:05 a.m. 185 **Opportunities and Challenges of Conducting Grazing Experiments in Pasturelands**

Joao Vendramini¹, Lynn Sollenberger¹, Maria Lucia L. Silveira¹

¹University of Florida

9:35 a.m. 186 **Have New Feeding Technologies Revolutionized the Way We Design Grazing Experiments?**

Paul A. Beck¹, Matthew R. Beck², Jordan Adams¹, David Lalman¹, Ryan R. Reuter¹, Stacey A. Gunter³

¹Oklahoma State University, ²USDA-ARS, ³USDA-ARS, Oklahoma and Central Plains Agricultural Research Center

10:05 a.m. **Forages and Pastures Symposium I: Break**

10:15 a.m. 184 **Statistical Analysis of Grazing Research**

William B. Smith¹

¹Tarleton State University

10:45 a.m. **Forages and Pastures Symposium I Discussion**

Animal Breeding and Genetics Symposium I

Chair: Tom Rathje, DNA Swine Genetics

8:30 AM - 12:00 PM

M104/M107

8:30 a.m. **Animal Breeding and Genetics Symposium I Introduction**

8:35 a.m. **Presentation of the Rockefeller Prentice Award in Animal Breeding and Genetics**

Clare A. Gill ¹

¹Texas A and M University

8:40 a.m. 53 **Awardee Talk: Implications of the Gut Microbiome for Genetic Improvement of Swine**

Christian Maltecca ¹, Francesco Tiezzi ²

¹North Carolina State University, ²Department of Animal Science, North Carolina State University

9:05 a.m. 51 **Opportunities to Apply and Learn from Deep Phenotyping in Dairy Cattle**

James E. Koltes ¹

¹Iowa State University, Department of Animal Science

9:45 a.m. 50 **Using GPS and Genomic Technology to Provide a More Accurate Estimate of Bull Power in Western Intermountain Beef Systems**

Matthew D. Garcia ¹, Kim Chapman ², Kevin Heaton ², Josh Dallin ², Kerry Rood ¹, Eric Thacker ¹, Jacob Hadfield ², Ryan Larsen ²

¹Utah State University, ²USU

10:25 a.m. **Animal Breeding and Genetics Symposium I Break**

10:35 a.m. 52 **Phenotyping of Individual Pigs Utilizing Computer Vision Offers Insights for Novel Trait Generation**

Benny E. Mote ¹

¹Department of Animal Science, University of Nebraska – Lincoln

11:15 a.m. 54 **Genetics Reloaded: Large-scale Collection of Novel Phenotypes in Turkey**

Christine F. Baes ¹, Nienke Van Staaveren ², Bayode O. Makanjuola ³, Emily M. Leishman ², Emhimad Abdalla ², Ryley J. Vanderhout ², Shai Barbut ², Alexandra Harlander ², Ben Wood ⁴

¹Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland, ²University of Guelph,

³Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada,

⁴University of Queensland

CSAS Symposium II

Chair: Óscar López-Campos, Agriculture and Agri-Food Canada

8:30 AM - 12:00 PM

M112

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

8:35 a.m. 166 **Livestock Resiliency: Concepts and Approaches**

Christine F. Baes¹, Filippo Miglior², Flavio S. Schenkel³, Ellen Goddard⁴, Gerrit Kistemaker⁵, Nienke Van Staaveren⁶, Ronaldo Cerri⁷, Marc-André A. Sirard⁸, Paul Stothard⁹

¹Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland, ²Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Lactanet, Genetics Division, Guelph, Canada, ³Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada, ⁴University of Alberta, ⁵Lactanet, ⁶University of Guelph, ⁷The University of British Columbia, ⁸Department of Animal Science, Laval University, ⁹California Polytechnic State University San Luis Obispo

9:10 a.m. 168 **Use of Genomic Tools to Improve Production Efficiency, Health Resilience and Carbon Footprint of Beef Production**

John A. Basarab¹, Changxi Li², Paul Stothard³, Carolyn J. Fitzsimmons⁴, Graham Plastow⁵

¹Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, ²University of Alberta/Agriculture and Agri-Food Canada, ³California Polytechnic State University San Luis Obispo, ⁴Agriculture and Agri-Food Canada, Edmonton, AB Canada; Department of Agriculture, Food and Nutritional Science, University of Alberta, Edmonton, AB Canada, ⁵Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta

9:45 a.m. 169 **Estimating the Environmental Impact of Livestock Operations Using the Canadian Whole-farm Model Holos Developed for Canadian Farmers**

Roland Kroebe¹, Aklilu Alemu², Sarah Pogue¹, Aaron McPherson¹

¹Agriculture and Agri-Food Canada, ²Swift Current Research and Development Centre, Agriculture and Agri-Food Canada

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

10:35 a.m. 165 **Rethinking Methane - Livestock's Path to Climate Neutrality**

Frank M. Mitloehner¹

¹UC Davis

11:10 a.m. 167 **Impacts on Biodiversity, Environment and Society of Beef Production in the Mexican Tropics: A Life Cycle Assessment Approach**

Adriana Rivera Huerta¹, Patricia Güereca Hernández¹

¹Instituto de Ingeniería, Universidad Nacional Autónoma de México

11:45 a.m. **CSAS Symposium II Discussion**

Beef Species I: Cow Efficiency

Chair: Sara Trojan, Peak Beef Cattle Nutrition and Management Consulting LLC

8:45 AM - 10:15 AM

M101 & 102

8:45 a.m. 88 **Impacts of Body Condition Score at Initiation of the Breeding Season on Reproductive Performance and Overall Productivity of Bos Taurus and B. Indicus Beef Cows**

Alice P. Brandão¹, Reinaldo F. Cooke¹, G. Cliff C. Lamb¹, José Luiz Vasconcelos², Ky G. Pohler¹

¹Texas A&M University, ²São Paulo State University

9:00 a.m. 92 **Maternal Nutrient Restriction of Primiparous Beef Heifers During Late Gestation Decreases Colostrum Yield and Reduces Calf Vigor**

Lindsey G. Wichman¹, Colby A. Redifer², Shelby L. Davies¹, Allison M. Meyer²

¹Division of Animal Sciences, University of Missouri, ²University of Missouri

9:15 a.m. 89 **Relationships Among Measures of Efficiency with Body Weight, Frame Score, and Body Volume in Lactating Multiparous Crossbred Beef Cattle**

Macie K. Mosher¹, Samuel Olorunkoya¹, Nayan Bhowmik¹, Kris A. Ringwall², Lauren L. Hanna¹, Kendall C. Swanson¹

¹North Dakota State University, ²North Dakota State University, Dickinson Research Extension Center

9:30 a.m. 91 **Assessing Variability of Herd Sire Economic Value for Commercial Operations**

Logan Dodd¹, David Anderson², David G. Riley¹, Barton Johnson³, Andy D. Herring¹

¹Texas A&M University, ²Texas A&M AgriLife Extension, ³Texas A&M AgriLife Research

9:45 a.m. 86 **Anthelmintic Resistance in Angus Bulls Participating in Regional Performance Tests**

Roger T. Rohrbaugh¹, Scott P. Greiner², Scott A. Bowdridge¹

¹West Virginia University, ²Virginia Tech

10:00 a.m. 87 **Beef Heifers Housed in Muddy Environmental Conditions Lose Body Weight and Body Condition but Meet Gestational Requirements for Fetal Growth**

Kirsten Nickles¹, Alejandro E. Relling¹, Alvaro Garcia-Guerra¹, Francis L. R. Fluharty², Anthony J. Parker¹

¹The Ohio State University, ²University of Georgia

Small Ruminant I

Chair: Ronald Lewis, Department of Animal Science, University of Nebraska–Lincoln; Luiz Brito, Purdue University
8:45 AM - 10:15 AM
L006

8:45 a.m. 360 **Body Temperature of Hair Sheep Ewes During the Postpartum Period and Around the Time of Mating in an Accelerated Lambing System in the Tropics**

Robert Godfrey¹, Sue A. Lakos¹

¹University of the Virgin Islands, Agricultural Experiment Station

9:00 a.m. 361 **Methods for Identification and Classification of Phenylthiocarbamide Sensitivity in Mature Rams**

Claire N. Southerland¹, Joel V. Yelich¹, J. Bret B. Taylor², Melinda Ellison³

¹University of Idaho, ²USDA-ARS-RSPER, ³University of Idaho, Moscow; Nancy M. Cummings Research, Extension and Education Center

9:15 a.m. 362 **Summary of North Carolina Small Ruminant Producer Performance Record Collection Questionnaire**

Andrew R. Weaver¹, April D. Shaeffer²

¹Department of Animal Science, North Carolina State University, ²NC State University

9:30 a.m. 358 **Effect of Molasses Type on Pre-weaning Lamb and Ewe Performance**

Patricia L. Harrelson¹, Flint W. Harrelson¹, Montana Runnels¹, Audrey Reed¹

¹Morehead State University

9:45 a.m. 359 **Intake and Growth Performance of Feedlot Lambs Fed Diets with Hi-a and Low-a Corn Cobs and Bermudagrass Hay**

Danilo G. Quadros¹, Travis R. Whitney¹, Cassie Weishuhn¹, Wenwei W. Xu, PhD.¹, Doug R. Tolleson², Jose M. Diaz³, Chris R. Kerth²

¹Texas A&M AgriLife Research, ²Texas A&M University, ³Southern Arkansas University

10:00 a.m. 357 **Effect of Energy Supplementation on Growth, Health, and Carcass Traits of Pasture-raised Lambs**

Amanda M. Grev¹, Susan Schoenian², Jeffery W. Semler¹, Dahlia O'Brien³

¹University of Maryland Extension, ²University of Maryland, ³Virginia State University

SSASAS: Physiology I

Chair: Reinaldo Cooke, Texas A&M University
9:00 AM - 11:00 AM
Ballroom D/E

9:00 a.m. 433 **Randel Lectureship: Neuroendocrine Mechanisms Regulating Reproductive Transition in the Ruminant Female: Is KNDy Required?**

Gary L. Williams¹

¹Texas A & M AgriLife Research

9:45 a.m. 432 **Determination of Sex in Ungulate Herbivores via near Infrared Spectroscopy of Hair: Growing Cattle as a Surrogate Model**

Doug R. Tolleson¹

¹Texas A&M University

10:00 a.m. 425 **Effects of Maternal Nutrient Restriction During Gestation on LH Production in the Female Bovine Fetus**

Sterling H. Fahey¹, Sarah West¹, John M. Long¹, Carey Satterfield¹, Rodolfo C. Cardoso¹

¹Texas A&M University

10:15 a.m. 426 **Effects of Environmental Conditions on Pregnancy Rate in Replacement Beef Heifers**

Nicky Oosthuizen¹, Rebecca K. Poole², Patsy L. Houghton³, Janet M. Rippe³, G. Cliff C. Lamb²

¹ABS Global, ²Texas A&M University, ³Heartland Cattle Company

10:30 a.m. 420 **Adrenomedullin and Its Receptor Components in the Porcine Uterus and Peri-implantation Conceptuses**

Bangmin Liu¹, Sudikshya Paudel¹, Magdalena J. Cummings¹, Xiaoqiu Wang¹

¹North Carolina State University

10:45 a.m. 430 **Effects of Exogenous Glucocorticoid Administration on Feed Intake in Beef Cattle**

Keelee J. McCarty¹, Nathan Long¹

¹Clemson University

Animal Behavior and Well-Being

Chair: Courtney Daigle, Department of Animal Science, Texas A&M University

9:00 AM - 11:15 AM

L007/008

9:00 a.m. 4 **Engineered Resilience in Livestock for Improved Animal Welfare**

Tawni N. Williams¹, Angela R. Green-Miller²

¹University of Illinois at Urbana-Champaign, ²University of Illinois

9:15 a.m. 8 **Effects of a Bovine Appeasing Substance Application at Weaning on Temperament and Growth of Bos Indicus Influenced Heifers**

Douglas G. Viera¹, Juliana Ranches², Marcelo Vedovatto¹, Giovana G. Pirota³, Bruno I. Cappellozza⁴, Nelson Canutoce³, Thais G. Pereira³, Luís Fernando Yshiyam³, Thomas Henrique Roque da Silva⁵, Henrique Jorge Fernandes⁶

¹Faculdade de Medicina Veterinária e Zootecnia, Universidade Federal de Mato Grosso do Sul,

²Oregon State University; EOARC, ³Universidade Estadual de Mato Grosso do Sul, ⁴Nutricorp,

⁵State University of Mato Grosso do Sul, ⁶Federal University of Mato Grosso do Sul, Campo Grande, Brazil

9:30 a.m. 7 **Behavioral Indicators of Post-weaning Stress Susceptibility in Cross-fostered Pigs**

Dominique M. Sommer¹, Jennifer M. Young², Christopher J. Byrd²

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

9:45 a.m. 2 **Measuring the Impact of Heat Stress Abatement Strategies on Fecal Microbiome in Finishing Steers During the Summer Months in the Southeast United States**

Shane R. Hernandez¹, Alexander M. Stelzleni¹, Wil Sims², Dylan Blake B. Davis², Jeferson M. Lourenco², Robert Lawton Stewart²

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

10:00 a.m. 5 **Effects of Virtual Fencing on Cortisol Concentrations and Behavior of Beef Cattle**

Jancy Jeffus¹, Ryan R. Reuter¹, Kevin Wagner¹, Laura Goodman¹, Todd Parker²

¹Oklahoma State University, ²Vence Corp. Inc.

10:15 a.m. 1 **Effect of Conditioning, Rest, and Post-rest Transport Duration on Welfare Indicators of Beef Cattle Transported by Road**

Daniela M. Meléndez¹, Sonia Marti², Timothy D. Schwinghamer³, Derek B. Haley⁴, Karen S. Schwartzkopf-Genswein¹

¹Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ²IRTA, Ruminant Production, ³Agriculture and Agri-Food Canada, ⁴University of Guelph

10:30 a.m. 3 **Infant-directed Vocal Communication in Sheep**

yongjie Wang¹, Kylie McClanahan¹, Weiyi Ma¹, Qinghua Li¹, Yan Huang¹

¹University of Arkansas

10:45 a.m. 9 **The Effects of Feeding Cannabidiol Oil on Behavior of Stalled Horses**

Paxton L. Turner¹, Kimberly A. Guay², Trinetta N. Jones², Lori Cohen³, Faith Elwonger³, Renata Van Geem³, William B. Smith¹

¹Tarleton State University, ²Department of Animal Science, Tarleton State University, ³Tarleton State University

11:00 a.m. 6 **Does Bedding Influence Lying Behaviour of Cattle Unloaded for Rest During Long-distance Transportation?**

Paula Olivares Guzman¹, David L. Pearl¹, Karen S. Schwartzkopf-Genswein², Tina M. Widowski¹, Daniela M. Meléndez Suárez³, Sonia Marti⁴, Derek B. Haley¹

¹University of Guelph, ²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Agriculture and Agri-Food Canada, ⁴IRTA, Ruminant Production

Ruminant Nutrition III: Feedlot Nutrition

Chair: Jeffrey Lehmkuhler, University of Kentucky

9:00 AM - 11:30 AM

L005/009

9:00 a.m. 309 **Nutrient Digestibility of Beef Steers Consuming Finishing Diets with an Added Nutritional Packet**

Kaue Tonelli Nardi¹, Jhones O. Sarturi¹, Darren D. Henry¹, Francine M. Ciriaco¹, Nelson O. Huerta-Leidenz¹, Andrea M. Osorio-Doblado², Igor Gomes Fávero¹, Kaliu Gabriel Scaranto Silva¹, Camron J. Rush¹

¹Texas Tech University, ²University of Georgia

9:15 a.m. 310 **Growth Performance and Carcass Characteristics of Beef Steers Consuming Finishing Diets with an Added Nutritional Packet**

Kaue Tonelli Nardi¹, Jhones O. Sarturi¹, Darren D. Henry¹, Francine M. Ciriaco¹, Nelson O. Huerta-Leidenz¹, Andrea M. Osorio-Doblado², Igor Gomes Fávero¹, Kaliu Gabriel Scaranto Silva¹, Camron J. Rush¹

¹Texas Tech University, ²University of Georgia

9:30 a.m. 308 **Effects of Roughage Source on Growth Performance, Carcass Characteristics, and Rumination Time of Beef Steers Fed Steam-flaked Corn Finishing Diets**

Wyatt N. Smith¹, Catherine L. Lockard², Caleb G. Lockard³, Megan Homolka⁴, Kendall J. Karr⁵, Ben P. Holland⁶, Alyssa B. Word⁵, Jenny S. Jennings⁷

¹West Texas A&M, ²Texas AgriLife Research, ³AgriLife Research, ⁴Texas AgriLife, ⁵Cactus Research, ⁶Cactus Feeders, ⁷5 Rivers Cattle Feeding

9:45 a.m. 305 **Methane Emissions and Apparent Total Tract Nutrient Digestibility of Feedlot Beef Steers Under Intensive Management with or Without an Added Nutritional Packet**

Andrea M. Osorio-Doblado¹, Kaue Tonelli Nardi², Igor Gomes Fávero², Kaliu Gabriel Scaranto Silva², Kymberly D. Coello², Angel A. Quijada¹, Francine M. Ciriaco², Jhones O. Sarturi², Darren D. Henry²

¹University of Georgia, ²Texas Tech University

10:00 a.m. 311 **Effects of Interactive Activity at the Feedbunk on Performance, Feed Efficiency and Feeding Patterns in Feedlot Cattle**

Keara O'Reilly¹, Gordon Carstens², Lauren Wottlin², Jocelyn R. Johnson³, Courtney L. Daigle¹

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

10:15 a.m. 315 **Feeding Behavior of Beef Steers Consuming Finishing Diets with Added Nutritional Packet**

Igor Gomes Fávero¹, Jhones O. Sarturi¹, Kaue Tonelli Nardi¹, Daren D. Henry¹, Kaliu Gabriel Scaranto Silva¹, Francine M. Ciriaco¹, Nelson O. Huerta-Leidenz¹, Andrea M. Osorio-Doblado², Camron J. Rush¹

¹Texas Tech University, ²University of Georgia

10:30 a.m. 312 **Effects of Bismuth Subsalicylate and Different Sulfate Concentrations on in vitro Ruminant Fermentation Using a Warm-season Perennial Hay Substrate**

Kenneth S. Madrid¹, Andrea M. Osorio-Doblado², Francine M. Ciriaco¹, Kymberly D. Coello¹, Angel A. Quijada², Jhones O. Sarturi¹, Greg B. Penner³, Darren D. Henry¹

¹Texas Tech University, ²University of Georgia, ³Department of Animal and Poultry Science, University of Saskatchewan

10:45 a.m. 313 **Effects of Bismuth Subsalicylate on Ruminant Fermentation of Cattle Consuming a Feedlot Diet**

Kenneth S. Madrid¹, Andrea M. Osorio-Doblado², Francine M. Ciriaco¹, Igor Gomes Fávero¹, Kaue Tonelli Nardi¹, Kaliu Gabriel Scaranto Silva¹, Angel A. Quijada², Kymberly D. Coello¹, Jhones O. Sarturi¹, Nicolas DiLorenzo³, Darren D. Henry¹

¹Texas Tech University, ²University of Georgia, ³UF - NFREC

11:00 a.m. 307 **Effect of Feeding Distillers Grain from Wheat on Growth Performance of Growing and Finishing Beef Cattle**

Wenzhu Yang¹

¹Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre, T1J 4B1.

11:15 a.m. 314 **Carbohydrases Enzymes Improve the Productive Performance of Grazing Nellore Bulls Fed Different Nutritional Plans During the Rainy Season**

Anderson Acosta¹, Alexandre Perdigão², Guilherme S. S. F. M. Vasconcelos³, Victor Valério de Carvalho⁴, Tiago S. S. Acedo⁵, Cibele Pedrini⁶, Jefferson Gandra⁷

¹Universidade Estadual de Maringá, Umuarama-PR, Brazil, ²DSM Nutritional Products Brazil, ³DSM Nutritional Products S/A Brazil, ⁴dsm-firmenich, ⁵DSM Nutritional Products, ⁶Universidade Federal da Grande Dourados- MS, Brazil, ⁷Universidade Federal do Sul e Sudeste do Pará- PA, Brazil

Companion Animals Symposium II

Chair: Charles G. Aldrich, Kansas State University

9:30 AM - 12:15 PM

M100/M103

9:30 a.m. **Companion Animals Symposium II Introduction**

9:45 a.m. 123 **Food Fermentation Basics**

Charles Edwards¹

¹

10:15 a.m. 122 **Bioactive Peptides for Enhancing Intestine Health**

Julang Li¹, Nadeem Akhtar¹, Celina Osakowicz¹, Lauren Fletcher¹, Karmin O², Charles Martin Nyachoti³

¹University of Guelph, ²University of Manitoba, ³University of Manitoba

10:45 a.m. **Companion Animals Symposium II Break**

11:00 a.m. 124 **Fundamentals of Distilled Beverages: Spirits and Their Raw Materials**

Liz Rhoades¹

¹Spirit Safe Consulting LLC

11:30 a.m. 121 **Use of Fermentation Co-products in Pet Food and Animal Feeds**
Ruurd T. Zijlstra ¹
¹University of Alberta

12:00 p.m. **Companion Animals Symposium II Discussion**

Swine Species

Chair: Shengfa Liao, Mississippi State University
10:30 AM - 11:30 AM
L006

10:30 a.m. 476 **Effect of Holding Period on Viability, Acrosome Status and Intracellular Zinc of Boar Sperm During Liquid Storage**
Raul A. Gonzalez-Castro ¹, Lisa A. Herickhoff ¹
¹Membrane Protective Technologies, Inc.

10:45 a.m. 475 **The Effect of Increasing Total Sulfur Amino Acids to Lysine Level and Methionine Source on Growth Performance and Oxidative Parameters of Nursery Pigs Fed Oxidized Soybean Oil**
Jesus A. Acosta Camargo ¹, Juxing Chen ¹, Deana Hancock ², Mercedes Vazquez ³
¹Novus International Inc., ²Novus International, ³Novus International, Inc

11:00 a.m. 478 **Dietary Butyrate and Valerate Glycerides: Effects on Growth and Systemic Immunity of Weanling Piglets Coinfected with F4 and F18 Escherichia coli**
Lauren L. Kovanda ¹, Jungjae Park ¹, Yijie He ², Sangwoo Park ¹, Ruo Chen Wu ¹, Braden Wong ¹, Kwangwook Kim ³, Yanhong Liu ¹
¹University of California, Davis, ²Department of Animal Science, University of California, Davis, ³Michigan State university

11:15 a.m. 474 **Comparison Between Copper Sulfate and Dicopper Oxide on Body Weight and Copper Accumulation on Growing Pigs**
Laila Blavi ¹, David Solà-Oriol ², Alessandra Monteiro ³, José Francisco Pérez ², Hans H. Stein ⁴
¹Universitat Autònoma de Barcelona, ²Animal Nutrition and Welfare Service (SNIBA), Department of Animal and Food Science, Autonomous University of Barcelona, Bellaterra 08193, Spain, ³Animine, ⁴University of Illinois at Urbana-Champaign

SSASAS: Ruminant Animal Production I

Chair: Darren Henry, Texas Tech University
10:30 AM - 12:00 PM
M101 & 102

10:30 a.m. 437 **Determination of Nutrient Digestibility in Calves Supplemented with Various Levels of Corn Gluten Feed When Consuming Forage-based Rations**
Charles A. Zumbaugh ¹, Emily N. Nolen ¹, Thomas B. Wilson ¹
¹Department of Animal and Poultry Sciences, Virginia Tech

10:45 a.m. 435 **Effect of Time of Supplementation and Supplement Delivery Method on Performance and Grazing Behavior of Backgrounded Beef Steers**

Adam R. Murray ¹, Olivia M. Claire ¹, Kathryn M. Payne ², Donald L. Wright ³, Thomas B. Wilson ¹

¹Department of Animal and Poultry Sciences, Virginia Tech, ²Southern Piedmont Agricultural Research and Extension Center, Virginia Tech, ³Virginia Tech, Southwest Virginia Agricultural Research and Extension Center

11:00 a.m. 440 **Effects of Calcium-ammonium Nitrate on in Vitro Ruminant Fermentation Using a Mature Mixed Winter Forage-based Substrate**

Andrea M. Osorio-Doblado ¹, Kenneth S. Madrid ², Sergio Buitrago ², Nicolas DiLorenzo ³, Francine M. Ciriaco ², Jhones O. Sarturi ², Darren D. Henry ²

¹University of Georgia, ²Texas Tech University, ³Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

11:15 a.m. 438 **Effect of Stocking Rate During Gestation on Subsequent Performance of Growing Beef Cattle**

Doug R. Tolleson ¹, Monte M. Rouquette ², Kelli Norman ², Charles R. Long ³

¹Texas A&M University, ²Texas A&M AgriLife Research, ³School of Veterinary Medicine and Biomedical Sciences, Texas A&M University

11:30 a.m. 445 **Differential Expression of Cow Innate and Adaptive Responses Genes in Response to Eugenol**

Bahrath Kumar ¹, Mulumebet Worku ², Hamid Ismail ²

¹University of Vermont, ²NC A&T State University

11:45 a.m. 439 **Effect of Anti-acaricide Treatment on Tick Species Present and Performance of Growing Beef Heifers**

Samantha R. Hays ¹, Pete D. Teel ¹, Heath D. Starns ², Nick E. Garza ³, Jose M. Diaz-Gomez ¹, Sarah L. Beall ³, Doug R. Tolleson ⁴

¹Texas A&M AgriLife Research, ²Texas A&M AgriLife, ³Texas A&M AgriLife, Sonora, ⁴Texas A&M University

Teaching/Undergraduate and Graduate Education

Chair: Kathrin Dunlap, Texas A&M University

10:30 AM - 12:00 PM

M109 & 110

10:30 a.m. 489 **Success of Hyflex Teaching Modality in Animal Reproduction**

Julie Weathers ¹, Chelsea McNeely ¹

¹Southeast Missouri State University

10:45 a.m. 485 **Opportunities Produced and Learning Outcomes Achieved Through a Design Thinking Approach to Problem Based Learning in an Animal Science Capstone**

Jeffrey G. Wiegert ¹, Leslie Frenzel ², Jonan Donaldson ¹, Kathrin Dunlap ¹, Sushil Paudyal ¹

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

11:00 a.m. 488 **Career Awareness of Incoming University of Florida Animal Science Majors**

Allyson Trimble ¹, Amie Imler ¹, Chad Carr ¹, Jason M. Scheffler ¹

¹University of Florida

11:15 a.m. 487 **Student Opinions on Insect-based Protein Sources Within Companion Animal and Human Diets**

Kimberly D. Ange-van Heugten¹, Savannah Aker¹, Hope Barbour¹, Destiny Horne¹

¹NC State University

11:30 a.m. 492 **A New Approach to Teach Laboratory Sessions in an Online Environment to Undergraduate Introductory to Animal Sciences Course**

Martin G. Maquivar¹

¹Washington State University

11:45 a.m. 486 **Comparison Between Online and In-person Instruction in a Laboratory-based Animal Science Course**

Dana E. McCurdy¹, Richelle Miller-Kleman¹, Karen High¹

¹Clemson University

POSTER SESSION VIII

12:00 PM – 1:00 PM

(ANIMAL BREEDING AND GENETICS)

PSVIII-1 Genetic characteristics of Karachaev sheep inferred from genome-wide SNP analysis

Arsen V. Dotsev¹, Tatiana E. Deniskova¹, Sergey N. Petrov¹, Henry Reyer², Klaus Wimmers², Gottfried Brem³, Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Institute of Genome Biology, Leibniz Institute for Farm Animal Biology, ³Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSVIII-2 Genetic diversity analysis of hybrid Karachaev goats (*Capra hircus*) population using microsatellite marker data

Oleg Fomenko¹, Sergey N. Petrov¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSVIII-3 Genetic evaluation for Hereford breed in Kazakhstan

Anuarbek T. Bissebayev¹, Zhanat Kassenov¹, Altay Nazarbekov¹, Anuarbek Seitmuratov¹, Saule Zhali¹, Alzhan Shamshidin², Aizhan Abylgazinova²

¹Scientific and Production Centre for Animal Husbandry and Veterinary Limited Liability Company, ²West Kazakhstan Agrarian Technical University named after Zhangir Khan

PSVIII-4 Genetic evaluation of functional heifer longevity in north American angus cattle

Hinayah R. Oliveira¹, Stephen P. Miller², Luiz F. Brito³, Flavio S. Schenkel⁴

¹Centre for Genetic Improvement of Livestock, University of Guelph; Department of Animal Sciences, Purdue University, ²Angus Genetics Inc., ³Department of Animal Sciences, Purdue University; Centre for Genetic Improvement of Livestock, University of Guelph, ⁴Centre for Genetic Improvement of Livestock, University of Guelph

PSVIII-5 Genetic parameters of thrombin as a proxy for horn fly abundance in beef cattle

Ashley S. Ling¹, Taylor Krause², Amanda Warner², Jason Duggin², Bradley Heins², Nancy Hinkle², Samuel E. Aggrey², Dean Pringle², Romdhane Rekaya²

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

PSVIII-6 Genetic features of Russian Simmental cattle population different origin derived by assessing milk production and fertility traits

Larisa P. Ignatieva¹, Alexander A. Sermyagin¹, Sergey Nikitin¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSVIII-7 Genetic parameters for health traits in dairy calves

Colin Lynch¹, Hinayah Oliviera¹, Nienke van Staaveren², Filippo Miglior³, Flavio S. Schenkel⁴, Christine F. Baes⁵

¹University of Guelph, ²Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, ³University of Guelph; Lactanet Canada, ⁴Centre for Genetic Improvement of Livestock, University of Guelph, ⁵Centre for Genetic Improvement of Livestock, University of Guelph; Institute of Genetics, Vetsuisse Faculty, University of Bern, Switzerland

PSVIII-8 Genetic parameters for parasite resistance in an endangered and heritage sheep breed from Florida

Zaira M. Estrada-Reyes¹, Jorge A. Hidalgo Moreno², Brittany N. Diehl³, Ibukun M. Ogunade⁴, Andres A. Pech-Cervantes⁵, Thomas H. Terrill⁶, Owen Rae³

¹University of California, Davis, ²Department of Animal and Dairy Science, University of Georgia, ³Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, ⁴Division of Animal and Nutritional Sciences, West Virginia University, ⁵Fort Valley State University, ⁶College of Agriculture, Family Sciences and Technology, Fort Valley State University

PSVIII-9 Genome assembly of American mink (Neovison vison) using high-fidelity long reads

Karim Karimi¹, Duy Ngoc Do², Younes Miar²

¹Dalhousie University, ²Department of Animal Science and Aquaculture, Dalhousie University

PSVIII-10 Genome-wide CNV analysis unravels a deletion associated with parasite resistance in Florida native sheep

Brittany N. Diehl¹, Andres A. Pech-Cervantes², Thomas H. Terrill³, Ibukun M. Ogunade⁴, Owen Rae¹, Zaira M. Estrada-Reyes⁵

¹Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, ²Fort Valley State University, ³College of Agriculture, Family Sciences and Technology, Fort Valley State University, ⁴Division of Animal and Nutritional Sciences, West Virginia University, ⁵University of California, Davis

(PRODUCTION, MANAGEMENT AND ENVIRONMENT)

PSVIII-11 Agent-based simulation model to evaluate the economic performance of reproductive programs in beef cattle

Oscar A. Ojeda-Rojas¹, Angela Maria M. Gonella-Diaza², Gustavo L. Sartorello¹, Augusto H. Hauber Gameiro³

¹University of Sao Paulo, ²University of Florida, ³School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, SP, Brazil

PSVIII-12 An economic and emergy approach to evaluate the level of sustainability of lamb production: A case study in Brazil

Danny Alexander Rojas Moreno ¹, Yuli Andrea Pena Bermudez ¹, Vitória Toffolo Luiz ², Taynara Freitas Avelar De Almeida ³, Rafaela Scalise Xavier de Freitas ¹, Annelise Aila G. Gomes Lobo ¹, Augusto H. Hauber Gameiro ⁴, Ives Claudio C. Da Silva Bueno ¹

¹Department of Animal Science, College of Animal Science and Food Engineering, Pirassununga, SP, Brazil., ²Center of Agrarian Sciences, University of São Carlos, Araras, SP, Brazil., ³School of Veterinary Medicine and Animal Science, Federal University of Uberlândia, Uberlândia, MG, Brazil., ⁴School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, SP, Brazil

PSVIII-13 Are the heat stress days increasing in central northern Mexico?

Rafael Rodriguez-Martinez ¹, Jesús Salvador Rivas-Madero ², Pedro Antonio Robles - Trillo ³, César A. Meza-Herrera ⁴, Rafael Rodriguez-Venegas ⁵

¹Departamento de Ciencias Médico Veterinarias, Universidad Autónoma Agraria Antonio Narro, ²Digith Technologies, ³Departamento de Producción Animal, Universidad Autónoma Agraria Antonio Narro, ⁴URUZA, Universidad Autónoma Chapingo, ⁵Programa de Doctorado en en Ciencias Agropecuarias, Universidad Autónoma Agraria Antonio Narro

PSVIII-14 Effect of Certillus, a direct-fed microbial, on milk yield, milk components, and feed intake in primi- and multiparous lactating Holstein cows

Excel Rio S. Maylem ¹, Martina Vargiu ¹, Caleb Melton ¹, Jesse Thompson ², John O'Neill ², Tom G. Rehberger ², Andrew P. Foote ¹, Leon J. Spicer ¹

¹Oklahoma State University, ²Church & Dwight, Inc.

PSVIII-15 Effect of Endovac-Beef vaccination on performance, dietary energetics, and carcass characteristics of growing-finishing calf-fed Holstein steers

Brooke C. Latack ¹, Pedro H. Carvalho ², Richard A. Zinn ³

¹University of California Cooperative Extension, ²Department of Animal Science, University of California, Holtville, ³University of California, Davis

PSVIII-16 Effect of estrous synchronization with natural service or fixed-timed artificial insemination with conventional or gender-skewed semen in beef females

Julie Walker ¹, George A. Perry ², Jerica J. Rich ³

¹South Dakota State University, ²Texas A&M AgriLife Research, Overton, ³Arkansas State University

PSVIII-17 Effect of high-tannin sorghum grain on in vitro rumen fermentation and methane production

Aarón Alejandro A. Molho-Ortiz ¹, Luis Corona ², Claudia Cecilia Márquez-Mota ³, Karen A. Beauchemin ⁴, José Moisés Talamantes-Gómez ¹, Efrén Ramírez-Bribiesca ⁵, Atmir Romero-Pérez ¹

¹Facultad de Medicina Veterinaria y Zootecnia, Universidad Nacional Autónoma de México, ²Universidad Nacional Autónoma de México, Facultad de Medicina Veterinaria y Zootecnia, Department of Animal Nutrition, ³Universidad Nacional Autónoma de México, ⁴Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ⁵Programa de Ganadería, Colegio de Postgraduados

PSVIII-18 Effect of rumen temperature on the average daily gain of growing-finishing calf-fed Holstein steers in the feedlot

Pedro H. Carvalho ¹, Brooke C. Latack ², Richard A. Zinn ³

¹Department of Animal Science, University of California, Holtville, ²University of California Cooperative Extension, ³University of California, Davis

PSVIII-19 Greenhouse gas emissions from beef cattle production in Brazil: how we can mitigate from animal operations?

Andre Pastori D Aurea ¹, Abmael S. da Silva Cardoso ², Lauriston Bertelli Fernandes ¹, Ricardo Andrade Reis ³, Luis Eduardo Ferreira ¹, Yuri Santa Rosa Guimarães ²

¹Premix Company, ²FCAV/ UNESP - Jaboticabal, ³Animal Science Department UNESP/Jaboticabal

PSVIII-20 Heterologous lactobacilli feed additive impact on microflora in Cobb-500 broiler laying hens

Anastasiia A. Kurilova ¹, Larisa Y. Karpenko ¹, Anna B. Balykina ¹, Alesya A. Bakhta ¹, Ivan I. Kochish ², Ilia N. Nikonov ², Anna I. Kozitcyna ¹

¹Saint-Petersburg State University of Veterinary Medicine, ²Moscow State Academy of Veterinary Medicine and Biotechnology - MVA by K.I. Skryabin

PSVIII-21 Multi-strain probiotics improved carcass characteristics and meat quality in pigs

Ting-Yu Lee ¹, San-Land Young ¹, Chin-Sheng Lin ¹

¹Synbio Tech Inc.

(GROWTH AND DEVELOPMENT)

PSVIII-22 Maternal vitamin and mineral supplementation affect fetal hepatic expression of genes underlying mineral homeostasis and lipid metabolism in early pregnancy

Wellison Jarles da Silva Diniz ¹, Alison K. K. Ward ¹, Lawrence P. P. Reynolds ¹, Pawel P. P. Borowicz ¹, Kevin K. K. Sedivec ¹, Kacie L. L. McCarthy ², Cierrah J. J. Kassetas ³, Friederike Baumgaertner ¹, James D. Kirsch ¹, Sheri T. T. Dorsam ¹, Tammi L. L. Neville ¹, J. Chris Forcherio ⁴, Ronald Scott ⁴, Joel Caton ¹, Carl R. Dahlen ⁵

¹North Dakota State University, ²University of Nebraska-Lincoln, ³USDA-NIFA, ⁴Purina Animal Nutrition, ⁵Department of Animal Sciences, North Dakota State University

PSVIII-23 Mycotoxin exposure on fetal skeletal muscle fiber hypertrophy and miRNA transcriptome

Maslyn A. Greene ¹, Aliute Udoka ¹, Rhonda Powell ¹, Rooksana Noorai ¹, Terri Bruce ¹, Susan K. Duckett ¹

¹Clemson University

PSVIII-24 The effect of growth rate on cytokine presence in uterine environment in beef heifers

Elizabeth M. Chaney ¹, Liesel G. Schneider ¹, Rebecca R. Payton ², Kyle J. McLean ¹

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

PSVIII-25 Transcriptional reprogramming in rumen epithelium during the developmental transition of pre-ruminant to the ruminant in cattle

Ransom L. Baldwin ¹, Erin E. Connor ², Timothy G. Ramsay ¹, George E. Liu ¹, Cong-jun Li ¹

¹USDA-ARS, ²University of Delaware

PSVIII-26 Utilizing Megasphaera elsdenii probiotic to improve the performance of crossbred Holstein x Angus calves

Gustavo Mazon ¹, Joao H.C. Costa ¹

¹University of Kentucky

PSVIII-27 Revolutionizing in vitro endometrial cell studies: A novel methodology to obtain bovine endometrial cells

Cecilia Constantino Rocha ¹, Felipe Alves Correa Carvalho da Silva ¹, Thiago Martins ¹, Marcela Marrero ¹, John Driver ¹, John Bromfield ¹, Thomas (Tod) R. Hansen ², Mario Binelli ¹

¹University of Florida, ²Colorado State

(BEEF SPECIES)

PSVIII-28 Dietary impacts on rumen, vaginal, and uterine environments in beef heifers

Autumn Pickett ¹, Reinaldo F. Cooke ¹, Alice Brandão ¹, Eduardo Colombo ¹, Shea Mackey ¹, Ramiro Oliveira Filho ¹, Gabriela Dalmaso de Melo ¹, Rebecca K. Poole ², Ky G. Pohler ²

¹Texas A&M University, ²Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University

POSTER SESSION IX

1:15 PM – 2:15 PM

(RUMINANT NUTRITION)

PSIX-1 Canadian Vytelle technology for determining residual feed intake in raising Qazaq Aqbas bull calves

Assel Tilepova ¹, Dauren Matakbayev ¹, Anuarbek T. Bissembayev ²

¹S. Seifullin Kazakh Agro Technical University, ²Scientific and Production Centre for Animal Husbandry and Veterinary Limited Liability Company

PSIX-2 Carcass traits of nelore bulls: Supplementation with probiotic (Saccharomyces cerevisiae boulardii CNCM I-1079) during adaptation in feedlot

Lorena Emily L M Bomfim ¹, Kaique S. Nascimento ¹, Victor R. Moreira Couto ¹, Emmanuel Arnhold ¹, Márcia Helena M. da R Fernandes ², Luan O. Moura Silva ¹, Lucas José Mari ³, Mateus Castilho Santos ³, Marine Gauthier ⁴, Eric Chevaux ⁴, Juliano José De Resende Fernandes ¹

¹Universidade Federal de Goiás, ²Universidade Estadual Paulista, ³Lallemand Brasil Ltda, ⁴Lallemand SAS

PSIX-3 Comparison of 16S rRNA gene profiles of rumen microbiome from Raramuri Criollo, European and Criollo x European lineages

Adrian Maynez-Perez ¹, Francisco Jahuey-Martinez ¹, Jose A Martinez-Quintana ¹, Michael E. Hume ², Robin C. Anderson ³, Agustin Corral-Luna ¹, Felipe Rodriguez-Almeida ¹, Monserrath Felix-Portillo ¹

¹Universidad Autónoma de Chihuahua, ²USDA-ARS, SPARC, FFSRU, ³USDA-ARS

PSIX-4 Comparison of water footprint in roughage-fed and grain-fed beef cattle finishing systems

Aghata Elins Moreira da Silva ¹, Arturo Macias Franco ¹, Felipe Henrique de Moura ¹, Kelli Noelle Bangert ¹, Aaron B. Norris ², Mozart Fonseca ¹

¹University of Nevada, Reno, ²Texas Tech University

PSIX-5 Diet is more powerful than age in shaping the rumen bacterial community and function of dairy cattle

Yang Yi Hao ¹, Shuai Huang ¹, Shengli Li ¹
¹China Agriculture University

PSIX-6 Dietary crude protein modifies fecal microbial populations independent of feed efficiency status in dairy cows

Alvaro Morales ¹, Leticia Campos ¹, Jacquelyn Presteggaard ¹, Kayla Alward ¹, Connor Owens ², Jane Duncan ¹, Mark Hanigan ¹, Rebecca Cockrum ¹
¹Virginia Polytechnic Institute and State University, ²Cornell University

PSIX-7 Differences in rumen degradability according to the degree of corn gelatinization

Ji Yun Shin ¹, Junsik Woo ¹, Gyeonglim Ryu ¹, Young Kyooh Oh ¹, Keun Kyu Park ¹
¹Konkuk University

PSIX-8 Drinking water acidification and chlorination improves microbiological water quality without detrimental effects on performance or hazard side-effects in bulls fed high-concentrate diets

Marçal Verdú ¹, Sonia Martí ², Joan Riera ³, Carles Medinya ⁴, Jordi Cucurull ¹, Maria Devant ²
¹Alimentació Animal i Producció, bonÀrea Corporació (Corporación Alimentaria Guissona, S.A.),
²IRTA, Ruminant Production, ³Nanta S.A, ⁴Nutrición Animal S.L.

PSIX-9 Effect of calcium nitrate fed to dairy cows on nitrate residues, fatty acids profile, and antioxidant capacity in milk

Kleves V. Almeida ¹, Jesus A. C. Osorio ², Francilaine E. Marchi ², Ranulfo C. Silva Junior ², Micheli Sippert ², Regina C. C. Pinto ², Beatriz Tuzzi ², Rafael C. Araujo ³, João L. P. Daniel ², Geraldo T. Santos ²
¹University of New Hampshire, ²Universidade Estadual de Maringa, ³GRASP

PSIX-10 Effect of different levels of DMI on O₂ consumed, CO₂ released, growth and carcass characteristic in feedlot cattle

Alejandro E. Relling ¹
¹The Ohio State University

(ANIMAL HEALTH)

PSIX-11 Bacterial clinical mastitis associated with abortion in dairy cows

Olga Artemyeva ¹, Daria A. Nikanova ¹, Evgenia Kolodina ¹, Varvara Romanova ², Natalia A. Zinovieva ¹, Fedor Brovko ¹
¹L.K. Ernst Federal Research Center for Animal Husbandry, ²The State Scientific Institution The Yakut Scientific Research Institute of Agriculture

PSIX-12 “Lamarin Saldonum” for the raising of milk production of cows

Sergey Anikin ¹, Natalia Shemuranova ¹, Natalia Garifullina ², Andrey Filatov ¹, Alexander Sapozhnikov ¹
¹Vyatka State Agrotechnological University, ²Federal Agricultural Research Center of the North-East named N.V. Rudnitsky

PSIX-13 Activation of cell signaling pathways by galectins in cow blood

Djaafar M. Rehrah ¹, Mulumebet Worku ¹, Hamid Ismail ¹
¹North Carolina Agricultural and Technical State University

PSIX-14 Active and passive immunity in calves vaccinated with a subunit targeted vaccine against BVDV

Mauro Venturini ¹, Demian Bellido ², Josefina Baztarrica ², Lucia Rocha ³, Viviana Parreño ³, Andrés Wigdorowitz ⁴

¹UAA COOP. LTDA. - Facultad Cs. Veterinarias Universidad NAC. Del Litoral, ²Bioinnovo / Vetanco, ³INTA, ⁴INTA / Bioinnovo

PSIX-15 Assessment of machine learning algorithms for prediction of Aleutian disease in American mink

Duy Ngoc Do ¹, Guoyu Hu ², Younes Miar ²

¹Department of Animal Science and Aquaculture, Dalhousie University, ²Department of Animal Science and Aquaculture, Dalhousie University

PSIX-16 Association between Thrombin and horn fly abundance in beef cattle

Taylor Krause ¹, Ashley S. Ling ¹, Amanda Warner ¹, Jason Duggin ¹, Bradley Heins ¹, Nancy Hinkle ¹, Samuel E. Aggrey ¹, Dean Pringle ¹, Romdhane Rekaya ¹

¹University of Georgia

PSIX-17 Cytokine profile of cow blood in the treatment of acute postpartum endometritis with recombinant α -, γ -interferons

Sergey Shabunin ¹, Vitaly Mikhalev ¹

¹All-Russian Veterinary Research Institute of Pathology, Pharmacology and Therapy

PSIX-18 Effect of chicory silage and se-yeast on peripartum ewes: Immune status via complete blood cell count

Hunter Ford ¹, Massimo Bionaz ¹, Serkan Ates ¹, Daniella Hasan ¹, Joe Klopfenstein ¹, Shelby Park ¹, Tyler Quinones ¹, Carolyn Pearce ¹, Kate Ness ¹, Mariangel Aleman Torres ¹

¹Oregon State University

PSIX-19 Effect of substituting groundnut cake with wheat bran mixed with cattle blood meal at ratio 1:1 on performance of broilers

Foluke A. Aderemi ¹

¹Bowen University Iwo, Osun State

PSIX-20 Galectins expression and secretion in cow milk

Bharath kumar Mulakala ¹, Eluca-Okoludoh Eboghoye ¹, Kingsley Ekwemalor ¹, Mulumbet Worku ¹

¹North Carolina Agricultural and Technical State University

(SWINE SPECIES)

PSIX-21 Assessment of barrier function and cell junctional expression on differentiated intestinal porcine epithelial cells in response to Salmonella LPS challenge and treatment with Yeast cell wall products

Niall Browne ¹, Daniel Daly ¹, Karina Horgan ¹

¹Alltech

PSIX-22 Assessment of the influence of IGF2 gene polymorphism in boars on economically significant traits

Tatiana V. Karpushkina ¹, Nadezhda A. Svegentseva ¹, Margaret S. Fornara ¹, Nikolay V. Bardukov ², Olga V. Kostyunina ¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²L.K. Ernst Federal Research Center for Animal Husbandry, Podolsk, Russia

PSIX-23 Correlation between VRTN and PPARD gene variants and the phenotypic manifestation of productive traits and the hind limbs conformation in pigs

Siroj Bakoev ¹, Lyubov Getmantseva ¹, Faridun Bakoev ², Varvara Shevtsova ², Varvara Getmantseva ³, Nekruz Bakoev ¹, Alexander Usatov ²

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Southern Federal University, ³The Kosygin State University of Russia

PSIX-24 Genome-wide association mapping for additive and dominance effects in pig fertility

Siroj Bakoev ¹, Lyubov Getmantseva ¹, Faridun Bakoev ², Varvara Shevtsova ², Olga V. Kostyunina ¹, Varvara Getmantseva ³, Nekruz Bakoev ¹, Anatoly Kolosov ⁴, Alexander Usatov ²

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Southern Federal University, ³The Kosygin State University of Russia, ⁴Federal Science Center for Animal Husbandry named after Academy Member L.K. Ernst

PSIX-25 Feed and water deprivation at weaning and subsequent heat stress impacts serum and ileal markers of gastrointestinal integrity in nursery pigs

Nathan L. Horn ¹, Adrienne Woodward ¹, Kola Ajuwon ², Layi Adeola ²

¹United Animal Health, ²Purdue University

PSIX-26 Genome-wide search for selection signatures in European wild boar

Olga V. Kostyunina ¹, Aleksey Aleksandrovich. Traspov ¹, Alexander Vyacheslavovich. Ecomonov ², Lyubov Getmantseva ¹, Nekruz Bakoev ¹, Yuri Prytkov ¹, Igor Domsy ²

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Russian Research Institute of Game Management and Fur Farming, Russian Academy of Agricultural Sciences

PSIX-27 Effects of supplemented zinc oxide in post-weaning piglets from d 25 to d 52 of age

Jonathan Riedmüller ¹, Klaus Männer ¹, Wilfried Vahjen ¹, Arturo Piñon ², Alessandra Monteiro ³, Jürgen Zentek ¹

¹Freie Universität Berlin, Berlin, Germany, ²Animine, Annecy, France, ³Animine

PSIX-28 Parity and lactation stage affect the sow milk microbiome

Madison T. Henniger ¹, Lea A. Rempel ², William T. Oliver ², Jeremy R. Miles ³, Amanda Lindholm-Perry ², Phillip R. Myer ⁴

¹University of Tennessee, ²USDA-ARS, ³USDA Meat Animal Research Center, ⁴Department of Animal Science, University of Tennessee

PSIX-29 Study of the association of mtDNA haplogroups and Ages of 100 days in pigs

Lyubov Getmantseva ¹, Nekruz Bakoev ¹, Varvara Shevtsova ², Siroj Bakoev ¹, Maria Kolosova ³

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Southern Federal University, ³Don State Agrarian University

PSIX-30 Modulating action of fish oil on serum profiles of pigs exposed to prenatal inflammatory signals

Haley E. Rymut¹, Marissa R. Keever¹, Olivia Perez¹, Laurie A. Rund¹, Rodney W. Johnson¹, Sandra L. Rodriguez-Zas¹

¹University of Illinois

Beef Species II: Growing and Finishing Systems

Chair: Ben Holland, Cactus Feeders

1:30 PM - 3:00 PM

M101 & 102

1:30 p.m. **Presentation of the Animal Growth and Development Award**

Meghan Wulster-Radcliffe¹

¹ASAS

1:35 p.m. 197 **Awardee Talk: Novel Management Strategies to Enhance Growth and Development of Feedlot Receiving Cattle**

Reinaldo F. Cooke¹

¹Texas A&M University

2:00 p.m. 95 **Effects of Three Implant Programs on Growth Performance, Carcass Outcomes, and Weekly Activity Minutes of Finishing Steers Fed Different Days on Feed**

Socorro L. Martinez¹, Alyssa B. Word², Ben P. Holland³, Kendall J. Karr², John P. Hutcheson⁴, Lee-anne J. Walter⁴, John T. Richeson¹, Ty E. Lawrence¹, Kendall L. Samuelson¹

¹West Texas A&M University, ²Cactus Research, ³Cactus Feeders, ⁴Merck Animal Health

2:15 p.m. 94 **The Effects of Weather, Body Weight, and Dry Matter Intake on Total Daily Water Intake in Beef Steers**

Zach S. McDaniel¹, Zachary K. Smith¹, Cody Wright¹, Michael Gonda¹, Himali

Wickremasinghe¹, Gemechis Djira¹

¹South Dakota State University

2:30 p.m. 93 **Equivalent Effects of Growing Phase ADG and DOF at Various Placement Weights on Finishing Beef Cattle Performance Using Meta-analysis Approach**

Haley E. Larson¹, Fredric N. Owens², Alfredo DiCostanzo³

¹Kansas State University, ²Oklahoma State University, ³University of Minnesota

2:45 p.m. 96 **Assessing the Sustainability of Multiple Grass-fed and Grain-fed Beef Production Systems**

Sarah C. Klopatek¹, Elias Marvinney², Xiang Yang², Alissa Kendall², James W. Oltjen²

¹JBS, ²University of California, Davis

Animal Breeding and Genetics IV: Genomic Selection I

Chair: Luiz Brito, Purdue University

1:30 PM - 3:15 PM

M105 & 106

1:30 p.m. 36 Effect of Blending and Tuning Relationship Matrices in Single-step Genomic BLUP

Taylor M. McWhorter¹, Andre Garcia², Matias Bermann³, Andres Legarra⁴, Ignacio Aguilar⁵, Ignacy Misztal³, Daniela Lourenco³

¹The University of Georgia, ²American Angus Association, ³University of Georgia, ⁴INRA Toulouse GenPhySE, ⁵Instituto Nacional de Investigacion Agropecuaria

1:45 p.m. 35 Detecting Effective Starting Point of Genomic Selection by Divergent Trends from BLUP and Ssgblup

Rostam Abdollahi-Arpanahi¹, Daniela Lourenco¹, Ignacy Misztal¹

¹University of Georgia

2:00 p.m. 37 Single-step Genomic BLUP Fitting Snps or Haplotypes in Genetically-diverse Populations: A Simulation Study

Andre C. Araujo¹, Paulo Carneiro², Hinayah R. Oliveira³, Flavio S. Schenkel⁴, Luiz F. Brito⁵

¹Department of Animal Sciences, Purdue University, ²Department of Biology, State University of Southwest Bahia, ³Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada; Department of Animal Sciences, Purdue University, West Lafayette, IN, USA,

⁴Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada, ⁵Purdue University

2:15 p.m. 41 Using Sequence Data to Increase Accuracy of Genomic Predictions in Livestock: Are We There Yet?

Daniela Lourenco¹, Shogo Tsuruta¹, Sungbong Jang¹, Breno O. Fragomeni², Ignacy Misztal¹

¹University of Georgia, ²University of Connecticut

2:30 p.m. 40 Factors Influencing Accuracy of Genomic Selection with Sequence Information

Ignacy Misztal¹, Ivan Pocrnic², Daniela Lourenco¹

¹University of Georgia, ²The Roslin Institute

2:45 p.m. 39 Combining Different Marker Prioritization Methods in the Analysis of High-density and Sequence Data

Ashley S. Ling¹, ElHamidi Hay², Samuel E. Aggrey³, Romdhane Rekaya³

¹University of Georgia, Department of Animal and Dairy Science, ²USDA/ARS/LARRL,

³University of Georgia

3:00 p.m. 34 Dimensionality of Genomic Information and Its Impact on GWA and Variant Selection: A Simulation Study

Sungbong Jang¹, Shogo Tsuruta¹, Natalia Leite², Ignacy Misztal¹, Daniela Lourenco¹

¹University of Georgia, ²Topigs Norsvin

Cell Biology Symposium

Chair: Kristen Govoni, Dept. of Animal Science, University of Connecticut
1:45 PM - 4:05 PM
Ballroom A/B

1:45 p.m. **Cell Biology Symposium Introduction**

1:50 p.m. 106 **The Effects of Fetal Programming on Offspring Pancreas DNA Methylation**

Maria L. Hoffman ¹

¹University of Rhode Island

2:35 p.m. 105 **The Epigenetics and Plasticity of CD4+ T Cells in Poultry Health**

Jiuzhou Song ¹, Yanghua He ², Yi Ding ³, Fei Tian ⁴, Keji Zhao ⁵, Huanmin Zhang ⁶, Ying Yu ⁷, Ning Yang ⁷, Ling Lian ⁷, Juan Luo ¹, Apratim Mitra ⁸

¹University of Maryland, ²University of Hawaii, ³Alan Institute of Brain Research, ⁴Northwest Institute of Plateau Biology, ⁵NHLBI, ⁶USDA-ARS, ⁷China Agricultural University, ⁸NIH

3:20 p.m. 104 **Epigenetic Changes Due to Environmental Toxicants: An Animal Health Concern**

Cheryl S. Rosenfeld ¹

¹University of Missouri

SSASAS: Kunkle Symposium

Chair: Daniel Rivera, Animal and Dairy Sciences Department Mississippi State University
1:45 PM - 4:30 PM
M104/M107

1:45 p.m. **SSASAS Kunkle Symposium Introduction**

1:50 p.m. 400 **Use of Byproduct Feeds in Southeastern Beef Production Systems**

Matthew H. Poore ¹

¹North Carolina State University

2:35 p.m. 401 **Cotton Byproduct Use in Southeastern Beef Cattle Diets: Quality, Intake, and Changes in Feed Characteristics**

Kim K. Mullenix ¹, Robert Lawton Stewart ²

¹Auburn University, ²University of Georgia

3:20 p.m. **SSASAS Kunkle Symposium Break**

3:30 p.m. 402 **Rise of Craft Breweries and Distilleries Increase Beef Cattle Supplement Availability**

Deidre D. Harmon ¹, Jeffrey W. Lehmkuhler ²

¹NC State University, ²University of Kentucky

4:15 p.m. **SSASAS Kunkle Symposium Q&A**

Nonruminant Nutrition Symposium I

Chair: Mohsen Abedin, Trouw Nutrition North America; Sung Woo Kim, NC State University
1:45 PM - 4:35 PM
M108/M111

1:45 p.m. **Nonruminant Nutrition Symposium I Introduction**

1:55 p.m. 226 **Integrated Pork Production During a Global Pandemic: Impact on the Live Production Supply Chain, Feed Mills, & Nutrition**

Chris Parks ¹, Tommy Shipp ², Marlin Hoogland ³, Alejandro Cordova ²
¹Provimi, ²Smithfield, ³Smithfield Foods

2:40 p.m. 225 **Swine Microbiomes and Viral Infections: Lesson Learned from Recent Human and Swine Pandemics**

Ehsan Khafipour ¹
¹Diamond V, Cargill Health Technologies

3:25 p.m. **Nonruminant Nutrition Symposium I Break**

3:35 p.m. 223 **Precise Nutrient Supply Drives Successful Pork Production During Economic Uncertainty**

Chad M. Pilcher ¹
¹Cargill Animal Nutrition

4:20 p.m. 224 **Amino Acid Imbalance with Excess Methionine in Late-finishing Pigs: Effects on Performance and Carcass Quality**

Michael S. Edmonds ¹, James W. Smith ¹
¹Kent Nutrition Group, Inc.

Ruminant Nutrition IV: Dairy and Fermentation

Chair: Katherine VanValin, University of Kentucky
1:45 PM - 5:15 PM
L005/009

1:45 p.m. 319 **Predicting Urinary Nitrogen Excretion from Milk Urea Nitrogen of Fresh Forage or Total Mixed Ration Fed Dairy Cows: A Meta-analysis**

Matthew R. Beck ¹, Cameron Marshall ², Konagh Garrett ², Andrew P. Foote ³, Ronaldo Vibart ⁴, David Pacheco ⁴, Pablo Gregorini ²
¹USDA-ARS, ²Lincoln University, ³Oklahoma State University, ⁴Agresearch

2:00 p.m. 318 **Effect of Initial Providing Time of Oat Hay on Performance, Health, Behavior and Rumen Fermentation in Calves**

Tianyu Chen ¹, Jianxin Xiao ², Tingting Li ³, Jing Ma ⁴, Zhijun Cao ⁵
¹China Agriculture University, ²1016249009@qq.com, ³1505337254@qq.com, ⁴jlhskpz@163.com, ⁵State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University

2:15 p.m. 317 **Effect of the Whole Cottonseed with Pre-treatment on the Digestibility, Productivity, and Milk Fat Profile of Dairy Cattle**

Xiaoge Sun¹, Yitong Su¹, Yangyi Hao², Gaokun Liu¹, Yue Gong¹, Yajing Wang¹, Zhijun Cao³, Wei Wang⁴, Shengli Li⁵

¹College of Animal Science and Technology, China Agricultural University, ²China Agriculture University, ³State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, ⁴American Institute for Goat Research, Langston University; College of Veterinary Medicine, Shenyang Agricultural University, Shenyang, Liaoning, China, ⁵China Agricultural University

2:30 p.m. 502 **Late-Breaking: Tongue Rolling Behavior in a Large U.S. Dairy Herd**

Jesse Robbins¹, Mike Paros², Kelly M. McCandless²

¹Iowa State University, ²The Evergreen State College

2:45 p.m. 316 **Determination of the Chemical and Phytochemical Composition of the Methanolic Extract of Urochloa Humidicola for Use as a Phytogetic Additive in Ruminant Diets**

Rafaela Scalise Xavier de Freitas¹, Tatiane Pires Pereira², Danny Alexander Rojas Moreno¹, Yuli Andrea Pena Bermudez¹, Annelise Aila G. Gomes Lobo¹, Rafaela Zuliani Spalato³, Amanda Thaís Ferreira Regacini⁴, Ana Luiza Priori Da Silva⁵, Ives Claudio C. Da Silva Bueno¹

¹Department of Animal Science, College of Animal Science and Food Engineering, Pirassununga, SP, Brazil., ²Federal Rural University of Rio de Janeiro, ³College of Animal Science and Food Engendering, University of São Paulo, Pirassununga/SP, Brazil, ⁴College of Animal Science and Food Engendering, University of São Paulo., ⁵College of Animal Science and Food Engendering, University of São Paulo.

3:00 p.m. 236 **Effects of Saccharomyces Cerevisiae Fermentation Products (SCFP) and Subacute Ruminal Acidosis (SARA) on Co-occurrence Patterns and Hub Taxa of Rumen Liquid Microbiota in Lactating Dairy Cows**

Junfei Guo¹, Terry Zhang², Ilkyu Yoon³, Ehsan Khafipour⁴, Jan C. Plaizier⁵

¹University of Manitoba, ²Jimei University, ³Diamond V, ⁴Diamond V, Cargill Health Technologies, ⁵University of Manitoba

3:15 p.m. 322 **Impact of Feed Restriction and Fasting Suffered in Assembly Centers and Transportation on Energy Balance and Gut Permeability in Unweaned Angus-holstein Calves**

Lucía Pisoni¹, Sonia Marti², Marta Blanch³, Jose J. Pastor⁴, Maria Devant²

¹IRTA-Ruminant Production, ²IRTA, Ruminant Production, ³Lucta S.A., ⁴Lucta S.A., Innovation Division

3:30 p.m. 325 **The Diagnosis of Sub-acute Ruminal Acidosis (SARA) in Dairy Cows on Commercial Farms Using the Milk Fatty Acid Profile**

Jan C. Plaizier¹, Sharon Y. Mowete², Debora Santchi³, Ken Kwiatkowski⁴, Nympha De Neve⁵, Veerle Fievez⁵

¹University of Manitoba, ²University of Manitoba, ³Lactanet, ⁴Horizon labs, ⁵Ghent University

3:45 p.m. 323 **Effect of an Acidogenic Diet with Phytogetic Supplementation on in Situ Degradability of Corn and Wheat Grain, and Grass Silage in Dairy Cows**

Raul Rivera-Chacon ¹, Sara Ricci ¹, Nicole Reisinger ², Qendrim Zebeli ¹, Ezequias Castillo-Lopez ¹

¹University of Veterinary Medicine Vienna, Christian Doppler Laboratory for Innovative Gut Health Concepts of Livestock, Institute of Animal Nutrition and Functional Plant Compounds, Austria, ²BIOMIN Research Center

4:00 p.m. 320 **Liver Transcriptome Analysis Reveals Important Genes Involved in the Feed Efficiency of Lactating Cows Fed a High and Low Starch Diet**

Xiaoxia Dai ¹, Wenli Li ², Amelie Fischer ³, Kenneth Kalscheur ⁴

¹Royal Veterinary College, University of London, ²US Dairy Forage Research Center, USDA-Agricultural Research Service, ³Institute De L'elevage, ⁴USDA-ARS, US Dairy Forage Research Center

4:15 p.m. 321 **Extrusion of Grass Silage Increase Intake and Milk Yield in Dairy Cows**

Bengt Ove Rustas ¹, Markos Managos ¹, Torsten Eriksson ¹

¹Swedish University of Agricultural Sciences

4:30 p.m. 503 **Late-Breaking: Using Random Regression Models to Estimate Genetic Parameters for Milk Production Traits under Different Levels of Heat Stress in Canadian Holstein Cattle**

Ivan Campos ¹, Christine F. Baes ², Tatiane Chud ¹, Angela Cánovas ³, Hinayah R. Oliveira ⁴, Flavio S. Schenkel ³

¹University of Guelph, ²Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland, ³Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada, ⁴Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada; Department of Animal Sciences, Purdue University, West Lafayette, IN, USA

4:45 p.m. 504 **Late-Breaking: Automatic Monitoring Systems to Detect Behavioral and Productive Variations during Heat Stress in Dairy Cows**

Ludovica Mammi ¹, Damiano Cavallini ¹, Alberto Palmonari ¹, Alessandro Concolino ¹, Francesca Ghiaccio ¹, Giovanni Buonaiuto ¹, Giulio Visentin ¹, Andrea Formigoni ¹

¹Department of Veterinary Medical Sciences, University of Bologna

5:00 p.m. 505 **Late-Breaking: Ruminal Microbiota, Inflammation Cytokines, and Performance of High-yield Dairy Cows Supplemented with Saccharomyces Cerevisiae Culture**

Xiaoge Sun ¹, Shu Zhang ¹, Erdan Wang ¹, Na Lu ¹, Wei Wang ², Shengli Li ³

¹College of Animal Science and Technology, China Agricultural University, ²American Institute for Goat Research, Langston University; College of Veterinary Medicine, Shenyang Agricultural University, Shenyang, Liaoning, China, ³China Agricultural University

Horse Species Symposium
Chair: Robert Jacobs, Purina Animal Nutrition
1:45 PM - 5:30 PM
M112

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

1:50 p.m. **Presentation of the Equine Science Award**
Terry Ward ¹
¹Zinpro Corporation

1:55 p.m. 204 **Awardee Talk: Recent Advances in Protein Nutrition in Horses**
Kristine Urschel ¹
¹University of Kentucky

2:20 p.m. 202 **Nature versus the NRC: Utilizing an Understanding of the “natural” Diet of the Horse in Contrast to Defined Guidelines**
Mary Beth Gordon ¹
¹Purina Animal Nutrition/Land O'Lakes

3:00 p.m. 206 **Beyond NRC Requirements: The Role of Non-nutritives in Equine Health and Performance**
Lori K. Warren ¹
¹University of Florida

3:40 p.m. **Horse Species Symposium Break**

3:50 p.m. 203 **Historical Perspectives on the Equine NRC**
Laurie Lawrence ¹
¹University of Kentucky

4:30 p.m. 201 **The Equine Microbiome: How Does Our Understanding of the Microbiome Impact the Nutrient Requirements of the Horse?**
Amy S. Biddle ¹
¹University of Delaware

5:00 p.m. 205 **Nutrition Research in the 2020's: What Holes Are There? What Should the Goal of Equine Nutrition Research Be in the Next Decade?**
Brian D. Nielsen ¹
¹Michigan State University

Small Ruminant II
Chair: Stephan Wildeus, Virginia State University
2:00 PM - 3:15 PM
L006

2:00 p.m. 363 **Relationship Between Parasite Load and Performance in Goat Kids at Weaning and Early Post Weaning**
James Adeyemi ¹, Kenneth Andries ¹, Emily Clement ¹
¹Kentucky State University

2:15 p.m. 366 **Impact of Haemonchus Contortus on Feed Intake in Katahdin Sheep Selected for Parasite Resistance**

Scott L. Bowdridge ¹, Andrew R. Weaver ², Eugene Felton ¹, Scott P. Greiner ³, Scott A. Bowdridge ¹

¹West Virginia University, ²Department of Animal Science, North Carolina State University, ³Virginia Tech

2:30 p.m. 367 **Determination of Circulating Interleukin 13 in Sheep After Infection with Haemonchus Contortus**

Curtis Patton ¹, Scott P. Greiner ², Scott A. Bowdridge ¹

¹West Virginia University, ²Virginia Tech

2:45 p.m. 364 **Blood Profile of Kiko Does Raised on Grass-legume-mixed Pastures vs. Sole-grass Pastures During Fall**

Anand Tiwari ¹, Uma Karki ¹, Kendra Norwood ¹, Ja'Nia Johnson ¹, Lila B. Karki ²

¹Tuskegee University, ²University of Maryland Eastern Shore

3:00 p.m. 365 **The Extent and Pattern of Correlation Among Blood Parameters Differed Between Pasture-raised Goats and Sheep**

Uma Karki ¹, Anand Tiwari ¹, Kendra Norwood ¹, Ja'Nia Johnson ¹, Lila B. Karki ²

¹Tuskegee University, ²University of Maryland Eastern Shore

Physiology and Endocrinology II

Chair: Jamie Larson, Mississippi State University

2:00 PM - 3:30 PM

M109 & 110

2:00 p.m. 242 **Divergent Selection for Early Puberty Impacts KNDy Neuron Gene Expression in Gilts**

KaLynn Harlow ¹, Allison Renwick ², Sydney Shuping ¹, Jeff Sommer ¹, Mark Knauer ¹, Casey Nestor ¹

¹North Carolina State University, ²The University of Tennessee College of Veterinary Medicine

2:15 p.m. 245 **Prenatal Transportation Stress Does Not Impact Ovarian Follicle Count in Brahman Offspring**

Lacey K. Quail ¹, Ronald D. Randel ², Thomas H. Welsh ³, Rui d'Orey Branco ⁴, Don A. Neuendorff ⁵, Robert A. Cushman ⁶, Hannah Yake ⁷, George A. Perry ²

¹Department of Animal Science, Texas A&M University, College Station, TX, ²Texas A&M AgriLife Research, Overton, TX, ³Texas A&M University, Department of Animal Science, College Station, TX, ⁴Texas A&M AgriLife Research, ⁵Texas A&M AgriLife Research Overton, ⁶USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit, ⁷University of Tennessee

2:30 p.m. 241 **Skeletal Muscle Mitochondrial Capacities Are Impacted by Breed and Temperament in Young Angus and Brahman Steers**

Chloey P. Guy¹, Lauren T. Wesolowski², Audrey L. Earnhardt-San², Dustin Law³, Don A. Neuendorff³, Charles R. Long⁴, George A. Perry⁵, Ronald D. Randel⁵, Thomas H. Welsh⁶, Sarah H. White-Springer⁷

¹Texas A&M AgriLife Research, ²Texas A&M University and AgriLife Research, Department of Animal Science, ³Texas A&M AgriLife Research Overton, ⁴School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, ⁵Texas A&M AgriLife Research, Overton, TX, ⁶Texas A&M University, Department of Animal Science, College Station, TX, ⁷Department of Animal Science, Texas A&M University; Texas A&M AgriLife Research

2:45 p.m. 244 **Fertility Outcomes Associated with Reproductive Tract Cytokines and Microbiota in Postpartum Beef Cows**

Rebecca K. Poole¹, Taylor B. Ault-Seay², Rebecca R. Payton³, Phillip R. Myer⁴, Andrea S. Lear⁵, Ky G. Pohler¹

¹Texas A&M University, ²University of Tennessee, Knoxville, ³Department of Animal Science, University of Tennessee, ⁴Department of Animal Science- University of Tennessee, ⁵College of Veterinary Medicine, University of Tennessee

3:00 p.m. 243 **Relationship Among Granulosa Cell GnRH-I, -II, and Receptor mRNA Abundance and Follicular Fluid Steroid Hormone Concentrations of Bovine Antral Follicles at Specific Stages of Follicular Development**

Jerica JJ Rich¹, Emmalee J. Northrop-Albrecht², Kaitlin M. Epperson³, Saulo Menegatti Zoca², Stephanie D. Perkins², Russell F. Daly⁴, Robert A. Cushman⁵, George A. Perry⁶

¹College of Agriculture, Arkansas State University, ²South Dakota State University, ³Department of Animal Science, Texas A&M University, College Station, TX, ⁴South Dakota State University Department of Veterinary & Biomedical Sciences, Brookings, SD, ⁵USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit, ⁶Texas A&M AgriLife Research, Overton, TX

3:15 p.m. 240 **Beef Heifers with Increased Number of Follicles Have Greater Uterine Luminal Glucose Concentrations**

Alexandria P. Snider¹, Matthew S. Crouse², Shelby L. Rosasco³, Kaitlin M. Epperson⁴, Emmalee J. Northrop-Albrecht⁵, Jerica JJ Rich⁶, Chad Chase⁷, Jeremy R. Miles², Adam F. Summers⁸, Robert A. Cushman⁹

¹USDA, ARS, U.S. Meat Animal Research Center, Livestock Bio-systems Research Unit, ²USDA, ARS, U.S. Meat Animal Research Center, ³University of Wyoming, ⁴Department of Animal Science, Texas A&M University, College Station, TX, ⁵South Dakota State University, ⁶College of Agriculture, Arkansas State University, ⁷USDA Meat Animal Research Center, ⁸New Mexico State University, ⁹USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit

SSASAS: Physiology II

Chair: Vitor R Mercadante, Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences

2:00 PM - 4:00 PM

Ballroom D/E

2:00 p.m. 422 **Evaluation of Prenatal Transportation Stress on the Number of Pituitary Corticotrophs in Mature Brahman Cows**

Victoria Kamlar¹, Sarah West², Brittini P. Littlejohn³, Charles R. Long⁴, David G. Riley², Penny K. Riggs², Ronald D. Randel⁵, Thomas H. Welsh⁶, Rodolfo C. Cardoso²

¹Texas A&M University, ²Texas A&M University, ³University of Arkansas System, Division of Agriculture, Department of Animal Science, ⁴School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, ⁵Texas A&M AgriLife Research, Overton, TX, ⁶Texas A&M University, Department of Animal Science, College Station, TX

2:15 p.m. 429 **The Effect of Melatonin Supplementation on Dam Milking Traits and Calf Performance in Beef Cattle**

Dana S. Reid¹, Tom W. Geary², Abby L. Zezeski², M. Susan Reil³, Richard C. Waterman³, Derris D. Burnett⁴, Caleb O. Lemley⁵

¹Department of Animal and Dairy Sciences, Mississippi State University, ²USDA-ARS, ³USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, ⁴PhD, ⁵Mississippi State University

2:30 p.m. 427 **Melatonin-induced Changes in the Bovine Vaginal Microbiota During Maternal Nutrient Restriction in Brangus Heifers**

Riley D. Messman¹, Caleb O. Lemley¹, Zully E. Contreras-Correa¹, Henry A. Paz¹

¹Mississippi State University

2:45 p.m. 423 **Setting the Cycle for Reproductive Success with a Presynchronization Program in Postpartum Beef Cows**

Macy M. Massengill¹, Thiago V. Silva¹, Daniel H. Poole¹

¹North Carolina State University

3:00 p.m. 428 **Effects of Melatonin Supplementation During Mid- to Late-gestation Nutrient Restriction on Maternal and Fetal Amino Acid Concentrations**

Rebecca M. Swanson¹, Zully E. Contreras-Correa¹, Thu Dinh¹, Heath H. King², Darcie R. Sidelinger¹, Derris D. Burnett³, Caleb O. Lemley¹

¹Mississippi State University, ²Mississippi State University College of Veterinary Medicine, ³PhD

3:15 p.m. 421 **Genomic Effects of Arginine on Cell Behavior of Conceptus Trophoblast in Ungulates**

Sudikshya Paudel¹, Hongyao Yu², Tianyuan Wang³, Fuller W. Bazer⁴, Guoyao Wu⁵, Robert Burghardt⁶, Guang Hu², Xiaoqiu Wang¹

¹North Carolina State University, ²Epigenetics and Stem Cell Biology Laboratory, National Institute of Environmental Health Sciences, ³Integrative Bioinformatics Support Group, National Institute of Environmental Health Sciences, ⁴Texas A&M University, ⁵Department of Animal Science, Texas A&M University, ⁶Department of Veterinary Integrative Biosciences, Texas A&M University

3:30 p.m. 424 **Changes in Metabolite and Protein Expression Profiles of Atypical Dark-cutting and Normal-ph Beef**

Frank Kiyimba¹, Steven Hartson², Janet Rogers³, Gretchen G. Mafi², Ranjith Ramanathan²
¹Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK,
²Oklahoma State University, ³Oklahoma State university

3:45 p.m. 431 **Effects of Exogenous Glucocorticoid Administration on Appetitive Center Brain Development in Dairy Bull Calves**

Keelee J. McCarty¹, Nathan Long¹
¹Clemson University

Production, Management and Environment II

Chair: Cathy Bandyk, Innovad

2:00 PM - 4:15 PM

L007/008

2:00 p.m. 282 **Nutritional Monitoring of Prenatally Stressed and Translocated Brahman Heifers**

Doug R. Tolleson¹, Ronald D. Randel², George A. Perry², Jose M. Diaz³, Heath D. Starns⁴, Colt W. Knight⁵, Nick E. Garza⁶, Sarah L. Beall⁶, Don A. Neuendorff⁷, Thomas H. Welsh⁸
¹Texas A&M University, ²Texas A&M AgriLife Research, Overton, TX, ³Southern Arkansas University, ⁴Texas A&M AgriLife, ⁵University of Maine, ⁶Texas A&M AgriLife, Sonora, ⁷Texas A&M AgriLife Research Overton, ⁸Texas A&M University, Department of Animal Science, College Station, TX

2:15 p.m. 277 **Swine Producer Identities: Understanding Perceptions of a Good Producer**

Chris Gambino¹, Elizabeth M. Brownawell¹, Elizabeth A. Hines²
¹Delaware Valley University, ²Pennsylvania State University

2:30 p.m. 283 **Precision versus Group Supplementation at Two Levels on Growth and Development of Replacement Heifers**

Susan K. Duckett¹, Jacob Cathcart¹, Austin Cathcart¹, Zach Dantzler¹, Hunter Dove¹, John G. Andrae¹, Matt J. Hersom¹
¹Clemson University

2:45 p.m. 285 **Effects of Encapsulated Calcium-ammonium Nitrate on Greenhouse Gas Emissions from Manure of Beef Steers Grazing a Mature Mixed-winter Forage**

Darren D. Henry¹, Andrea M. Osorio-Doblado², Sebastian E. Mejia-Turcios³, David A. Vargas¹, Lindsey C. Slaughter⁴, Marta Kohmann⁵, Francine M. Ciriaco¹, Jhones O. Sarturi¹, Nicolas DiLorenzo⁶
¹Texas Tech University, ²University of Georgia, ³UC Davis, ⁴Texas Tech Univeristy, ⁵Univeristy of Florida, ⁶UF - NFREC

3:00 p.m. 281 **The Effects of Whole Cottonseed Supplementation on Performance, Breeding Soundness Exams, and Manganese Superoxide Dismutase Concentrations in the Blood and Semen of Beef Bulls**

Dylan Blake B. Davis¹, Arthur Lee Jones¹, Shane R R. Hernandez², Christina B. Welch¹, Jennifer J. J. Tucker¹, Pedro L.P. Fontes¹, Matthew P. Holton¹, Robert Lawton Stewart¹
¹University of Georgia, ²University of Georgia, Animal and Dairy Science

3:15 p.m. 279 **ReBreed21, a Rapid Reinsemination Program: Fertility in Bos Indicus Cattle of Different Parities**

João Paulo N N. Andrade ¹, Pedro L. J. Monteiro ², Alexandre B. Prata ³, Adelino Robl ⁴, José Leite ⁴, Cesar Pimenta ⁴, José Dias ⁴, Afonso Guimarães ⁵, Beatriz Lippe ⁵, Heuller Ribeiro ⁴, Same Merhi ⁴, Diego Hartmann ⁴, Roberto Sartori ⁶, Milo C. Wiltbank ²

¹University of Wisconsin-Madison, ²Department of Animal and Dairy Sciences, University of Wisconsin-Madison, ³GlobalGen Vet Science, ⁴Agropecuária Roncador, ⁵University of São Paulo Department of Animal Science, Luiz de Queiroz College of Agriculture (ESALQ), ⁶Department of Animal Science, Luiz de Queiroz College of Agriculture (ESALQ), University of São Paulo

3:30 p.m. 284 **Genetic Selection Through Ecofeed Index Reduces Carbon Footprint in Heifers**

Ermias Kebreab ¹, Jocelyn R. Johnson ², Claas Heuer ³, Nader Deeb ²

¹UC Davis, ²ST Genetics, ³STgenetics

3:45 p.m. 278 **Understanding Biosecurity Perceptions in Pennsylvania Pig Producers**

Elizabeth M. Brownawell ¹, Elizabeth A. Hines ², Linda Falcone ², Chris Gambino ¹

¹Delaware Valley University, ²Pennsylvania State University

4:00 p.m. 280 **Descriptive Characteristics of Preweaned Heifer Raising Practices on China Dairy Farms: Colostrum Quality, Passive Transfer Status and Growth Performance**

Shuai Liu ¹, Tianyu Chen ², Jiaqi Li ³, Wenli Guo ³, Rong Peng ³, Zhijun Cao ¹

¹State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, ²China Agriculture University, ³College of animal science and technology, China agricultural university

Companion Animals Symposium III

Chair: Gary M. Davenport, Archer Daniels Midland Company

2:00 PM - 4:45 PM

M100/M103

2:00 p.m. **Companion Animals Symposium III Introduction**

2:15 p.m. 125 **Nutritional and Extra-nutritional Compounds in Fruit and Vegetable Waste and Their Potential for Use in Dietary Supplements**

Mario M. Martinez ¹

¹Aarhus University

2:45 p.m. 127 **Equine Nutraceuticals: Is Science Finally Catching up to Fiction?**

Wendy Pearson ¹

¹Department of Animal Biosciences, University of Guelph

3:15 p.m. **Companion Animals Symposium III Break**

3:30 p.m. 126 **Animal Supplements: Market Trends, Benefits and Limitations of Academic Research, and Regulatory Considerations in Product Development**

Bill Bookout ¹

¹National Animal Supplement Council

4:00 p.m. 128 **Homemade Pet Diets - What Are the Key Supplement Considerations?**
Cheryl L. Morris ¹
¹Iowa State University

4:30 p.m. **Companion Animals Symposium III Discussion**

SSASAS: Small Ruminant Production I
Chair: Sara Linneen, Elanco Animal Health
3:30 PM - 5:15 PM
L006

3:30 p.m. 466 **Effects of Dietary Inclusion of Sericea Lespedeza Hay on Behavior, Heat Energy, and Ruminal Methane Emission by Growing Alpine Doelings and Katahdin Ewe Lambs**

Wei Wang ¹, Ryszard Puchala ², Luana Ribeiro ³, Italo Portugal ⁴, Terry A. Gipson ⁵, Arthur L. Goetsch ²

¹American Institute for Goat Research, Langston University; College of Veterinary Medicine, Shenyang Agricultural University, Shenyang, Liaonig, China, ²Langston University, ³American Institute for Goat Research, Langston University, ⁴American Institute for Goat Research Langston University, ⁵Langston

3:45 p.m. 453 **Effect of 'AU-Grazer' Sericea Lespedeza (*Lespedeza Cuneata*) from Two Different Sources on Indicators of Gastrointestinal Parasitism in Goats**

Thomas H. Terrill ¹, Niki C. Whitley ¹, Chelsea Pulsifer ¹, Gregory Dykes ², Phaneendra Batchu ¹, Tony Hazard ¹, Donielle Pannell ¹

¹Fort Valley State University, ²Animal Science Program, College of Agriculture, Family Sciences, and Technology, Fort Valley State University,

4:00 p.m. 456 **Effect of 'Serala' Sericea Lespedeza (*Lespedeza Cuneata*) Hay on Gastrointestinal Parasite Fecal Egg and Oocysts Counts and Packed Cell Volume in Goats**

Niki C. Whitley ¹, Tony Hazard ¹, Chelsea Pulsifer ¹, Phaneendra Batchu ¹, Brou Kouakou ¹, Thomas H. Terrill ¹

¹Fort Valley State University

4:15 p.m. 545 **Effect of Copper Oxide Wire Particles with and Without Anthelmintic Treatment or Anthelmintic Treatment Alone on Gastrointestinal Nematode (GIN) Fecal Egg Counts in Goats**

Niki C. Whitley ¹, Gregory Dykes ², Jennifer Vazquez ¹, Joan M. Burke ³, Thomas H. Terrill ¹
¹Fort Valley State University, ²Animal Science Program, College of Agriculture, Family Sciences, and Technology, Fort Valley State University,, ³USDA ARS Dale Bumpers Small Farms Research Center

4:30 p.m. 464 **Effect of Gum Arabica (GA) Drench on Indicators of Anemia in Goats**

Yaser M. Ahmed ¹, Hamid Ismail ¹, Djaafar M. Rehrah ², Mulumebet Worku ¹

¹NC A&T State University, ²NC A&T State University.

4:45 p.m. 470 **Changes in Cytochrome P450 in Katahdin Ewes Fed Endophyte-infected Tall Fescue Seed Diets in Spring and Fall**

Mohan Acharya¹, Joan M. Burke², Erin Wood³, Yan Huang⁴, Palika Dias-Morse⁵, Ken P. Coffey⁴, Edwards J L. Lannett⁶, Charles F Rosenkrans⁷

¹Department of Animal Science, University of Arkansas, ²USDA ARS Dale Bumpers Small Farms Research Center, ³USDA-ARS, ⁴University of Arkansas, ⁵University of Arkansas Fayetteville, ⁶Department of Animal Science, University of Tennessee, ⁷Animal and Veterinary Sciences Department, Clemson University

5:00 p.m. 459 **Effects of Sericea Lespedeza on Feed Intake, Digestion, and Ruminal Methane Emission in Hair Sheep**

Luana Ribeiro¹, Ryszard Puchala², Arthur L. Goetsch²

¹American Institute for Goat Research, Langston University, ²Langston University

POSTER SESSION X-A

3:45 PM – 4:45 PM

PSX-A-1 Late-Breaking: A fully automated system for 3D image acquisition, classification and processing for real-time monitoring growth of finishing cattle in feedlots.

Authors:

Joseane Padilha¹, Arthur Fernandes², Joao R. Dorea¹, Tiago S. Acedo³, Guilherme J. Rosa¹

¹University of Wisconsin-Madison, ²Cobb-Vantress, ³DSM Nutritional Products Brazil S.A.

PSX-A-2 Late-Breaking: Acute Endotoxemia May Increase Intercostal Temporary Mechanical Nociception in Wethers

Brian K. Whitlock¹, Allison Renwick¹, Amelia Pi¹, Jay A. Daniel²

¹The University of Tennessee College of Veterinary Medicine, ²Berry College

PSX-A-3 Late-Breaking: Analysis of serum chemistry for metabolic function in GnRH-II receptor knockdown and littermate control boars

Caitlin E. Ross¹, Amy T. Desaulniers², Rebecca A. Cederberg¹, Ginger A. Mills¹, Clay A. Lents³, Brett R. White¹

¹Department of Animal Science, University of Nebraska-Lincoln, ²School of Veterinary Medicine and Biomedical Sciences, University of Nebraska-Lincoln, ³US Meat Animal Research Center, USDA Agriculture Research Service

PSX-A-4 Late-Breaking: Assessing the antifungal efficacy of EverWild™ D01 against Aspergillus flavus in semi-moist pet treats

Samuel Kiprotich¹

¹Kansas State University

PSX-A-5 Late-Breaking: Branched chain amino acid and threonine requirements for puppy (>14 wk-9mo) Labrador Retrievers using the indicator amino acid oxidation (IAAO) technique

Jessica L. Varney¹, Heather Adams¹, Sarah Cox¹, Kevin Cline¹, Rhianna Bailey¹, Jordan T. Weil¹, Craig N. Coon¹

¹Four Rivers Kennel, LLC

PSX-A-6 Late-Breaking: Conventional vs Heritage cattle supplement intake, weight-gains, and body condition scores on Chihuahuan desert pasture

Matthew M. McIntosh¹, Richard Estell², Andres Cibils¹, Andrew Cox¹, Shelemia Nyamuryekung'e¹, Danielle Duni¹, Glenn C. Duff³, Sheri Spiegel², Carolina Brandani¹, Santiago Utsumi¹, Vinícius N. Gouvêa³

¹Department of Animal and Range Sciences, New Mexico State University, ²USDA-ARS Jornada Experimental Range, ³Department of Animal and Range Sciences, Clayton Livestock Research Center, New Mexico State University

PSX-A-7 Late-Breaking: Correlation of mitochondrial membrane potential and rough motility scores in cryopreserved bovine spermatozoa

Lauren Clark¹, Jolena N. Waddell¹, David Roper¹, William B. Smith¹, Cheyenne L. Runyan¹

¹Tarleton State University

PSX-A-8 Late-Breaking: Development of multiplex assays for equine cytokines IL-1 β , IL-4, IL-6, IL-8, IL-10, and TNF α

Sarah H. White-Springer¹

¹Texas A&M University, Texas A&M AgriLife Research, College Station

PSX-A-9 Late-Breaking: Effects of farm noise on ileum intestinal barrier function of pullets

Chun Li¹, Runxiang Zhang², Hanlin Yu³, Yanru Feng³, Jianhong Li¹, Jun Bao⁴

¹College of Life Science, Northeast Agricultural University, ²Key Laboratory of Chicken Genetics and Breeding, Ministry of Agriculture and Rural Affairs, College of Animal Science and Technology, Northeast Agricultural University, Harbin, China, ³College of Animal Science and Technology, Northeast Agricultural University, ⁴Key Laboratory of Swine Facilities Engineering, Ministry of Agriculture and Rural Affairs, College of Animal Science and Technology, Northeast Agricultural University, Harbin, China

PSX-A-10 Late-Breaking: Effects of paternal high energy diets on blastocyst development during in vitro embryo production in the bovine

Dylan B. Davis¹, Zachary Seekford², Mackenzie Dickson², Lucas Gonçalves³, Samir Burato⁴, Matthew P. Holton¹, Julie Gordon⁵, Ky G. Pohler⁶, John Bromfield², G. Cliff C. Lamb⁷, Dean Pringle⁸, R. Lawton Stewart¹, Maria Ferrer⁸, Pedro L. Fontes⁸

¹University of Georgia, Animal and Dairy Science, ²University of Florida, ³Federal University of Uberlandia, ⁴Sao Paulo State University, ⁵, ⁶Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University, ⁷Texas A&M University, ⁸University of Georgia

PSX-A-11 Late-Breaking: Effects of phytogenic supplementation on growth performance and intestinal barrier function in nursery pigs challenged with E. coli

Rachita Maniyar¹, Bonjin Koo¹, Debora Holanda¹, Chengbo Yang¹, Karmin O¹, Martin Nyachoti¹

¹University of Manitoba

PSX-A-12 Late-Breaking: Effects of Renergy™ on ruminal fermentation in steers fed a high-grain diet

Jeff S. Heldt¹, Harrison Hallmark², Huey Yi Loh², Sara Crane², Briana V. Tangredi², Tyler A. Thomas², Ryan J. Gifford², Meghan P. Thorndyke², Octavio Guimaraes², Terry E. Engle²

¹Micronutrients USA LLC, ²Colorado State University

PSX-A-13 Late-Breaking: Establishing an in vitro model for studies of myogenesis in broiler chicks

Usuk Jung ¹, Minjeong Kim ¹, Brynn H. Voy ¹
¹University of Tennessee

PSX-A-14 Late-Breaking: Lipid digestibility of a rumen-protected fatty acids product

Juan P. Russi ¹, Alejandro E. Relling ²
¹One Idea, ²The Ohio State University

PSX-A-15 Late-Breaking: Use of a rumen-protected fatty acid supplement on growth performance in feedlot heifers

Juan P. Russi ¹, Alejandro E. Relling ²
¹One Idea, ²The Ohio State University

PSX-A-16 Late-Breaking: Maternal nutrient restriction and re-alimentation influences liver protein expression in fetal sheep

Brandon I. Smith ¹, Manuel A. Vasquez-Hidalgo ², Kendall C. Swanson ², Kimberly A. Vonnahme ³, Anna T. Grazul-Bilska ², Xiaomeng Li ¹, Timothy Moore ¹, Jeremy Balsbaugh ¹, Sarah A. Reed ¹, Kristen E. Govoni ¹
¹University of Connecticut, ²North Dakota State University, ³Zoetis

PSX-A-17 Late-Breaking: Methionine and total sulfur amino acid requirements for pups (>14 wk to 9 months), adults, and senior Labrador Retrievers using the indicator amino acid oxidation (IAAO) technique

Jessica L. Varney ¹, Charlene Watson ¹, Nicole Colopy ¹, John Moss ¹, Jordan T. Weil ¹, Craig N. Coon ¹
¹Four Rivers Kennel, LLC

PSX-A-18 Late-Breaking: Oxidative stress biomarkers in blood plasma of moderately exercised horses

Elizabeth Ott ¹, Clay A. Cavinder ¹, Caleb O. Lemley ¹, Thu Dinh ²
¹Mississippi State University, ²Animal and Dairy Sciences Department Mississippi State University

PSX-A-19 Late-Breaking: Potential application of granulosa cell derived extracellular vesicles to mitigate the effects of heat stress in bovine oocytes

Nico G. Menjivar ¹, Samuel Gebremedhn ¹, Dawit Tesfaye ¹
¹Colorado State University

PSX-A-20 Late-Breaking: Potential prebiotic effect of canola meal non-starch polysaccharide hydrolysis products in weaned piglets challenged with enterotoxigenic Escherichia coli F4

Xiaoxiao Zhang ¹, Bonjin Koo ¹, Debora Holanda ¹, Martin Nyachoti ¹, Jinyoung Lee ¹
¹University of Manitoba

PSX-A-21 Late-Breaking: Predicting live weight using linear body measurements in growing dairy calves

Vanessa Rotondo ¹, Vern R. Osborne ², Marlene Paibomesai ³, Katharine M. Wood ², Sophia Jantzi ¹
¹University of Guelph, ²Department of Animal Biosciences, University of Guelph, ³OMAFRA

PSX-A-22 Late-Breaking: Rumen microbiome composition and microbe network dynamics in beef cattle predict finishing performance under different backgrounding systems

Bobweath O. Omontese¹, Ashok Sharma², Samuel Davidson², Emily Jacobson², Megan Webb³, Andres Gomez²

¹Alabama A&M University, ²University of Minnesota, ³Eastern West Virginia Community & Technical College

PSX-A-23 Late-Breaking: Supplementation of Nerve Growth Factor (β -NGF) in the maturation medium and efficiency of in vitro embryo production in cattle

Lucas Gonçalves¹, Muller C. Martins¹, Natalia Arle¹, Rafaela T. Torres¹, Luisa Migilo¹, Marcelo Beletti¹

¹Federal University of Uberlandia

PSX-A-24 Late-Breaking: Testosterone production by theca cells of large preovulatory follicles is affected by growth hormone depending on the hen age and the presence of granulosa cells

Olga V. Aleynikova¹, Araksiya A. Smekalova², Olga S. Mityashova¹, Elena K. Montvila², Irina Y. Lebedeva³

¹L.K. Ernst Federal Research Center for Animal Husbandry, Podolsk, Russia, ²L.K. Ernst Federal Research Center for Animal Husbandry, ³L.K. Ernst Federal Science Center for Animal Husbandry

PSX-A-25 Late-Breaking: The Effects of Chronic Endotoxemia on Rectal and Subcutaneous Temperature in Wethers.

Allison Renwick¹, Jay A. Daniel², Brian K. Whitlock¹

¹The University of Tennessee College of Veterinary Medicine, ²Berry College

PSX-A-26 Late-Breaking: The perch competition index of small cage laying hens

Yanan Wang¹, Yilin Liu¹, Runxiang Zhang², Xiang Li¹, Jianhong Li³, Jun Bao⁴

¹College of Animal Science and Technology, Northeast Agricultural University, ²Key Laboratory of Chicken Genetics and Breeding, Ministry of Agriculture and Rural Affairs, College of Animal Science and Technology, Northeast Agricultural University, Harbin, China, ³College of Life Science, Northeast Agricultural University, ⁴Key Laboratory of Swine Facilities Engineering, Ministry of Agriculture and Rural Affairs, College of Animal Science and Technology, Northeast Agricultural University, Harbin, China

PSX-A-27 Late-Breaking: The sulfatase mediated regeneration of androstenone from androstenone sulfate in boar fat

Christine Bone¹, E. James Squires¹

¹University of Guelph

PSX-A-28 Late-Breaking: Transcriptomics Analysis of the Sham-chewing Behavior of Confined Sows

Lei Pan¹, Haidong Wei², Jianxing Wang², Runxiang Zhang², Honggui Liu¹, Jun Bao¹

¹Key Laboratory of Swine Facilities Engineering, Ministry of Agriculture and Rural Affairs, College of Animal Science and Technology, Northeast Agricultural University, Harbin, China, ²Key Laboratory of Chicken Genetics and Breeding, Ministry of Agriculture and Rural Affairs, College of Animal Science and Technology, Northeast Agricultural University, Harbin, China

PSX-A-29 Late-Breaking: Use of machine learning algorithms to predict residual feed intake value and classification groups in commercial beef cattle

Ghader Manafiazar ¹, Mohammad Riazi ², John A. Basarab ², Changxi Li ³, Paul Stothard ³, Graham Plastow ³

¹Dalhousie University, ²University of Alberta, ³University of Alberta/Agriculture and Agri-Food Canada

SSASAS: Breeding and Genetics

Chair: Darren Hagen, Oklahoma State University

3:45 PM - 5:15 PM

M105 & 106

3:45 p.m. 368 **Effect of Hair Coat Shedding Ability on Uterine Artery Hemodynamics in Angus Cattle**

Randy H. Burnett ¹, Zully E. Contreras-Correa ², Riley D. Messman ², Kirsten A. Midkiff ¹, Caleb O. Lemley ², Trent Smith ²

¹Mississippi State University Animal and Dairy Sciences, ²Mississippi State University

4:00 p.m. 373 **Estimates of Genetic Variation for Angus Gestation Length**

Carson Gilleland ¹, Kelli J. Retallick ², Daniel H. Poole ¹, Zack Peppmeier ¹, Mark Knauer ¹

¹North Carolina State University, ²American Angus Association

4:15 p.m. 369 **Evaluation of Peripheral Blood Leukocytes as a Surrogate for Rna-seq Detection of Gene Expression in Stress Axis Tissues of Mature Brahman Cows**

Audrey L. Earnhardt-San ¹, Emilie C. Baker ², Kubra Z. Cilkiz ³, David G. Riley ³, Noushin Ghaffari ⁴, Brittini P. Littlejohn ⁵, Haley C. Collins ³, Penny K. Riggs ³, Charles R. Long ⁶, Rodolfo C. Cardoso ³, Ronald D. Randel ⁷, Thomas H. Welsh ⁸

¹Texas A&M University and AgriLife Research, Department of Animal Science, ²West Texas A&M University, ³Texas A&M University, ⁴Prairie View A&M University, ⁵University of Arkansas System, Division of Agriculture, Department of Animal Science, ⁶School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, ⁷Texas A&M AgriLife Research, Overton, TX, ⁸Texas A&M University, Department of Animal Science, College Station, TX

4:30 p.m. 372 **Impact of Sow Transition Diet and Genetic Line on Sow Reproduction Under Heat Stress Conditions**

Carson Gilleland ¹, Zack Peppmeier ¹, Mark Knauer ¹

¹North Carolina State University

4:45 p.m. 394 **Investigating Plasma Metabolomic Profiles at the Time of Weaning, Based on Pregnancy Outcome, in *bos Taurus* heifers**

Lauren V. Rutledge ¹, Landon Marks ², Soren P. Rodning ¹, Josh Elmore ¹, Kent Stanford ², Paul W W. Dyce ¹

¹Auburn University, ²Alabama Cooperative Extension

5:00 p.m. 370 **The Potential Use of DNA Methylation Patterns from Peripheral Blood Leukocytes as a Surrogate for Stress Axis Tissues in Mature Brahman Cows**

Emilie C. Baker¹, Audrey L. Earnhardt-San², Kubra Z. Cilkiz³, Brittini P. Littlejohn⁴, Haley C. Collins³, Noushin Ghaffari⁵, Penny K. Riggs³, Charles R. Long⁶, Thomas H. Welsh⁷, Ronald D. Randel⁸, David G. Riley³

¹West Texas A&M University, ²Texas A&M University and AgriLife Research, Department of Animal Science, ³Texas A&M University, ⁴University of Arkansas System, Division of Agriculture, Department of Animal Science, ⁵Prairie View A&M University, ⁶School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, ⁷Texas A&M University, Department of Animal Science, College Station, TX, ⁸Texas A&M AgriLife Research, Overton, TX

POSTER SESSION X-B

5:00 PM – 6:00 PM

(RUMINANT NUTRITION)

PSX-B-1 Effect of exposure time and dose of effective microorganisms (EM®) on feed in vitro rumen fermentation and digestibility

Alain Miranda-Figueroa¹, Carlos Gutiérrez_Aguilar¹, Manuel González-Ronquillo², Atmir Romero-Pérez³, Claudia Cecilia Márquez-Mota¹, José Moisés Talamantes-Gómez³, Jonathan Aviles-Nieto¹, Laura Vallejo-Hernández⁵, Luis Corona⁶

¹Universidad Nacional Autónoma de México, ²Universidad Autónoma del Estado de México, ³Facultad de Medicina Veterinaria y Zootecnia, Universidad Nacional Autónoma de México, ⁵Universidad Autónoma de Chapingo, ⁶Universidad Nacional Autónoma de México, Facultad de Medicina Veterinaria y Zootecnia, Department of Animal Nutrition

PSX-B-2 Effect of feedlot days on intake and performance of Nellore heifers

Igor M. Ferreira¹, Iorrano A. Cidrini¹, William Souza¹, Mateus I. Abreu¹, Laura F. Prados¹, Josiane F. Lage², Gustavo Siqueira¹, Flávio Resende¹

¹APTA, ²Trouw Nutrition

PSX-B-3 Effect of infrequent nitrogen supplementation on forage utilization

Ciana Bowhay¹, Tryon Wickersham¹

¹Texas A&M University

PSX-B-4 Effect of live yeast on the ruminal fermentation characteristics of growing steers in heat-stress conditions

Genevieve M. D'Souza¹, Aaron B. Norris², Luiz Fernando Dias Batista¹, Jason Gill¹, T. G. G. Nagaraja³, Luis O. Tedeschi¹

¹Texas A&M University, ²Texas Tech University, ³Kansas State University

PSX-B-5 Effect of replacement of dry-rolled corn with un-processed rye on growth performance, efficiency of dietary net energy utilization, and carcass traits of finishing heifers

Keith M. Buckhaus¹, Warren C. Rusche¹, Zachary K. Smith¹

¹South Dakota State University

PSX-B-6 Effect of slow-release urea on gas production, fermentation characteristics, nutrient digestibility and microbial protein synthesis in an artificial rumen system

Yongmei Guo ¹, Ling Xiao ², Sumei Yan ¹, Long Jin ³, Trevor Alexander ³, Wenzhu Yang ⁴
¹Inner Mongolia Agricultural University, ²Hangzhou King Techina Feed Co., Ltd, ³AAFC,
⁴Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre

PSX-B-7 Effect of supplementation of a robotic milker pellet on mixed diet intake, milk production, and blood metabolites of lactating cows

Nick Uzee ¹, Abigail R. Rathert ¹, Carlee M. Salisbury ¹, Dagan Montgomery ¹, Andrew P. Foote ¹

¹Oklahoma State University

PSX-B-8 Effect of supplementing red osier dogwood extract on in vitro gas production, feed digestibility and fermentation characteristics of high-forage diet

Wenzhu Yang ¹, Walaa Gomaa ², Atef Mohamed Saleem ³, Emma McGeough ⁴, Kim Ominski ⁴, Lingyun Chen ⁵

¹Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre,
²Department of Animal Nutrition and Clinical Nutrition, Assiut University, ³Department of Animal and Poultry Production, South Valley University, ⁴Department of Animal Science, University of Manitoba, ⁵Department of Agricultural, Food and Nutritional Science, University of Alberta

PSX-B-9 Effect of trace mineral sources in the supplement for grazing cattle on ruminal bacteria diversity

Iorrano A. Cidrini ¹, Igor M. Ferreira ¹, Karla Oliveira ¹, Yury Granja-Salcedo ², Josiane F. Lage ³, Gustavo Siqueira ¹, Flavio Resende ¹

¹APTA, ²Agrosavia, ³Trouw Nutrition

PSX-B-10 Effect of undigested neutral detergent fiber concentration and forage inclusion rate on ruminal pH, reticular motility, and total tract permeability for finishing beef heifers

Murillo C. Pereira ¹, Karen A. Beauchemin ², Tim A. McAllister ², Wenzhu Yang ², Joyce Van Donkersgoed ³, Darryl Gibb ⁴, Katharine M. Wood ⁵, Gregory B. Penner ¹

¹Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon,
²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Dr. Joyce Van Donkersgoed Inc., ⁴Gowans Feed Consulting, ⁵Department of Animal Biosciences, University of Guelph

(CELL BIOLOGY)

PSX-B-11 Comparing effects of FGF2 and IGF1 on the development competence of parthenogenetic activated bovine oocytes maturing in vitro

Galina Singina ¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSX-B-12 Creation of a pichia pastoris strain: A producer of recombinant peptidase M9 from Aeromonas salmonicida

Mikhail Minaev ¹, Alexey Nagel ², Zhanna Andreeva-Kovalevskaya ¹, Marina Zakharova ¹, Daniil Khvostov ¹

¹V.M. Gorbатов Federal Research Center for Food Systems of Russian Academy of Sciences,
²FSBIS FRC Pushchino Scientific Centre of Biological Research, G.K. Skryabin Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences

PSX-B-13 Effect of epidermal growth factor and prolactin on the quality of bovine oocytes aging in vitro

Ekaterina Shedova¹, Galina Singina², Irina Y. Lebedeva¹, Aleksandr Lopukhov¹

¹L.K. Ernst Federal Science Center for Animal Husbandry, ²L.K. Ernst Federal Research Center for Animal Husbandry

PSX-B-14 Properties of Kluyveromyces marxianus strains isolated from natural biotopes

Daria A. Nikanova¹, Olga Artemyeva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSX-B-15 Real-time quantitative PCR versus droplet digital PCR for measurement of peripheral blood leukocytes interferon-tau stimulated genes in beef cattle

Gabriela Dalmaso de Melo¹, Gessica A. Franco-Johannsen¹, Brooke McAnnally¹, Reinaldo F. Cooke¹, Ky G. Pohler²

¹Texas A&M University, ²Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University

PSX-B-16 Recovery of live cells from refrigerated sheep skin after different days of cold storage

Mahipal Singh¹, Xiaoling Ma¹

¹Fort Valley State University

(ANIMAL BEHAVIOR AND WELL-BEING)

PSX-B-17 Appeasing substance application at weaning enhanced growth and temperament of bos indicus-influenced weaned calves in grazing system

Douglas G. Viera¹, Juliana Ranches², Bruno I. Cappelozza³, Henrique J. Fernandes⁴, Marcella D'Oliveira¹, Raizza Rocha¹, Luan Valério¹, Uriel Curcio¹, Gumercindo L. Franco¹

¹Faculdade de Medicina Veterinária e Zootecnia, Universidade Federal de Mato Grosso do Sul, ²Oregon State University, ³Nutricorp, ⁴Universidade Estadual de Mato Grosso do Sul

PSX-B-18 Behavioral and physiological responses of ewes in hardwood silvopastures vs. open pastures

Sanjok Poudel¹, Aleks Halili¹, John H. Fike¹, Gabriel J. Pent²

¹Virginia Polytechnic Institute and State University, ²Virginia Tech, Shenandoah Valley Agriculture Research and Extension Center

PSX-B-19 Behaviour of cows while being tested for methane emissions using the greenfeed system

Christine F. Baes¹, Gail Ritchie², Nienke van Staaveren²

¹Centre for Genetic Improvement of Livestock, University of Guelph; Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland, ²Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph

PSX-B-20 Effect of shifting from forage to high grain diet on chewing, feed sorting and lying behavior of cows supplemented with or without a phytogenic additive

Ezequias Castillo-Lopez¹, Raul Rivera-Chacon¹, Sara Ricci¹, Nicole Reisinger², Qendrim Zebeli¹

¹University of Veterinary Medicine Vienna, Christian Doppler Laboratory for Innovative Gut Health Concepts of Livestock, Institute of Animal Nutrition and Functional Plant Compounds, Austria, ²BIOMIN Research Center

(ANIMAL HEALTH)

PSX-B-21 Diagnosis of early mastitis in dairy cows: Somatic cells and bacterial pathogen measuring

Olga Artemieva¹, Daria A. Nikanova¹, Alexander Kositsin¹, Irina Lashneva¹, Larisa P. Ignatieva¹, Alexander A. Sermyagin¹, Natalia A. Zinovieva¹
¹L.K. Ernst Federal Research Center for Animal Husbandry

PSX-B-22 Humoral factors of protection of the vaginal mucosa in healthy cows and with mycoplasmosis

Julia V. Busharova¹, Roman M. Vasilev¹, Svetlana V. Vasileva¹, Vyacheslav A. Trushkin¹, Anastasia A. Nikitina¹, Nataliya Panova¹, Viktoriya N. Gaponova¹, Polina A. Polistovskaia¹
¹Saint Petersburg State University of Veterinary Medicine

PSX-B-23 Immune tolerance of dairy heifers in response to repeated bacterial endotoxin exposure

Tianna Sullivan¹
¹Animal Biosciences, University of Guelph

PSX-B-24 Influence of the immunomodulatory drug Azoxivet on the post-vaccination immune response in laying hens

Valentina Sabrekova¹, Maxim Korenyuga¹, Elena Konovalova¹, Natalia Rodionova¹
¹Moscow State Academy of Veterinary Medicine and Biotechnology

PSX-B-25 Milk productivity and zinc species analysis in cattle depending on the level of lead accumulation

Tatiana Kazakova¹, Olga Marshinskaia¹, Svetlana Notova²
¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences, ²Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences; Orenburg State University

PSX-B-26 Mitotic activity of immune cells in the intestines of piglets in the treatment of gastrointestinal pathology

Pavel Parshin¹, Larisa Sashnina¹, Evgenii Mikhailov¹, Boris Shabunin¹, Svetlana Vorotnikova¹
¹All-Russian Veterinary Research Institute of Pathology, Pharmacology and Therapy

PSX-B-27 Physiological changes in grazing dairy cows at increasing temperatures under moderate climate conditions

Alice Pontiggia¹, Andreas Munger², Lukas Eggerschwiler², Dimitri Stucki³, Stefanie Ammer⁴, Rupert M. Bruckmaier³, Nina M. Keil⁵, Frigga Dohme-Meier²
¹Ruminant Research Unit, Agroscope; Centre for Proper Housing of Ruminants and Pigs, Federal Veterinary Office; Vetsuisse Faculty, University of Bern, ²Ruminant Research Unit, Agroscope, ³Vetsuisse Faculty, University of Bern, ⁴Department of Animal Sciences, Georg-August-University Gottingen, ⁵Centre for Proper Housing of Ruminants and Pigs, Federal Veterinary Office

PSX-B-28 Reproductive function of sows with the using of feed additive “Verva”

Sergey Anikin¹, Natalia Shemuranova¹, Andrey Filatov¹, Alexander Sapozhnikov¹
¹Vyatka State Agrotechnological University

PSX-B-29 Using ozonized flaxseed oil for treatment of postpartum endometritis

Semen Nikolaev¹, Igor Konopeltsev²

¹A. V. Zhuravsky Institute of Agro-Biotechnologies of the Komi Science Center of the Ural Branch of the Russian Academy of Sciences, ²Vyatka State Agrotechnological University

PSX-B-30 Study of the effects of gestational and weaning stresses on blood cytokines and analytes in pigs

Haley E. Rymut¹, Laurie A. Rund¹, Courtni R. Bolt¹, Rodney W. Johnson¹, Sandra L. Rodriguez-Zas¹

¹University of Illinois

POSTER SESSION XI

6:30 PM – 7:30 PM

(ANIMAL BREEDING AND GENETICS)

PSXI-1 Influence of concentrations of essential and toxic elements in semen on qualitative characteristics of sperm of Holstein bulls

Stanislav Platonov¹, Oleg Zavyalov¹, Alexey Frolov¹, Anatoly Kharlamov¹, Marina Kurilkina¹

¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXI-2 Genome-Wide association study and possibilities for genomic selection of Simmental cattle breed in Russia

Larisa P. Ignatieva¹, Alexander A. Sermyagin¹, Sergey Nikitin¹, Alexander Conte¹, Elena Naryshkina¹, Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSXI-3 Genome-wide association study for MIR-predicted milk fatty acids composition in Russian Holstein cattle population

Alexander A. Sermyagin¹, Irina Lashneva¹, Larisa P. Ignatieva¹, Alexander Kositsin¹, Elena Gladyr¹, Alexander Ermilov², Ivan Yanchukov², Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²JSC "Moscow" for breeding work

PSXI-4 Genome-Wide association study for muscle visual score in Nelore cattle raised in pasture-based systems

Victor B. Pedrosa¹, Pamela Machado², Rafaela Martins², Marcio Silva³, Luis Fernando Pinto⁴, Luiz F. Brito⁵

¹Purdue University, ²State University of Ponta Grossa, ³Katayama Agropecuária, ⁴Federal University of Bahia, ⁵Department of Animal Sciences, Purdue University; Centre for Genetic Improvement of Livestock, University of Guelph

PSXI-5 Genome-wide association study of feed efficiency in Russian Duroc boars

Anna A. Belous¹, Alexander A. Sermyagin¹, Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSXI-6 Genome-wide SNP analysis of three Azerbaijani sheep breeds

Arsen V. Dotsev¹, Tatiana E. Deniskova¹, Vugar A. Bagirov¹, Ahmed I. Abilov¹, Henry Reyer², Klaus Wimmers², Gottfried Brem³, Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Institute of Genome Biology, Leibniz Institute for Farm Animal Biology, ³Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSXI-7 Genomic analysis of heterosis in a composite beef cattle breed

El Hamidi Hay ¹, Andrew Roberts ¹

¹USDA-ARS

PSXI-8 Heritability estimates of antibody- and cell-mediated immune response in north American angus beef cattle

Shannon Beard ¹, Doug C. Hodgins ¹, Julie Schmied ¹, Jeff Caswell ¹, Michael M. Lohuis ², Steve Miller ³, Kajal Devani ⁴, Flavio S. Schenkel ⁵, Bonnie Mallard ⁶

¹University of Guelph, ²Semex Alliance, ³American Angus Association, ⁴Canadian Angus Association, ⁵Centre for Genetic Improvement of Livestock, University of Guelph, ⁶OVC, University of Guelph

PSXI-9 Heterotic and breed effects in crossbred lambs

Napoleon Vargas Jurado ¹, Bret Taylor ², David R. Notter ³, Daniel Brown ⁴, Ronald M. Lewis ¹

¹Department of Animal Science, University of Nebraska-Lincoln, ²USDA-ARS, ³Department of Animal and Poultry Science, Virginia Tech, ⁴Animal Genetics and Breeding Unit, University of New England

PSXI-10 How to use ultrasonic cutter on frozen semen for multiple embryo production

Sung Woo Kim ¹, Jae-Yeong Lee ¹, Chan-Lan Kim ¹, In-Sul Hwang ², Yeoung-Gyu Ko ¹, Sung-Soo Lee ³

¹Animal Genetic Resources Research Center, ²Animal Biotechnology Division, ³National Institute of Animal Science, Republic of Korea

(FORAGES AND PASTURES)

PSXI-11 Assessing in situ rumen degradability of late season kudzu (*Pueraria montana* var. *lobata*)

J.B. Adkins ¹, J.P. Gulizia ¹, Kevin M. Downs ², S. Cui ²

¹Auburn University, ²Middle Tennessee State University

PSXI-12 Effect of application rate of sodium lignosulfonate and propionic acid on in vitro digestibility and gas production kinetics of high moisture alfalfa hay mini bales

Marjorie A. Killerby ¹, Diego Zamudio ¹, Kaycee Ames ¹, Darren D. Henry ², Godloves M. Oppong ¹, Brian Perkins ³, Juan Jose J. Romero ¹

¹Animal and Veterinary Sciences, University of Maine, ²Texas Tech University, ³Food Science and Human Nutrition, University of Maine

PSXI-13 Effects of pasture grazing on growth performance and blood composition of Hanwoo steer during the growing stage

Jeongsung Jung ¹, Seung Hak Yang ¹, Baehun Lee ¹, Ki Choon Choi ¹

¹National Institute of Animal Science, Republic of Korea

PSXI-14 Enteric methane and nitrogen emissions in cattle consuming tanniferous and non-tanniferous legumes, grass or a ration

Juan J. Villalba ¹, Jennifer MacAdam ¹, Raul Guevara ²

¹Utah State University, ²Universidad Autonoma de Barcelona

PSXI-15 Evaluation of low-lignin alfalfa ‘Hi-Gest® 360’ on the Canadian prairies: productivity, nutrient profile, and rumen degradation kinetics

Daalkhajav Damiran ¹, Bill Biligetu ², Leah Pearce ³, Herbert Lardner ³

¹University of Saskatchewan, ²Department of Plant Sciences, University of Saskatchewan,

³Department of Animal and Poultry Sciences, University of Saskatchewan

PSXI-16 Evaluation of supplementation strategies for beef cattle bale-grazing grass hay in Winter

Michael Undi ¹, Kevin K. K. Sedivec ¹

¹North Dakota State University

PSXI-17 Performance of beef cattle overwintered on bale-grazed pasture or in a dry lot in south-central North Dakota

Michael Undi ¹, Kevin K. K. Sedivec ¹

¹North Dakota State University

PSXI-18 Nitrogen fertilization management of winter pastures for stocker cattle production

Guillermo Scaglia ¹

¹LSU AgCenter Iberia Research Station

PSXI-19 Impact of toxic-infected tall fescue renovation strategies on second-year hay yield, botanical composition, and nutritive value

Charlotte L. Talbott ¹, Deidre D. Harmon ¹, Matt H. Poore ¹, Alan J. Franluebbbers ², Carolyn A. Young ³, Emily H. Griffith ¹

¹North Carolina State University, ²USDA-ARS, ³Noble Research Institute

PSXI-20 Satellite analysis and monitoring of rangelands of the Republic of Kazakhstan

Gulnara Kabzhanova ¹, Aysulu Kurmasheva ¹, Anuarbek T. Bissembayev ²

¹Researches, KGS Space Technologies, ²Scientific and Production Centre for Animal Husbandry and Veterinary Limited Liability Company

PSXI-21 Soil emission of carbon dioxide and behavior of microorganisms in soils of Western Kazakhstan

Aliya Nagiyeva ¹, Nurlan Sergaliyev ², Anuarbek T. Bissembayev ³

¹Researches, West-Kazakhstan Agrarian University Zhangirkhan after name, ²Researches, West-Kazakhstan State University name after Utemisova, ³Scientific and Production Centre for Animal Husbandry and Veterinary Limited Liability Company

PSXI-22 Study of biosorption mechanisms of movable forms of lead by soil isolates of the genus Bacillus in experiments in vitro

Nadezhda Terekhova ¹, Lyudmila Galaktionova ¹, Alexey Sizentsov ¹, Olga Davydova ¹, Hike Nikiyan ¹

¹Orenburg State University

PSXI-23 Study of cadmium cumulation in agricultural products taking its geochemical distribution into account

Valeriya Pelikh ¹, Elena Salnikova ¹, Alexey Sizentsov ¹, Elena Osipova ¹, Polina Ponomareva ¹

¹Orenburg State University

(SMALL RUMINANT)

PSXI-24 Evaluation of Barbados Blackbelly and St. Croix hair sheep under accelerated lambing using purebred and terminal sire mating: Ewe fertility, prolificacy, and productivity

Stephan Wildeus¹, Tom Murphy², Dahlia O'Brien¹

¹Virginia State University, ²USDA-ARS Meat Animal Research Center

PSXI-25 Antioxidant system characteristics in Saanen goats depending on age

Semen S. Mudruk¹, Alesya A. Bakhta¹, Larisa Y. Karpenko¹, Anna I. Kozitcyna¹, Anna B. Balykina¹, Polina A. Polistovskaia¹

¹Saint Petersburg State University of Veterinary Medicine

PSXI-26 Blend of essential oils supplemented alone or combined with exogenous amylase compared with virginiamycin on performance of finishing lambs

Yesica Arteaga-Wences¹, Alfredo Estrada-Angulo¹, Manuel Franco², Guilherme S. Vasconcellos³, Tiago S. Acedo³, Victor Valério de Carvalho³, Alexandre Perdigoão³, Beatriz Castro-Pérez¹, Francisco Ríos-Rincón¹, Jesús Urías-Estrada¹, Alberto Barreras⁴, Alejandro Plascencia⁵

¹Universidad Autónoma de Sinaloa, ²DSM Nutritional Products Mexico, ³DSM Nutritional Products Brazil S.A., ⁴Universidad Autónoma de B.C., ⁵Universidad Autónoma de Occidente

PSXI-27 Comparison of live weight, backfat depth, and loin eye muscle measurements in ewe and ram lambs

Tumen Wuliji¹, Christopher Baughman¹, Raquel V. Lourencon², Jessica Epple-Farmer¹, Eric G. Groose¹, Troy Wieberg¹, Luke Wilbers¹, Emily Martin¹

¹Lincoln University, ²American Institute for Goat Research Langston University; Department of Agriculture and Environmental Sciences; Department of Agriculture and Environmental Sciences, Lincoln University

PSXI-28 Effect of pre-slaughter transport stress on carcass weight, rumen fermentation and bacterial community of growing goats

Voris Bryant¹, Modoluwamu Idowu¹, Thomas H. Terrill², Zaira M. Estrada-Reyes³, Govind Kannan¹, Brou Kouakou¹, Ibukun M. Ogunade⁴, Andres A. Pech-Cervantes¹

¹Fort Valley State University, ²College of Agriculture, Family Sciences and Technology, Fort Valley State University, ³University of California, Davis, ⁴Division of Animal and Nutritional Sciences, West Virginia University

PSXI-29 Effects of feed restriction on blood constituent concentrations in hair sheep

Dereje L. Tadesse¹, Ryszard Puchala², Terry A. Gipson², Arthur L. Goetsch²

¹American Institute for Goat Research Langston University; Tropical Animal Production, Debre Berhan University, ²American Institute for Goat Research Langston University

PSXI-30 Effects of feeding levels on digestibility, rumen fermentation and blood metabolites of fattening Korean native goats (*Capra hircus coreanae*)

Daehyeok Jin¹, jinwook Lee¹, Bong-Hwan Choi¹, Sung-Soo Lee¹, Dong-Kyo Kim¹, Eun-Do Lee¹, Hee-Jong Roh¹, Kwan-Woo Kim¹

¹National Institute of Animal Science, Republic of Korea

Saturday, July 17, 2021

POSTER SESSION XII

7:00 AM – 8:00 AM

(ANIMAL BREEDING AND GENETICS)

PSXII-1 Tracing the historical genetic components in turano-mongolian cattle breeds based on the microsatellite analysis of modern and museum samples

Alexandra S. Abdelmanova¹, Veronika R. Kharzinova¹, Valeria Volkova¹, Arsen V. Dotsev¹, Alexander A. Sermyagin¹, Oxana Boronetskaya¹, Roman Chinarov², Gottfried Brem³, Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²L.K. Ernst Federal Science Center for Animal Husbandry, ³Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSXII-2 Identification of candidate SNPs associated with high prolificacy in Romanov sheep

Alexey V. Shakhin¹, Arsen V. Dotsev¹, Tatiana E. Deniskova¹, Gottfried Brem², Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSXII-3 Identification of key metabolic mediators during dietary tryptophan supplementation in low-birth-weight pigs by RNA sequencing

Ping Xiao¹, Parniyan Goodarzi¹, Mohammad Habibi¹, Kennedy Roberts¹, Julia Sutton¹, Cedrick Shili¹, Adel Pezeshki¹, Darren Hagen¹

¹Department of Animal and Food Sciences, Oklahoma State University

PSXII-4 Impact of delayed processing time on total RNA quality and quantitation of transcript abundance

Chace Wilson¹, Nicholas W. Wege Dias¹, Stefania Pancini¹, Vitor R. G. Mercadante¹, Fernando Biase¹

¹Animal and Poultry Sciences, Virginia Polytechnic Institute and State University

PSXII-5 Influence of the total content of toxic elements in hair on semen qualitative characteristics of the Holstein sires

Stanislav Platonov¹, Alexey Frolov¹, Anatoly Kharlamov¹, Oleg Zavyalov¹

¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXII-6 Landscape genetics used to identify gene bank beef cattle collection completeness and gaps

Harvey D. Blackburn¹, Samuel R. Paiva², Potira Hermuche³, Concepta McManus³

¹USDA-ARS National Animal Germplasm Program, ²EMBRAPA, ³University of Brasilia

PSXII-7 Milk somatic cells monitoring in Russian Holstein cattle population as a base for determining genetic and genomic variability

Irina Lashneva¹, Alexander A. Sermyagin¹, Larisa P. Ignatieva¹, Elena Gladyr¹, Alexander Ermilov², Natalia A. Zinovieva¹

¹L.K. Ernst Federal Research Center for Animal Husbandry, ²JSC "Moscow" for breeding work

PSXII-8 Mitochondrial DNA diversity within domestic reindeer in Russia

Veronika R. Kharzinova¹, Arsen V. Dotsev¹, Nikolay V. Bardukov², Tatiana E. Deniskova¹, Maulik Upadhyay³, Stefan Krebs³, Elisabeth Kunz³, Ivica Medugorac³, Natalia A. Zinovieva¹
¹L.K. Ernst Federal Research Center for Animal Husbandry, ²L.K. Ernst Federal Research Center for Animal Husbandry, Podolsk, Russia, ³Ludwig Maximilian University of Munich

PSXII-9 Modeling genetic differences of combined broiler chicken populations in single-step GBLUP

Matias Bermann¹, Daniela Lourenco¹, Vivian Breen², Rachel Hawken², Fernando Brito Lopes², Ignacy Misztal¹
¹The University of Georgia, ²Cobb-Vantress Inc.

PSXII-10 Non-invasive measurements of woody and normal condition in broiler breast meat

Sang-Hyon OH¹, Euyeon NOH¹, Byungrok R. MIN¹, Soobin YOON², Seungjun SHIN³
¹University of Maryland Eastern Shore, ²Amerikor International Foods, ³PPS, Agriculture Corporation

PSXII-11 Parameters for yearling wool production, wool quality and liveweight traits in mutton-wool breed of sheep with a different kinship ratio

Valentina Sabrekova¹, Maxim Korenyuga¹, Julia Timoshenko¹, Feyzullah Feyzullaev¹
¹Moscow State Academy of Veterinary Medicine and Biotechnology

PSXII-12 Partitioning direct and maternal genetic effects into additive and non-additive components for growth and maternal traits in Yorkshire pigs

Jicai Jiang¹, Shauneen O'Neill¹, Christian Maltecca¹, Justin Fix², Tamar Crum², Clint Schwab³, Francesco Tiezzi¹
¹Department of Animal Science, North Carolina State University, ²Acuity Ag Solutions, LLC, ³The Maschhoffs, LLC

(PHYSIOLOGY AND ENDOCRINOLOGY)

PSXII-13 Blood flow parameters in ovine fetuses from different sires

Celina M. Checurea¹, Katherine Atkinson¹, Natalie Boulos¹, Emma Crowfoot¹, Hannah Friend¹, Sophia Jackson¹, Shelby Lubowicki¹, Camila Silva¹, William Bridges¹, Susan K. Duckett¹, Eric Walker²
¹Clemson University, ²Prisma Health

PSXII-14 Estimation of phosphatidylserine positive sperm in fresh bull semen

Hannah Haines¹, Jamie L. Stewart², Nicholas W. Wege Dias¹, Stefania Pancini¹, Sherrie Clark², Caroline Leeth¹, Jeffrey Lysiak³, Vitor R G Rodrigues Gomes Mercadante⁴
¹Animal and Poultry Sciences, Virginia Tech, Blacksburg, ²Virginia Tech, Large Animal Clinical Sciences, ³Department of Urology, University of Virginia, ⁴Animal and Poultry Sciences, Virginia Tech, Blacksburg; Large Animal Clinical Sciences, Virginia Tech, Blacksburg

PSXII-15 Evaluation of later timing of fixed-time artificial insemination for beef cows when using sex-sorted semen following the 7 & 7 Synch protocol

Carson M. Andersen¹, Emily G. Smith¹, Genna M. VanWye¹, Jordan M. Thomas¹
¹University of Missouri

PSXII-16 Fertility affects in yearling beef heifers grazing triticale before artificial insemination

Sandy Johnson ¹, John Holman ¹
¹Kansas State University

PSXII-17 Fertility prediction model for Nilli-Ravi buffalo bulls through Fourier harmonic analysis of sperm

John J. Parrish ¹, Javeria Arshad ², M.A. Awan ², S. Akhter ²
¹University of Wisconsin-Madison, ²Pir Mehr Ali Shah Arid Agriculture University Rawalpindi

PSXII-18 Immunoglobulin G content and composition of colostrum in different cattle breeds

Evelyne C. Kessler ¹, Rupert M. Bruckmaier ², Josef J. Gross ¹
¹Veterinary Physiology, Vetsuisse Faculty, University of Bern, ²Vetsuisse Faculty, University of Bern

PSXII-19 Organ and cellular contributions to heat production in Brahman and Angus steers

Briana Hawryluk ¹, Morgan McKinney ¹, Chloe Gingerich ¹, Lindsey Bell ¹, Patricia Ramos ¹, Tracy L. Scheffler ¹
¹Department of Animal Sciences, University of Florida

PSXII-20 Ovarian dynamics and fertility in beef cows administered a 5-day or 6-day CO-Synch protocol for timed artificial insemination

Alexandria E. Crist ¹, Jessica Cristina Lemos Motta ¹, Cameron Hayden ¹, Benjamin Duran ¹, Martin Mussard ¹
¹The Ohio State University

PSXII-21 Pregnancy associated glycoproteins for pregnancy diagnosis on day 25 of gestation

Matthew P. Holton ¹, Gabriela de Melo ², Dylan B. Davis ¹, R. Lawton Stewart ¹, Ky G. Pohler ³, G. Cliff C. Lamb ⁴, Pedro L. Fontes ⁵
¹University of Georgia, Animal and Dairy Science, ²Texas A&M University, Department of Animal Science, ³Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University, ⁴Texas A&M University, ⁵University of Georgia

PSXII-22 Relationship between beef cow fertility and maternal immunity

Amin Ahmadzadeh ¹, McKenzie Corpron ¹, Pedram Rezamand ¹, Qun Huo ²
¹University of Idaho, ²University of Central Florida

PSXII-23 Sirtuins expression and activity in bovine granulosa cells are regulated by hormones that influence ovarian steroidogenesis

Evandro C. Archilia ¹, Camilo Andres P. Bello ¹, Isadora M. Batalha ¹, Luis F. Schütz ¹
¹University of Nevada, Reno

(SMALL RUMINANT)

PSXII-24 Effects of feeding levels on digestibility, rumen fermentation and blood metabolites of growing Korean native goats (*Capra hircus coreanae*)

jinwook Lee ¹, Bong-Hwan Choi ¹, Sung-Soo Lee ¹, Dong-Kyo Kim ¹, Eun-Do Lee ¹, Hee-Jong Roh ¹, Kwan-Woo Kim ¹
¹National Institute of Animal Science, Republic of Korea

PSXII-25 Effects of level and source of dietary forage on performance of lactating Alpine goats

Raquel V. Lourencon ¹, Luana Ribeiro ², Ryszard Puchala ², Wei Wang ², Terry A. Gipson ², Arthur L. Goetsch ²

¹American Institute for Goat Research Langston University; Department of Agriculture and Environmental Sciences; Department of Agriculture and Environmental Sciences, Lincoln University, ²American Institute for Goat Research Langston University

PSXII-26 Effects of levels of brackish water and NaCl on water and feed intake by different breeds of goat and hair sheep yearlings

Luana Ribeiro ¹, Ryszard Puchala ¹, Alexi Moehlenpah ², Chala Merera ³, Arthur L. Goetsch ¹

¹American Institute for Goat Research Langston University, ²Oklahoma State University, ³American Institute for Goat Research Langston University; Department of Animal Science, Ambo University

PSXII-27 Effects of Sericea lespedeza on methane emission and health status in grazing Boer goat wethers

Ryszard Puchala ¹, Luana Ribeiro ¹, Raquel V. Lourencon ², Arthur L. Goetsch ¹

¹American Institute for Goat Research Langston University, ²American Institute for Goat Research Langston University; Department of Agriculture and Environmental Sciences; Department of Agriculture and Environmental Sciences, Lincoln University

PSXII-28 Effects of the nutritional plane before and after breeding on performance of different hair sheep breeds

Farida Belkasmi ¹, Raquel V. Lourencon ², Ryszard Puchala ³, Terry A. Gipson ³, Luana Ribeiro ³, Lionel J. Dawson ⁴, Fabiola L. Encinas ³, Mauricio Calle ³, Arthur L. Goetsch ³

¹American Institute for Goat Research Langston University; Ferhat Abbas Setif University, Algeria, ²American Institute for Goat Research Langston University; Department of Agriculture and Environmental Sciences; Department of Agriculture and Environmental Sciences, Lincoln University, ³American Institute for Goat Research Langston University, ⁴College of Veterinary Medicine, Oklahoma State University; American Institute for Goat Research, Langston University

PSXII-29 Evaluation of Barbados Blackbelly and St. Croix sheep under accelerated lambing using purebred and terminal sire mating: Lamb survival and body weight

Stephan Wildeus ¹, Tom Murphy ², Dahlia O'Brien ¹

¹Virginia State University, ²USDA-ARS Meat Animal Research Center

PSXII-30 Genetic and phenotypic correlations for growth and resistance to gastrointestinal parasitism in meat goats and hair sheep

Yoko Tsukahara ¹, Terry A. Gipson ¹, Steven P. Hart ¹, Lionel J. Dawson ², Zaisen Wang ¹, Ryszard Puchala ¹, Tilahun Sahlu ¹, Arthur L. Goetsch ¹

¹American Institute for Goat Research Langston University, ²College of Veterinary Medicine, Oklahoma State University; American Institute for Goat Research, Langston University

Ruminant Nutrition V: Forages, Methane and Digestibility

Chair: Katie Mason, University of Tennessee

8:00 AM - 10:30 AM

L005/009

8:00 a.m. 329 Supplementing Native Rumen Microorganisms Improves Feedlot Steer Digestive Health and Performance

Fan Yang ¹, Jordan Embree ², Sean Gilmore ², Mallory Embree ²

¹Native Microbials, Inc., ²Native Microbials

8:15 a.m. 327 Effects of Inclusion of Amaferm on Animal Performance, Chewing Activity, and Nutrient Digestibility of Backgrounding Beef Heifers Fed Either a Sorghum Silage- or a Byproducts-based Diet

Federico Podversich ¹, Federico Tarnonsky ¹, Juan BOLLATTI ², Gleise Medeiros da Silva ³, Tessa M. Schulmeister ¹, Juan Vargas ¹, Daniella C. Heredia ¹, Ignacio R. Ipharraguerre ⁴, Jose C. B. Dubeux ¹, Luiz Ferrareto ³, Angela M. Gonella ¹, Ricardo Chebel ³, Nicolas DiLorenzo ⁵

¹University of Florida, ²NORTH FLORIDA RESEARCH AND EDUCATION CENTER - UNIVERSITY OF FLORIDA, ³ASAS, ⁴Christian Albrechts University of Kiel, ⁵Department of Animal Sciences, North Florida Research and Education Center (NFREC), University of Florida, Marianna, FL

8:30 a.m. 331 Effects of Dried Distillers' Grains Cube Supplementation Rate on Voluntary Intake and Digestibility of Bermudagrass Hay Fed to Growing Heifers

Jordan Adams ¹, Jeff Robe ¹, Zane N. Grigsby ¹, Abigail R. Rathert ¹, Nick Uzee ¹, Mike Major ¹, David Lalman ¹, Paul A. Beck ¹

¹Oklahoma State University

8:45 a.m. 335 Evaluation of Hempseed Cake on Cattle Performance, Carcass Characteristics and Feeding Behavior in Finishing Diets

Thomas Winders ¹, Eric Serum ², David J. Smith ², Bryan W. Neville ³, Md Golam Kafi Afrose Mia ⁴, Samat Amat ⁵, Carl R. Dahlen ¹, Kendall C. Swanson ¹

¹North Dakota State University, ²U.S. DEPARTMENT OF AGRICULTURE, ³USDA, ARS, U.S. Meat Animal Research Center, ⁴Department of Animal Science, North Dakota State University, ⁵North Dakota State University, Department of Microbiological Sciences

9:00 a.m. 334 Effect of Dietary Supplementation of Peanut Skins with and Without Polyphenols on the Performance, Rumen Fermentation and Carcass Characteristics of Florida-native Sheep

Modoluwamu Idowu ¹, Voris Bryant ¹, Thomas H. Terrill ¹, Zaira M. Estrada-Reyes ², Niki C. Whitley ¹, Lisa Dean ³, Brou Kouakou ¹, Ibukun M. Ogunade ⁴, Andres A. Pech-Cervantes ¹

¹Fort Valley State University, ²University of California Davis, ³North Carolina State University, ⁴West Virginia University

9:15 a.m. 328 The Potential Role of Two Red Seaweeds That Promote Anti-methanogenic Activity and Rumen Fermentation Profiles Under Laboratory Conditions

byeng ryel min ¹, Giusi Genovese ², Lana Castleberry ³, Cathy Lockard ⁴, Heidi Waldrip ⁵, daniel Miller ⁵, Alexia Akbay ⁶, Marina Morabito ⁵, Antonio Manghisi ⁵, Damiano Spagnuolo ⁷, David Brauer ⁸

¹PH.D., ²dr., ³Ms, ⁴dr, ⁵Dr., ⁶MS., ⁷MS, ⁸USDA-ARS

9:30 a.m. 336 **Occurrence of Mycotoxins in 2020 US Pasture Grasses and Harvested Hay Feed Ingredients**

Erin F. Schwandt ¹, Paige N. Gott ¹, Shelby M. Ramirez ², Ursula Hofstetter ³, G.Raj Murugesan ¹

¹DSM Nutritional Products, ²BIOMIN America Inc., ³Biomin

9:45 a.m. 332 **Effect of Chemical and Biological Preservatives on in vitro Fermentation and Methane Production of Ensiled and Aerobically Exposed Wet Brewer's Grains**

Marjorie A. Killerby ¹, Diego Zamudio Ayala ¹, Kaycee Ames ², Darren D. Henry ³, Thomas Schwartz ⁴, Anna Robinson ², Godloves M. Oppong ², Juan Jose J. Romero ¹

¹University of Maine, ²Animal and Veterinary Sciences, University of Maine, ³Texas Tech University, ⁴Chemical and Biomedical Engineering, University of Maine

10:00 a.m. 330 **3-nitrooxypropanol Supplementation of a Forage Diet Decreased Enteric Methane Emissions from Beef Cattle Without Affecting Apparent Total-tract Digestibility**

Aklilu Alemu ¹, Xiu Min Zhang ², Maik Kindermann ³, Karen A. Beauchemin ⁴

¹Swift Current Research and Development Centre, Agriculture and Agri-Food Canada, ²Chinese Academy of Sciences, ³DSM Nutritional Products Switzerland, ⁴Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada.

10:15 a.m. 333 **Assessment of Spent Hemp Biomass as a Potential Feedstuff in Ruminant Diets**

Nathan Parker ¹, Hunter Ford ¹, Massimo Bionaz ¹, Erminio Trevisi ², Serkan Ates ¹

¹Oregon State University, ²Department of Animal Sciences, Food and Nutrition (DIANA), Università Cattolica del Sacro Cuore

Contemporary and Emerging Issues Symposium II

Chair: John Vicini, Bayer Crop Sciences

8:00 AM - 12:00 PM

M100/M103

8:00 a.m. **Contemporary and Emerging Issues Symposium II Introduction**

8:05 a.m. 142 **Open Science: Improving Access and Reducing Bias in Science**

Nick Fox ¹

¹

8:40 a.m. 140 **Past and Future Changes in Scientific Publishing**

Manoj M. Lalu ¹

¹Ottawa Hospital Research Institute

9:15 a.m. 138 **Science Societies: Their Role in Communicating Science**

Meghan Wulster-Radcliffe ¹

¹ASAS

9:50 a.m. **Contemporary and Emerging Issues Symposium II Break**

10:00 a.m. 139 **Disinformation and Scientific Integrity: The Bad Stuff Is Easier to Believe**

Camille D. Ryan ¹

¹Bayer Crop Science

10:35 a.m. 141 **Media: Recognition and Reporting Quality of Scientific Information**

Tobyn Dyck ¹

¹

11:10 a.m. 544 **Rethinking Methane - Animal Agriculture's Path to Climate Neutrality**

Frank M. Mitloehner ¹

¹UC Davis

11:45 a.m. **Contemporary and Emerging Issues Symposium II Q&A**

POSTER SESSION XIII

8:15 AM – 8:15 AM

(RUMINANT NUTRITION)

PSXIII-1 Effect of varieties and processing methods on physicochemical, nutritional, molecular structural characteristics of feed chickpeas

L. Cerna ¹, P. Yu ¹

¹Department of Animal and Poultry Science, University of Saskatchewan

PSXIII-2 Effect of varying proportions of cereal rye and turnip on ruminal fermentation and methane output through in vitro batch culture

Jordan L. Cox-O'Neill ¹, Vivek Fellner ¹, Alan J. Franluebbbers ², Deidre D. Harmon ¹, Matt H. Poore ¹, Joan Eisemann ¹, Carrie L. Pickworth ¹

¹North Carolina State University, ²USDA-ARS

PSXIII-3 Effects of mineral source and additive in mineral supplementation on productive performance of growing beef cattle on tropical pastures

Victor Valério de Carvalho ¹, Alexandre Perdigão ¹, Guilherme S. F. M. Vasconcellos ¹, Tiago S. Acedo ¹

¹DSM Nutritional Products Brazil S.A.

PSXIII-4 Effects of “País” grape marc on in vitro methane production and ruminal fermentation parameters of a forage diet

Sandra Suescun-Ospina ¹, Nelson Vera ², Rita Astudillo ², Jorge Avila-Stagno ²

¹School of Animal Sciences, Universidad de los Llanos, Vereda Barcelona, Villavicencio, Meta, Colombia, ²Faculty of Veterinary Science, Universidad de Concepción, Chillán, Chile

PSXIII-5 Effects of B vitamins and hydroxy trace minerals supplementation on hepatic metabolism of beef cattle at finishing phase in pasture

Mariana Lopes ¹, Thaís Brito ², Josiane F. Lage ³, Thaís Costa ⁴, Marta Fontes ⁴, Nick V. Serão ⁵, Tiago Mendes ⁶, Ricardo Reis ², Marcio Duarte ⁷

¹Department of Animal Science, Universidade Federal de Viçosa,, ²Department of Animal Science, Unesp, Jaboticabal, ³Trouw Nutrition, ⁴Department of Animal Science, Universidade Federal de Viçosa, ⁵Department of Animal Science, Iowa State University, ⁶Department of Biochemistry and Molecular Biology, Universidade Federal de Viçosa, ⁷Universidade Federal de Viçosa

PSXIII-6 Effects of cyclic monensin feeding on ruminally cannulated beef steers consuming low-quality forage

Natasha L. Bell ¹, Daisy A. Gonzalez ¹, Kayla Hook ¹

¹Texas A&M University, Kingsville

PSXIII-7 Effects of different organic pastures on dairy heifer rumen fluid characteristics

Reganne K. Briggs ¹, jacob hadfield ¹, Marcus Rose ², Rusty Stott ¹, Blair Waldron ², Allen Y. Young ¹, Clay Isom ¹, Kerry Rood ¹, Kara J. Thornton ¹

¹Utah State University, ²Forage and Range Research, USDA

PSXIII-8 Effects of different sources of Zn on in vitro ruminal fermentation and digestibility of a lactation diet

Angela R. Boyer ¹, Yun Jiang ¹, Alon Blakeney ¹, Dennis Nuzback ¹, Brooke Humphrey ¹, Miriam Garcia ¹

¹Phibro Animal Health Corporation

PSXIII-9 Effects of lipid and starch isoenergetic supplementation as mitigation techniques on water footprint and health of nursing Holstein calves

Arturo Macias Franco ¹, Aghata Elins Moreira da Silva ¹, Felipe Henrique de Moura ¹, Karin Van den Broek ¹, Aaron B. Norris ², Serena Breanne Roloson ¹, Morgan Valcheck ³, Mozart Fonseca ¹

¹University of Nevada, Reno, ²Texas Tech University, ³University of California, Davis

PSXIII-10 Effects of nitrate concentration in drinking water on water and feed consumption, total tract digestibility and health implications in Holstein bulls fed high-concentrate diets

Marçal Verdú ¹, Sonia Marti ², Joan Riera ³, Carles Medinya ⁴, Jordi Cucurull ¹, Maria Devant ²

¹Alimentació Animal i Producció, bonÀrea Corporació (Corporación Alimentaria Guissona, S.A.), ²IRTA, Ruminant Production, ³Nanta S.A, ⁴Nutrición Animal S.L.

PSXIII-11 Evaluating different doses of rumen-protected or nonprotected tributyrin on performance of feedlot lambs fed a moderate or low-forage diet

Daniel H. Watanabe ¹, Pawel Górka ², Elizabeth Santin ³, Helene Leclerc ³, Gregory B. Penner ¹

¹Department of Animal and Poultry Science, University of Saskatchewan, ²Department of Animal Nutrition and Biotechnology, and Fisheries, University of Agriculture in Kraków, ³Jefo Nutrition Inc.

PSXIII-12 Exploring nutritional differences of canola seeds and bio-processing co-products (meals, pellets) from different processing plants/companies in Canada and China for dairy cattle

A. Oliveira ¹, P. Yu ¹

¹Department of Animal and Poultry Science, University of Saskatchewan

PSXIII-13 Feeding carbohydrases to grazing beef cattle under different nutritional strategies on dry season: feeding behavior

Anderson Acosta ¹, Guilherme S. Vasconcellos ², Alexandre Perdigão ², Victor Valério de Carvalho ², Tiago S. Acedo ², Cibele Pedrini ³, Jefferson Gandra ⁴

¹Universidade Estadual de Maringá, Umuarama-PR, Brazil, ²DSM Nutritional Products Brazil S.A., ³Universidade Federal da Grande Dourados- MS, Brazil, ⁴Universidade Federal do Sul e Sudeste do Pará- PA, Brazil

PSXIII-14 Feedlot performance of Nellore cattle consuming diets containing high-moisture corn, calcium salts of fatty acids and organic minerals

Antonio M. M. Silvestre ¹, Mariana M. Squizatti ¹, Breno L. Demartini ¹, Luana D. Felizari ¹, Thaiano I. S. Silva ¹, Ana Carolina J. J. Pinto ¹, Bruno I. Cappelozza ², Osvaldo Sousa ³, Leandro A. F. F. Silva ⁴, Werner F. F. Schleifer ⁴, Daniel M. M. Casali ⁴, Lidiane S. S. Miranda ⁴, Katia L. R. R. Souza ⁴, Vanessa G. L. L. Gasparini ⁴, Danilo D. Millen ⁴

¹School of Veterinary Medicine and Animal Science, São Paulo State University (UNESP), Botucatu, Brazil, ²Nutricorp, Araras, SP 13601-000, Brazil, ³Texas A&M University, ⁴College of Technology and Agricultural Sciences, São Paulo State University (UNESP), Dracena, Brazil

PSXIII-15 Impact of forage allowance on performance and reproductive parameters in Nellore heifers

Igor M. Ferreira ¹, Iorrano A. Cidrini ¹, Karla Oliveira ¹, Luciana Sousa ¹, Laura F. Prados ¹, Matheus Moretti ², Gustavo Siqueira ¹, Flávio Resende ¹

¹APTA, ²Agroceres Multimix

(PRODUCTION, MANAGEMENT AND ENVIRONMENT)

PSXIII-16 Supplementing organic-complexed or inorganic Co, Cu, Mn, and Zn to beef cows during gestation: physiological and productive responses of cows and their offspring until weaning

Kelsey Harvey ¹, Reinaldo F. Cooke ², Eduardo Colombo ², Bruna Rett ², Osvaldo Sousa ², Lorin Harvey ¹, Jason Russell ³, Ky G. Pohler ⁴, Alice Brandão ²

¹Mississippi State University, ²Texas A&M University, ³Zinpro Performance Minerals, ⁴Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University

PSXIII-17 Supplementing organic-complexed or inorganic Co, Cu, Mn, and Zn to beef cows during gestation: post-weaning responses of offspring reared as replacement heifers or feeder cattle

Kelsey Harvey ¹, Reinaldo F. Cooke ², Eduardo Colombo ², Bruna Rett ², Osvaldo Sousa ², Lorin Harvey ¹, Jason Russell ³, Ky G. Pohler ⁴, Alice Brandão ²

¹Mississippi State University, ²Texas A&M University, ³Zinpro Performance Minerals, ⁴Pregnancy and Developmental Programming Area of Excellence, Department of Animal Science, Texas A&M University

PSXIII-18 The effect of lead on alkaline phosphatase serum activity in European carp

Polina D. Bokhan ¹, Polina A. Polistovskaia ¹, Larisa Y. Karpenko ¹, Abram I. Erukashvili ¹, Alesya A. Bakhta ¹, Anna I. Kozitcyna ¹

¹Saint Petersburg State University of Veterinary Medicine

PSXIII-19 The influence of weaning age and biocholine supplementation to post-weaning growth and reproductive development in Brangus heifers

Vanessa Lima ¹, Julio O.J. Barcellos ¹, Gabriel R. Pereira ², Marcela K. Rocha ², Tamara E. Oliveira ¹, Julia A. Lima ¹, Helena Xavier Fagundes ¹

¹UFRGS, ²Department of Animal Science, Federal University of Rio Grande do Sul

PSXIII-20 Using 1H NMR Spectroscopy reveals metabolite markers associated to temperament and carcass quality in feedlot cattle

Jesse Bouffiau ¹, Jane Ann A. Boles ¹, Jennifer M. Thomson ¹

¹Montana State University

PSXIII-21 Water consumption evolution during later gestation is associated to the farrowing day

Sergi López-Vergé ¹, Eva Mainau ², Marçal Verdú ³, Josep Gasa ¹, David Castells-Rufas ⁴, Xavi Manteca ¹, Lorena Castillejos ¹

¹Servei de Nutrició i Benestar Animal, Dept. de Ciència Animal i dels Aliments, UAB, ²AWEC Advisors, Parc de Recerca de la UAB, Bellaterra, ³Alimentació Animal i Producció, bonÀrea Corporació (Corporación Alimentaria Guissona, S.A.), ⁴Dept. d'Arquitectura de Computadors i Sistemes Operatius, UAB, Bellaterra

PSXIII-22 Heat stress in north central Mexico and time of exposure to it, measured by the Environmental Temperature Index

Rafael Rodriguez-Martinez ¹, César A. Meza-Herrera ², Rafael Rodriguez-Venegas ³, Pedro Antonio Robles - Trillo ⁴, Jesús Salvador Rivas-Madero ⁵

¹Departamento de Ciencias Médico Veterinarias, Universidad Autónoma Agraria Antonio Narro, ²URUZA, Universidad Autónoma Chapingo, ³Programa de Doctorado en en Ciencias Agropecuarias, Universidad Autónoma Agraria Antonio Narro, ⁴Departamento de Producción Animal, Universidad Autónoma Agraria Antonio Narro, ⁵Digith Technologies

PSXIII-23 Influence of reproductive technologies on post weaning calf performance and carcass characteristics

Julie Walker ¹, Jerica J. Rich ², Warren C. Rusche ³, George A. Perry ⁴

¹South Dakota State University, ²Arkansas State University, ³South Dakota State University Animal Science, ⁴Texas A&M AgriLife Research, Overton

PSXIII-24 Is it possible to finish beef cattle in feedlot and be environmentally friendly?

Andre Pastori D Aurea ¹, Lauriston Bertelli Fernandes ¹, Luis Eduardo Ferreira ¹

¹Premix Company

PSXIII-25 Quality and sensory evaluation of Xhosa goat meat subjected to different watering regimen and vitamin C supplementation

Oluwakamisi F. Akinmoladun ¹, Fabian N. Fon ², Conference Mpendulo ¹, Omobola Okoh ¹

¹University of Fort Hare, South Africa, ²University of Zululand

PSXIII-26 Supplementation with a polyphenolic pine bark extract reduces ammonia nitrogen production in a RUSITEC system as determined by principal component analysis.

Nelson Vera ¹, Constanza Gutierrez ¹, Pamela Williams ², Cecilia Fuentealba ³, Rodrigo Allende ¹, Jorge Avila-Stagno ¹

¹Faculty of Veterinary Science, Universidad de Concepción, Chillán, Chile, ²Faculty of Agronomy, Universidad de Concepcion, Chillan, Chile, ³Technological Development Unit, Universidad de Concepción, Coronel, Chile

(EXTENSION EDUCATION)

PSXIII-27 Oklahoma State University constructing diversified learning for extension educators

Jazmin A. Markey ¹, Angel Riggs ¹, Alexi Moehlenpah ¹, David Lalman ¹, Dan Stein ¹
¹Oklahoma State University

PSXIII-28 Late-Breaking: Lactational performance of dairy cows receiving supplemental His: A meta-analysis

Susanna Räisänen ¹, Alexander N. Hristov ¹
¹The Pennsylvania State University

PSXIII-29 Late-Breaking: Relationships between feed efficiency traits, gas emissions, and calculated heat production and respiratory quotients in mature beef cows

Lauren Finlay ¹, Katharine M. Wood ²
¹University of Guelph, ²Department of Animal Biosciences, University of Guelph

PSXIII-30 Late-Breaking: The change of immune function markers and spectrotype of cytokine causing subclinical and clinical mastitis in the dairy cows

Konstantin Leshchukov ¹, Nikolay Klimov ², Konstantin Lobodin ³, Olga Pavlenko ³, Evgeniy Sleptsov ⁴, Kirill Plemyashov ⁵

¹Orel State Agrarian University, ²All-Russian Veterinary Research Institute of Pathology, Pharmacology and therapy of the Russian Academy of Agricultural Sciences, ³Voronezh State Agrarian University named after Emperor Peter the Great, ⁴M.G. Safronov Yakut Scientific Research Institute of Agriculture, ⁵Saint Petersburg State University of Veterinary Medicine

Animal Breeding and Genetics Symposium II

Chair: Christine Baes, Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland

8:15 AM - 12:00 PM
M104/M107

8:15 a.m. **Animal Breeding and Genetics Symposium II Introduction**

8:20 a.m. 58 **Integrating Quantitative Genetics and Epidemiology: Why Selection Against Infectious Diseases Is More Promising Than We Think**

Piter Bijma ¹, Piter Bijma ¹
¹Animal Breeding and Genomics, Wageningen University and Research

9:00 a.m. 59 **Insights into Complex Traits from Human Genetics**

Kathryn Kemper ¹
¹University of Queensland

9:40 a.m. 57 **The Saga of Just One QTL; From Laying Hen Bone Strength to One Carbon Metabolism**

Ian C. Dunn¹, Heather McCormack², Dirk-Jan de Koning³, Alejandro Rodríguez Navarro⁴, Matthias Schmutz⁵, Björn Andersson⁵, David Cavero⁶, Robert Fleming², Peter Wilson², Maisarah Maidin²

¹The Roslin Institute, University of Edinburgh, ²The Roslin Institute, University of Edinburgh, ³Swedish University of Agricultural Sciences, ⁴Universidad de Granada, ⁵Lohmann Breeding, ⁶H&N International

10:20 a.m. **Animal Breeding and Genetics Symposium II Break**

10:30 a.m. **Presentation of the Bouffault International Animal Agriculture Award**

Meghan Wulster-Radcliffe¹

¹ASAS

10:35 a.m. 56 **Awardee Talk: Genetic Improvement of Disease Resilience**

Jack C.M. Dekkers¹, Frederic Fortin², Michael Dyck³, John Harding⁴, Graham Plastow³

¹Department of Animal Science, Iowa State University, ²Centre de Développement du Porc du Québec Inc., ³Livestock Gentec, Department of Agricultural, Food and Nutritional Science, University of Alberta, ⁴Department of Large Animal Clinical Sciences, University of Saskatchewan

11:10 a.m. 55 **The Use of Sensors for Phenotyping: Estrus and Thermotolerance**

Ronaldo Cerri¹

¹The University of British Columbia

Physiology and Endocrinology III

Chair: Jamie Larson, Mississippi State University

8:30 AM - 10:15 AM

M109 & 110

8:30 a.m. 251 **Dietary Tryptophan Supplementation Improves Fat and Glucose Metabolism in Low Birthweight Piglets**

Parniyan Goodarzi¹, Mohammad Habibi¹, Kennedy Roberts², Julia Sutton¹, Cedrick n. Shili¹, Adel Pezeshki¹

¹Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK 74078,

²Undergrad student

8:45 a.m. 246 **Examining Melatonin-induced Changes in Uterine Blood Flow and Vaginal Temperatures in Nutrient Restricted Pregnant Heifers**

Zully E. Contreras-Correa¹, Riley D. Messman¹, Héctor L. Sánchez-Rodríguez², Caleb O. Lemley¹

¹Mississippi State University, ²University of Puerto Rico-Mayagüez

9:00 a.m. 248 **Maternal Nutrient Restriction During Mid-gestation Decreases Uteroplacental Release and Fetal Uptake of Essential Amino Acids in Sheep**

Ronald J. Trotta¹, Manuel A. Vasquez-Hidalgo², Brandon I. Smith³, Sarah A. Reed⁴, Kristen E. Govoni⁴, Kimberly A. Vonnahme⁵, Kendall C. Swanson⁶

¹University of Kentucky, ²North Dakota State University/Zoetis, ³University of Connecticut,

⁴Dept. of Animal Science, University of Connecticut, ⁵Zoetis, ⁶North Dakota State University

9:15 a.m. 252 **Impact of Pre- and Postnatal Nutritional Extremes on Tonic Secretion of Gonadotropins and Feedback Responsiveness to Estradiol in Sexually Mature Heifers**
Viviana Garza ¹, Julie I. Kellerman ², Tatiane S. Maia ³, Rodolfo C. Cardoso ¹, Gary L. Williams ⁴
¹Texas A&M University, ²Texas A&M AgriLife Research, ³Texas A&M AgriLife Research / Texas A&M University, ⁴Texas A & M AgriLife Research

9:30 a.m. 250 **Effect of Pre- and Post-ai Nutrition on Ovarian Dynamics, Steroidogenesis, and Expression of Estrus in Beef Heifers**
Kaitlin M. Epperson ¹, Jerica JJ Rich ², Abby L. Zezeski ³, Saulo Menegatti Zoca ⁴, Julie Walker ⁴, Tom W. Geary ³, George A. Perry ⁵
¹Department of Animal Science, Texas A&M University, College Station, TX, ²College of Agriculture, Arkansas State University, ³USDA-ARS, ⁴South Dakota State University, ⁵Texas A&M AgriLife Research, Overton, TX

9:45 a.m. 249 **Effects of Maternal Nutrient Restriction During Late Gestation on Uterine Blood Flow and Placental Size in the Primiparous Bovine Dam**
Colby A. Redifer ¹, Lindsey G. Wichman ², Allison M. Meyer ¹
¹University of Missouri, ²Division of Animal Sciences, University of Missouri

10:00 a.m. 247 **Metabolic Adaptation to Short-term of Dietary Nutrient Imbalances in Mid Lactation Dairy Cows**
Josef J. Gross ¹, Remo Stürmlin ¹, Rupert M. Bruckmaier ¹
¹Veterinary Physiology, Vetsuisse Faculty, University of Bern

Meat Science and Muscle Biology Symposium

Chair: John Gonzalez, University of Georgia

8:30 AM - 10:35 AM

M112

8:30 a.m. **Meat Science and Muscle Biology Symposium Introduction**

8:35 a.m. **Presentation of the Meats Research Award**
Phillip Rincker ¹
¹Elanco Animal Health

8:40 a.m. 210 **Awardee Talk: The Future of Beef: Improved Eating Quality and Livestock Systems, But No Cultured Meat**
Jean-Francois Hocquette ¹
¹INRAE

9:05 a.m. 212 **Fatty Acid Analysis and Composition in Meat by Mass Spectrometry**
Thu Dinh ¹
¹Mississippi State University

9:50 a.m. 213 **Nutritional and Genetic Influences on Fatty Acid Composition of Beef and Lamb**
Susan K. Duckett ¹, Alexandra Thomas ¹, Aliute-Nkoyo S. Udoka ¹, Maslyn A. Greene ¹
¹Clemson University

Nonruminant Nutrition Symposium II
Chair: Sung Woo Kim, NC State University
8:30 AM - 12:00 PM
M108/M111

8:30 a.m. **Nonruminant Nutrition Symposium II Introduction**

8:35 a.m. **Presentation of the AFIA Award in Nonruminant Nutrition Research**

Cathy Bandyk ¹

¹Innovad

8:40 a.m. 227 **Awardee Talk: Advances in Lipid Nutrition of Modern Sows**

Eric van Heugten ¹

¹NC State University

9:05 a.m. 231 **Applications of Insect-derived Ingredients in Animal Diets**

Liz Koutsos ¹

¹EnviroFlight

9:50 a.m. 228 **Standardized Ileal Digestibility of Partially Defatted Black Soldier Fly Larvae Meal in Growing Pig Diets**

Fiona Tansil ¹, Lee-Anne Huber ², Elijah Kiarie ², Daniel A. Columbus ³, Anna Kate K. Shoveller ²

¹University of Guelph, Canada, ²University of Guelph, ³Prairie Swine Centre, Inc.

10:05 a.m. **Nonruminant Nutrition Symposium II Break**

10:15 a.m. 230 **Microalgae as an Alternative Feed Protein: Opportunities and Challenges**

Xingen Lei ¹

¹Cornell University College of Agricultural and Life Science

11:00 a.m. 229 **Yeast Proteins Extracted from *Saccharomyces Cerevisiae* as Alternative Sources of Protein in Swine Nutrition**

Tadele G. G. Kiros ¹, Richard Nadege ¹, Jean Philippe Marden ¹, Geraldine Kuhn ¹, Fabio Catunda ¹

¹Phileo by Lesaffre

11:45 a.m. 232 **Effects of *Yarrowia Lipolytica* Supplementation on Growth Performance and Apparent Ileal Digestibility of Diets Fed to Nursery Pigs**

Yi-Chi Cheng ¹, Marcos Elias Elias Duarte ¹, Sung Woo Kim ²

¹North Carolina State University, ²NC State University

Meat Science and Muscle Biology
Chair: Jason Sawyer, Auburn University
9:00 AM - 9:45 AM
M105 & 106

9:00 a.m. 208 **Microrna Expression in Longissimus Muscle Biopsies During Feedlot Finishing of Angus Steers**

Alexandra Thomas¹, S. Maggie Justice², Susan K. Duckett¹
¹Clemson University, ²Auburn University

9:15 a.m. 207 **Satellite Cells Participate in the wnt/ca2+ Pathway Controlled Porcine Myofiber Determination**

Mao Ye¹, Zhi-wen Song¹, Chenglong Jin², Chun-qi Gao¹, Hui-chao Yan¹, Xiu-qi Wang³
¹College of Animal Science, South China Agricultural University, ²#1, No.1 Dafeng Street, Tianhe District, Guangzhou City, Guangdong Province, China, ³College of Animal Science, South China Agricultural University

9:30 a.m. 209 **The Effect of Waiting Time at the Lairage of Slaughterhouse of Holstein Bulls After a Short Transport on Animal Behavior, Carcass Quality and Meat Quality**

Denise Pamela Sanchez¹, Joel González González², Guillem De Planell³, Eliseu Isla⁴, Sara Bover⁵, Maria Font², Maria Devant⁶, Sonia Marti⁶
¹IRTA-Ruminant Production, ²IRTA-Food Quality and Technology, ³Grup Viñas, ⁴Cooperativa d'Ivars, ⁵IRTA-Food Safety and Functionality, ⁶IRTA, Ruminant Production

Late-Breaking Swine Species

Chair: Jonathan Holt, NCSU
9:00 AM - 12:00 PM
M101 & 102

9:00 a.m. 506 **Late-Breaking: Rapid Weight Assessment of Finishing Pigs**

Victoria Abner¹, Jonathan P. Holt², Mark Knauer³, Sierra Young¹
¹NC State University, ²NCSU, ³North Carolina State University

9:15 a.m. 507 **Late-Breaking: Heat Stress and Mitoq Supplementation Impact Skeletal Muscle Mitochondrial Capacities in Pigs**

Lauren T. Wesolowski¹, Chloey P. Guy², Edith J. Mayorga³, Tori E. Rudolph³, Alyssa D. Freestone³, Robert P. Rhoads⁴, Lance H. Baumgard³, Joshua T. Selsby³, Sarah H. White-Springer⁵
¹Texas A&M University and AgriLife Research, Department of Animal Science, ²Texas A&M AgriLife Research, ³Iowa State University, ⁴Virginia Tech, ⁵Department of Animal Science, Texas A&M University; Texas A&M AgriLife Research

9:30 a.m. 508 **Late-Breaking: Heritability and Validation of Sow Uterine Prolapse in the United States**

Tomas Stevens¹, Jenelle Dunkelberger², Egbert Knol³
¹Topigs Norsvin, ²Topigs Norsvin USA, ³Topigs Norsvin Research Centre

9:45 a.m. 509 **Late-Breaking: Effect of a Sensory Additive on Sow Reproductive Performance**

Nathan Davis ¹, Tsungcheng Tsia ¹, Benjamin Bass ², Gemma Tedó ³, sofia Morais ⁴, Charles Maxwell ¹

¹University of Arkansas, ²Lucta USA, ³Lucta, S.A., ⁴Lucta S. A.

10:00 a.m. 510 **Late-Breaking: Dietary Glycine Supplementation During Growing and Finishing Phases Increases Tissue Concentrations of Total Creatine and Gene Expression of Creatine-synthetic Enzymes in Low-birthweight Pigs**

Erin A. Posey ¹, Wenliang He ², Guoyao Wu ²

¹USDA/ARS Children's Nutrition Research Center, Department of Pediatrics, Baylor College of Medicine, ²Department of Animal Science, Texas A&M University

10:15 a.m. 511 **Late-Breaking: Dietary Glycine Supplementation During Growing and Finishing Phases Increases Body Weight and Improves Meat Quality of Intrauterine Growth Restricted Pigs**

Erin A. Posey ¹, Wenliang He ², Chandler C. Steele ², Jeffrey W. Savell ², Guoyao Wu ²

¹USDA/ARS Children's Nutrition Research Center, Department of Pediatrics, Baylor College of Medicine, ²Department of Animal Science, Texas A&M University

10:30 a.m. 512 **Late-Breaking: A Postbiotic from Lactobacillus Acidophilus Fermentation (LAF) Accelerates Progression of Compositional and Functional Gut Microbiome Clusters and Promotes Body Weight in Nursery Pigs**

Ehsan Khafipour ¹, Anirikh Chakrabarti ², Maria I. Sardi ³, Briana Kozlowicz ⁴, Derek B. Petry ¹, Anantawat Koontanatechanon ⁵, Wanpuech parnsen ⁵, Pairat Srichana ⁵

¹Diamond V, Cargill Health Technologies, ²Cargill, Inc., ³Cargill Biotechnology Research and Development Center-Biology, ⁴Cargill, Incorporated, ⁵Feed Technology Department, Charoen Pokphand Group

10:45 a.m. 513 **Late-Breaking: Effects of Dietary Protein Content and Crystalline Amino Acid Supplementation Patterns on Gut Health of Weaned Pigs Raised Under Different Sanitary Conditions**

Jinyoung Lee ¹, Caroline Gonzalez Vega ², John K. Khun Kyaw Htoo ³, chengbo Yang ⁴, Charles Martin Nyachoti ¹

¹University of Manitoba, ²Cargill Animal Nutrition, ³Evonik, ⁴Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

11:00 a.m. 514 **Late-Breaking: Effects of Feeding a High Canola Meal-containing Diet and Multi-carbohydrase Supplementation on Growth Performance and Intestinal Ecology of Piglets**

Debora Muratori Holanda ¹, Alemu Regassa ¹, Rob Patterson ², Charles Martin Nyachoti ¹

¹University of Manitoba, ²CBS Bio-Platforms Inc.

11:15 a.m. 515 **Late-Breaking: Effects of Dietary Phytase with or Without Multi-carbohydrase Supplementation on Growth Performance, Nutrient Digestibility, and Bone Traits in Nursery Pigs**

Olumide E. Adeshakin ¹, Bonjin Koo ¹, Rob Patterson ², Charles Martin Nyachoti ¹

¹University of Manitoba, ²CBS Bio-Platforms Inc.

11:30 a.m. 516 **Late-Breaking: Iturin a Protects the Intestinal Mucosal Integrity Against E. coli Containing the Gene Coding for Heat-stable Enterotoxin B**

Jia-yi Zhou¹, Zhen-hua Liu¹, Chun-qi Gao², Hui-chao Yan², Xiu-qi Wang³

¹South China Agricultural University, ²College of Animal Science, South China Agricultural University, ³College of Animal Science, South China Agricultural University

11:45 a.m. 517 **Late-Breaking: Influence of Pre-heat Treatment on the Formation of Heterocyclic Aromatic Amines in Grilled Pork**

Dmitry A. Utyanov¹, Anastasia Semenova¹, Andrey V. Kulikovskii¹, Alexandra S. Knyazeva¹, Nataliya Revuckaya¹

¹V.M. Gorbатов Federal Research Center for Food Systems of Russian Academy of Sciences

SSASAS: Meats

Chair: Christy Bratcher, Texas Tech University, Department of Animal and Food Science

10:00 AM - 11:30 AM

M105 & 106

10:00 a.m. 407 **Carcass Traits of Growing Meat Goats Fed Different Levels of Hempseed Meal**

Reshma Gurung¹, Frank W. Abrahamsen², Katie Moyer³, Jason T. Sawyer⁴, Nar K. Gurung⁵

¹Integrative Biosciences Ph.D. Program, Tuskegee University, Tuskegee, AL 36088, USA,

²Tuskegee University, ³Kentucky Hemp Works, ⁴Auburn University, ⁵Department of Agricultural and Environmental Sciences, College of Agriculture, Environment, and Nutrition Sciences, Tuskegee University, Tuskegee, AL 36088, USA

10:15 a.m. 406 **Prediction of Myostatin on Carcass Composition in Crossbred Lambs**

S. Maggie Justice¹, Alexandra Thomas², Maslyn A. Greene², Susan K. Duckett², Elliot Jesch²

¹Auburn University, ²Clemson University

10:30 a.m. 403 **Effect of Diet and Location Within the Longissimus Dorsi Muscle on the Quality and Fat Composition of Pork Loins Collected from Market Hog**

Amberly A. Dennis¹, Dana S. Reid², Dianna Wilson³, Thu Dinh¹, Derris D. Burnett⁴

¹Mississippi State University, ²Department of Animal and Dairy Sciences, Mississippi State University, ³Department of Food Science, Nutrition, and Health Promotion, Mississippi State University, ⁴PhD

10:45 a.m. 530 **Late-Breaking: Hempseed Meal as a Protein Replacement in the Diet of Meat Rabbits**

K. June June Jacobson¹, Emily G. Verret¹, Lea Ann A. Kinman¹, Walter F. Owsley¹, James P. Muir², William B. Smith¹

¹Tarleton State University, ²TAMU

11:00 a.m. 405 **Dark Storage of Enhanced Dark-cutting Beef in Nitrite-embedded Packaging Increased Metmyoglobin Formation upon Repackaging**

Morgan Denzer¹, Gretchen G. Mafi¹, Deb VanOverbeke¹, Ranjith Ramanathan¹
¹Oklahoma State University

11:15 a.m. 472 **Impact of Retail Case Type and Lighting Intensity on Instrumental Color Traits of Ground Beef Patties**

Mesa B. Kutz¹, Kelly R. Vierck², Janeal W. Yancey²
¹University of Arkansas, ²Department of Animal Science, Division of Agriculture, University of Arkansas System, Fayetteville

SSASAS: Extension I

Chair: Philippe Moriel, University of Florida

10:30 AM - 12:00 PM

M109 & 110

10:30 a.m. 380 **2016-2020 Alabama Pasture to Rail Program and Data: An Educational Retained Ownership Program for Alabama Cattle Producers**

Daniel A. Tigue¹, Soren P. Rodning¹, Paul Vining², Danny McWilliams³, Kim K. Mullenix¹
¹Auburn University, ²Alabama Cooperative Extension, ³Alabama Cooperative Extension System

10:45 a.m. 376 **Availability and Management of Cotton Byproducts in North Carolina: A State Survey**

Elizabeth P. Mullins¹, Matt H. Poore², April D. Shaeffer², Deidre D. Harmon², Carrie L. Pickworth¹
¹North Carolina State University, ²NC State University

11:00 a.m. 381 **Extension Contribution to Anaplasmosis Surveillance in Arkansas: A Story of Collaboration**

Heidi M. Ward¹, Gabriel L. Apple², Lauren R. Rogers³, Kathryn E. Reif⁴
¹University of Arkansas Cooperative Extension Service, ²University of Arkansas, ³University of Arkansas, Department of Animal Science, ⁴Kansas State University, College of Veterinary Medicine, Department of Diagnostic Medicine/Pathobiology

11:15 a.m. 379 **Case Study: On-farm Demonstration for the Impact of Applied Reproductive Technologies**

Courtnie L. Carter¹, Justin D. Rhinehart²
¹University of Tennessee- Knoxville, ²University of Tennessee

11:30 a.m. 377 **Development of Online Alfalfa Management Extension Education Resources Amid the COVID-19 Pandemic**

Liliane Silva¹, Kim K. Mullenix², Leanne L. Dillard², Jennifer J. J. Tucker³, Gerry Thompson⁴
¹Clemson University, ²Auburn University, ³University of Georgia, ⁴Alabama Cooperative Extension

11:45 a.m. 384 **Body Condition Score for Monitoring the Performance and Health of Small Ruminants in Field Conditions**

Uma Karki ¹, Anand Tiwari ¹, Kendra Norwood ¹, Ja'Nia Johnson ¹, Lila B. Karki ²
¹Tuskegee University, ²University of Maryland Eastern Shore

SSASAS: Ruminant Animal Production II

Chair: Ryon Walker, Texas A&M University

10:45 AM - 12:30 PM

L005/009

10:45 a.m. 531 **Awardee Talk: Maternal Gestational Nutrition Alters the Postnatal Growth, Immunity, and Carcass Quality of Bos Indicus-Influenced Beef Calves in Tropical/Subtropical Environments**

Elizabeth A. Palmer ¹, Marcelo Vedovatto ², Rhaiza A. Oliveira ³, Juliana Ranches ⁴, Matt H. Poore ⁵, Francisco Peñagaricano ⁶, Jimena Laporta ⁶, Joao Vendramini ⁷, Philippe Moriel ⁷
¹University of Florida - Range Cattle Research & Education Center, ²Faculdade de Medicina Veterinária e Zootecnia, Universidade Federal de Mato Grosso do Sul, ³University of Florida, IFAS – Range Cattle Research and Education Center, ⁴Oregon State University; EOARC, ⁵NC State University, ⁶University of Wisconsin-Madison, ⁷University of Florida

11:15 a.m. 446 **Ruminal Degradation Kinetics of Beef Steers Fed Annual or Perennial Grass-hay with or Without Supplementation**

Kaue Tonelli Nardi ¹, Jhones O. Sarturi ¹, Joel D. Sugg ², Darren D. Henry ¹, Francine M. Ciriaco ¹, Charles P. West ¹
¹Texas Tech University, ²Midwest PMS, LLC

11:30 a.m. 436 **The Effects of Varying Levels of Trace Mineral Supplementation on Feedlot Cattle Performance and Carcass Characteristics**

Brittany A. Lippy ¹, Blake K. Wilson ¹, Colton A. Robison ¹
¹Oklahoma State University

11:45 a.m. 441 **The Influence of Diet Type on Ranking for Feed Intake in Angus Cows**

Amanda Holder ¹, James Rogers ², Ryon Walker ³, David Lalman ⁴
¹College of the Ozarks, ²Noble Research Institute, ³Texas A&M University, ⁴Oklahoma State University

12:00 p.m. 442 **Relationship Between Gas Emissions and Dry Matter Intake in Mature Angus Cows**

Amanda Holder ¹, Megan A. Gross ², Alexi Moehlenpah ², David Lalman ²
¹College of the Ozarks, ²Oklahoma State University

12:15 p.m. 434 **Tamegrass Forage Options for Growing Heifers During the Summer**

Jaymelynn K. Farney ¹, Macie E. Reeb ¹, Zachary T. Buessing ¹, Katie Malone ¹
¹Kansas State University

POSTER SESSION XIV

12:00 PM – 1:00 PM

(RUMINANT NUTRITION)

PSXIV-1 In vitro evaluation of methane mitigation using monensin and ammonium nitrate in beef cattle diets

Ana Paula Tarozo ¹, Annelise Aila G. Gomes Lobo ², Yuli Andrea A. Peña Bermudez ³, Danny Alexander Rojas Moreno ², Rafaela Zuliani Spalato ¹, Rafaela Scalise Xavier de Freitas ², Ives Claudio C. Da Silva Bueno ²

¹College of Animal Science and Food Engineering, University of São Paulo, Pirassununga, SP, Brazil, ²Department of Animal Science, College of Animal Science and Food Engineering, Pirassununga, SP, Brazil., ³University of Sao Paulo

PSXIV-2 Influences of glycerol and bypass fat supplementation on performance of early fattening Hanwoo steers under heat stress

Gyeonglim Ryu ¹, Junsik Woo ¹, Geun Hong Song ¹, Young Kyoon Oh ¹, Keun Kyu Park ¹

¹Konkuk University

PSXIV-3 Mesquite wood as a grass replacement in silage production

William Fair ¹, Walter F. Owsley ¹, William B. Smith ¹

¹Tarleton State University

PSXIV-4 Meta-analysis of the effects of monensin on growth and bloat of growing beef calves on pasture

Shane Gadberry ¹, David Lalman ², Frank White ³, Sara Linneen ³, Paul A. Beck ²

¹University of Arkansas, ²Oklahoma State University, ³Elanco Animal Health

PSXIV-5 Methionine supply during mid-gestation affects offspring birth weight in a sex-dependent manner in beef cattle

Vinícius N. Gouvêa ¹, Mackenzie M. Smithyman ¹, Naghme Bagheri ², Fernanda Batistel ²

¹Department of Animal and Range Sciences, Clayton Livestock Research Center, New Mexico State University, ²Department of Animal, Dairy, and Veterinary Sciences, Utah State University

PSXIV-6 País grape marc (*Vitis vinifera*, País) inclusion in concentrate diets reduces ammonia nitrogen but not methane production in an in vitro batch culture

Sandra Suescun-Ospina ¹, Nelson Vera ², Rita Astudillo ², Jorge Avila-Stagno ²

¹School of Animal Sciences, Universidad de los Llanos, Vereda Barcelona, Villavicencio, Meta, Colombia, ²Faculty of Veterinary Science, Universidad de Concepción, Chillán, Chile

PSXIV-7 Performance and environmental benefits from biochar supplementation in beef cattle grazing systems

Emily Conlin ¹, Herbert Lardner ², Jennifer L. Ellis ¹, Ira B. Mandell ¹, Katharine M. Wood ³

¹University of Guelph, ²Department of Animal and Poultry Sciences, University of Saskatchewan, ³Department of Animal Biosciences, University of Guelph

PSXIV-8 Performance of Nellore bulls fed probiotic (*Saccharomyces cerevisiae boulardii* CNCM I-1079) during adaptation in feedlot

Lorena Emily L M Bomfim¹, Kaique S. Nascimento¹, Victor R. Moreira Couto¹, Emmanuel Arnhold¹, Márcia Helena M. da R Fernandes², Luan O. Moura Silva¹, Lucas José Mari³, Mateus Castilho Santos³, Marine Gauthier⁴, Eric Chevaux⁴, Juliano José De Resende Fernandes¹

¹Universidade Federal de Goiás, ²Universidade Estadual Paulista, ³Lallemand Brasil Ltda, ⁴Lallemand SAS

PSXIV-9 Predicting dry matter intake in beef cattle with water intake and other variables

Matthew E. Wilson¹, Kevin Shaffer², Shane Plum², Kevin Garossino³, Nicky Lansink³, Jason Hubbart², Joseph Hatton⁴, Jaewoo Kim³

¹Davis College, West Virginia University, ²West Virginia University, ³Vytelle, ⁴West Virginia Department of Agriculture

PSXIV-10 Ruminal microbiome of cattle changes with the feeding of fat-containing fish supplements

Elvina Shajahmetova¹, Vitalii S. Ryazanov¹, Elena Shejjda¹, Svyatoslav Lebedev¹, Sergej Miroshnikov¹, Galimzhan Duskaev¹

¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXIV-11 Silage source, physically effective neutral detergent fiber, and undigested neutral detergent fiber concentrations affect eating behavior, ruminal pH and reticular motility of finishing heifers

Murillo C. Pereira¹, Karen A. Beauchemin², Tim A. McAllister², Wenzhu Yang², Joyce Van Donkersgoed³, Darryl Gibb⁴, Katharine M. Wood⁵, Gregory B. Penner¹

¹Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, ²Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada, ³Dr. Joyce Van Donkersgoed Inc., ⁴Gowans Feed Consulting, ⁵Department of Animal Biosciences, University of Guelph

PSXIV-12 Sources of variation in the nutritive value of hemp seed meal

Kristen J. Jacobson¹, Lea A. Kinman¹, William B. Smith¹, James P. Muir²

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

PSXIV-13 Supplemental essential oil blends plus 25-hydroxy-vitamin-D3 improve carcass characteristics in cattle finished under tropical conditions

Daniel Mendoza-Cortés¹, Yesica Arteaga-Wences¹, Adrián Félix-Bernal¹, Alfredo Estrada-Angulo¹, Beatriz Castro-Pérez¹, Francisco Ríos-Rincón¹, Jesús Urías-Estrada¹, Manuel Franco², Guilherme S. Vasconcelos³, Tiago S. Acedo³, Victor Valério de Carvalho³, Alexandre Perdigão³, Alejandro Plascencia⁴

¹Universidad Autónoma de Sinaloa, ²DSM Nutritional Products Mexico, ³DSM Nutritional Products Brazil S.A., ⁴Universidad Autónoma de Occidente

PSXIV-14 Supplementation of high-grain diet with red osier dogwood affects in vitro digestibility and fermentation characteristics

Wenzhu Yang ¹

¹Agriculture and Agri-Food Canada, Lethbridge Research and Development Centre

PSXIV-15 The effects of body condition score on the milk production and energy balance of transition dairy cows

YangYi Hao ¹

¹China Agriculture University

(SMALL RUMINANT)

PSXIV-16 Performance, carcass, wholesale, and retail cuts yield of lambs reared under thermal stress in grazing conditions and slaughtered at two body weights

Abner A. Rodriguez ¹, Aixa Rivera ¹, Alana Bayne ¹, Susan K. Duckett ²

¹Universidad de Puerto Rico, Mayagüez, ²Clemson University

PSXIV-17 Meat quality and fatty acid composition of lambs reared under thermal stress in grazing conditions and slaughtered at two body weights

Abner A. Rodriguez ¹, Aixa Rivera ¹, Susan K. Duckett ², Alana Bayne ³

¹Universidad de Puerto Rico Mayagüez, ²Clemson University, ³University of Puerto Rico, Mayaguez

PSXIV-18 Genetic improvement for resistance to gastrointestinal parasitism in growing meat goats and hair sheep through a centralized performance test in the southcentral USA

Arthur L. Goetsch ¹, Yoko Tsukahara ¹, Terry A. Gipson ¹, Steven P. Hart ¹, Lionel J. Dawson ², Zaisen Wang ¹, Ryszard Puchala ¹, Tilahun Sahlu ¹

¹American Institute for Goat Research Langston University, ²College of Veterinary Medicine, Oklahoma State University; American Institute for Goat Research, Langston University

PSXIV-19 Heritability for growth and resistance to gastrointestinal parasitism in meat goats and hair sheep

Yoko Tsukahara ¹, Terry A. Gipson ¹, Steven P. Hart ¹, Lionel J. Dawson ², Zaisen Wang ¹, Ryszard Puchala ¹, Tilahun Sahlu ¹, Arthur L. Goetsch ¹

¹American Institute for Goat Research Langston University, ²College of Veterinary Medicine, Oklahoma State University; American Institute for Goat Research, Langston University

PSXIV-20 Ovine circulatory markers regulating the acute-phase response of variable stress responding sheep to LPS challenge

Ankita Sharma ¹, Umesh K. Shandilya ², Tianna Sullivan ², Danielle Naylor ³, Angela Cánovas ⁴, Bonnie Mallard ⁵, Niel Karrow ¹

¹Center of Genetic Improvement of Livestock, Animal Biosciences, University of Guelph,

²Animal Biosciences, University of Guelph, ³University of Guelph, ⁴Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph

⁵OVC, University of Guelph

PSXIV-22 Selection for low fecal egg count estimated breeding value correlates with greater circulating antibody in sheep

Desirae Smith ¹, Kelsey Bentley ¹, Scott A. Bowdridge ¹
¹West Virginia University

(ANIMAL BREEDING AND GENETICS)

PSXIV-23 Polymorphism of the LCORL gene in the reindeer

Anna Krutikova ¹, Natalia Dementieva ¹, Elena Nikitkina ¹
¹Russian Research Institute of Farm Animal Genetics and Breeding — Branch of the L.K. Ernst Federal Research Center for Animal Husbandry

PSXIV-24 Real-time, on-site whole genome sequencing with oxford nanopore technologies' MinION

Hanna Ostrovski ¹, Rodrigo Pelicioni Savegnago ¹, Wen Huang ¹, Cedric Gondro ¹
¹Michigan State University

PSXIV-25 Search for the association of SNP in GRM8 gene with sperm quality in stallions

Elena Nikitkina ¹, Anna Krutikova ¹, Artem Musidray ¹
¹Russian Research Institute of Farm Animal Genetics and Breeding — Branch of the L.K. Ernst Federal Research Center for Animal Husbandry

PSXIV-26 Selection footprints in Russian red cattle identified by linkage disequilibrium blocks based on SNP data

Alexander A. Sermyagin ¹, Arsen V. Dotsev ¹, Alexandra S. Abdelmanova ¹, Johann Sölkner ², Natalia A. Zinovieva ¹
¹L.K. Ernst Federal Research Center for Animal Husbandry, ²University of Natural Resources and Life Sciences

PSXIV-27 Simulation controlling inbreeding for selection experiments on woody breast meat in broiler

Hye Rin JEON ¹, Seungjun SHIN ², Sang-Hyon OH ³
¹Ewha Womans University, ²PPS, Agriculture Corporation, ³University of Maryland Eastern Shore

Animal Breeding and Genetics V: Genomic Selection II

Chair: Ignacy Misztal, University of Georgia

1:00 PM - 3:30 PM

M105 & 106

1:00 p.m. 529 **Late-Breaking: Effects of in Ovo Injection of High Yield Broilers with Nicotinamide Riboside on Pectoralis Major Morphometrics, Muscle Fiber Density, and Mrna Expression**

Xiaoxing Xu ¹, Hanna M. Alcocer ¹, Morgan E. Gravely ¹, Kari K. Turner ¹, John M. Gonzalez ¹
¹University of Georgia

1:15 p.m. 42 **An Improved, High-quality Ovine Reference Genome Assembly**
Kimberly M. Davenport¹, Derek M. Bickhart², Kim Worley³, Shwetha C. Murali³, Noelle Cockett⁴, Michael P. Heaton⁵, Timothy Smith⁶, Brenda M. Murdoch¹, Benjamin D. Rosen⁶
¹University of Idaho, ²US Dairy Forage Research Center, USDA-ARS, ³Baylor College of Medicine, ⁴Utah State University, ⁵USDA ARS U.S. Meat Animal Research Center, ⁶USDA

1:30 p.m. 45 **Partitioning SNP Heritability in Related Individuals**
Jicai Jiang¹, Li Ma², Jeffrey O'Connell³
¹North Carolina State University, ²Department of Animal and Avian Sciences, University of Maryland, ³Department of Medicine, University of Maryland School of Medicine

1:45 p.m. 49 **Predicting Breeding Values of Purebred Pigs for Crossbred Performance Using Crossbred Phenotypes and Genotypes**
Natalia Leite¹, Ching-Yi Chen², Willian O. Herring², Shogo Tsuruta³, Daniela Lourenco³
¹Topigs Norsvin, ²Genus PIC, ³University of Georgia

2:00 p.m. 44 **Accuracy of Genomic Predictions over Time in Broilers**
Jorge Hidalgo¹, Daniela Lourenco¹, Shogo Tsuruta¹, Yutaka Masuda², Vivian Breen³, Rachel Hawken⁴, Matias Bermann¹, Ignacy Misztal¹
¹University of Georgia, ²The University of Georgia, ³Cobb-Vantress, Inc., ⁴Cobb-Vantress Inc.

2:15 p.m. 46 **Footprints of Selection in Angus and Hanwoo Beef Cattle Using Imputed Whole Genome Sequence Data**
Muhammad Yasir Nawaz¹, Rodrigo Pelicioni Savegnago¹, Cedric Gondro¹
¹Michigan State University

2:30 p.m. 501 **Late-Breaking: Search for Genomic Associations with Cryo-resistance of Sperm in Animals**
Elena Nikitkina¹, Natalia Dementieva¹, Yuyriy Shcherbakov¹, Anna Krutikova¹, Artem Musidray¹, Nikolay Pleshonov¹, Oleg Samoylov¹
¹Russian Research Institute of Farm Animal Genetics and Breeding — Branch of the L.K. Ernst Federal Research Center for Animal Husbandry

2:45 p.m. 48 **Genomic Studies of Feed Efficiency and Component Traits in American Mink**
Pouya Davoudi¹, Duy Ngoc Do¹, Guoyu Hu¹, Siavash Salek Ardestani², Younes Miar³
¹Department of Animal Science and Aquaculture, Dalhousie University, ²Department of Animal Science and Aquaculture, Dalhousie University, Truro, NS, B2N 5E, Canada, ³1 Department of Animal Science and Aquaculture, Dalhousie University

3:00 p.m. 47 **Genomic Studies of Reproductive Performance in American Mink**
Shafagh Valipour¹, Karim Karimi¹, Younes Miar²
¹Department of Animal Science and Aquaculture, Dalhousie University, ²1 Department of Animal Science and Aquaculture, Dalhousie University

3:15 p.m. 43 **Single and Multiple-breed Genomic Predictions for Conformation Traits of Canadian Dairy Goats**

Erin Massender¹, Luiz F. Brito², Laurence Maignel³, Hinayah R. Oliveira⁴, Mohsen Jafarikia⁵, Christine F. Baes⁶, Brian Sullivan³, Flavio S. Schenkel⁷

¹Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, ²Purdue University, ³Canadian Centre for Swine Improvement Inc., Ottawa, ON, Canada, ⁴Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada; Department of Animal Sciences, Purdue University, West Lafayette, IN, USA, ⁵Canadian Centre for Swine Improvement Inc., Ottawa, ON, Canada; Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada, ⁶Centre for Genetic Improvement of Livestock, University of Guelph, Ontario, Canada & Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland, ⁷Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, 50 Stone Rd E, N1G 1Y2, ON, Canada

Animal Health Symposium

Chair: Eveline Ibeagha-Awemu, Agriculture and Agri-Food Canada

1:00 PM - 4:30 PM

M104/M107

1:00 p.m. **Animal Health Symposium Introduction**

1:05 p.m. 539 **The Changing Roles of Antibiotics in Animal Health Management**

Jay W. Johnson¹

¹Huvepharma

1:35 p.m. 72 **A One-health Perspective on S. aureus Induced Mastitis**

Xin Zhao¹, Eveline M. Ibeagha-Awemu², Pierre Lacasse²

¹Department of Animal Science, McGill University, ²Agriculture and Agri-Food Canada

2:05 p.m. 540 **Biosecure Disposal of Livestock and Poultry Mortalities**

Neslihan Akdeniz¹

¹

2:35 p.m. **Animal Health Symposium Break**

2:45 p.m. 538 **Tolerance to Bovine Paratuberculosis as Part of the One Health Solution**

Nathalie Bissonnette¹

¹Agriculture and Agri-Food Canada

3:15 p.m. 541 **Producing Antibiotic Free Chicken Meat in Developing Countries: What We Learned from Nigeria**

Ade Oladeinde¹

¹US National Poultry Research Center

3:45 p.m. 73 **Antimicrobial Resistance, Agriculture, and the One Health Continuum**

Ed Topp¹

¹Agriculture and Agri-Food Canada

4:15 p.m. **Animal Health Symposium Q&A**

POSTER SESSION XV

1:15 PM – 2:15 PM

(ANIMAL BREEDING AND GENETICS)

PSXV-1 Genetic evaluation of longevity of cows culled due to fertility-related problems using random regression models and censored data

Hinayah R. Oliveira ¹, Stephen P. Miller ², Luiz F. Brito ³, Flavio S. Schenkel ⁴

¹Centre for Genetic Improvement of Livestock, University of Guelph; Department of Animal Sciences, Purdue University, ²Angus Genetics Inc., ³Department of Animal Sciences, Purdue University; Centre for Genetic Improvement of Livestock, University of Guelph, ⁴Centre for Genetic Improvement of Livestock, University of Guelph

PSXV-2 The relationship of quantitative and qualitative indicators of meat productivity in Kazakh white-headed bulls

Alexandra Lapshina ¹, Shakur Makaev ¹, Svyatoslav Lebedev ¹, Kinispay Dzhulamanov ¹, Nikolay Gerasimov ¹

¹Federal Research Center for Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXV-3 The influence of the dams genotype on the indicators of the breeding value of offspring

Alexandra Lapshina ¹, Vyacheslav Gabidulin ¹, Svetlana Alimova ¹, Mikhail Kizaev ¹, Aleksey Ruchay ¹

¹Federal Research Center for Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXV-6 The effect of ultrafine iron particles on the adaptation of the digestive system of cattle to fat diets

Tatyana Klimova ¹, Elena Shejjda ¹, Elvina Shajahmetova ¹, Svyatoslav Lebedev ¹, Sergej Miroshnikov ¹, Shamil Rakhmatullin ¹, Olga Kvan ¹

¹Federal Research Center of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXV-7 The mixture of herbal extracts that change the microbiome of the cattle rumen

Roman Tuzikov ¹, Baer Nurzhanov ¹, Albert Rysaev ¹, Galimzhan Duskaev ¹, Shamil Rakhmatullin ¹, Olga Kvan ¹, Elena Shejjda ¹

¹Federal Research Center of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXV-8 The study of feeding behavior traits in connection to feed efficiency in duroc boars bred in Russia

Anna A. Belous ¹, Alexander A. Sermyagin ¹, Natalia A. Zinovieva ¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSXV-9 Transgenerational epigenetic variance for production and reproduction traits in maternal-line pigs

Jason R. Graham ¹, Jay S. Johnson ², Andre C. Araujo ³, Jeremy T. Howard ⁴, Luiz F. Brito ⁵

¹Purdue University, ²USDA-ARS Livestock Behavior Research Unit, ³Department of Animal Sciences, Purdue University, ⁴Smithfield Premium Genetics, ⁵Department of Animal Sciences, Purdue University; Centre for Genetic Improvement of Livestock, University of Guelph, Guelph

PSXV-10 Study of allelic pattern of PLAG1 gene in the historical and modern populations of two oldest Russian dairy cattle breeds

Alexandra S. Abdelmanova¹, Veronika R. Kharzinova¹, Arsen V. Dotsev¹, Alexander A. Sermiyagin¹, Oxana Boronetskaya¹, Roman Chinarov², Gottfried Brem³, Natalia A. Zinovieva¹
¹L.K. Ernst Federal Research Center for Animal Husbandry, ²L.K. Ernst Federal Science Center for Animal Husbandry, ³Institute of Animal Breeding and Genetics, University of Veterinary Medicine (VMU)

PSXV-11 Using assisted reproductive technologies for obtaining new breeding forms by hybridization in sheep breeding

Nikolaj Vinokurov¹, Leonid Vladimirov¹, Grigoriy Machakhtyrov¹, Varvara Machakhtyrova¹, Evgeniy Sleptsov¹

¹M.G. Safronov Yakut Scientific Research Institute of Agriculture

(BEEF SPECIES)

PSXV-12 Performance and health responses of feedlot receiving cattle supplemented with pre- and probiotic ingredients

Shea Mackey¹, Reinaldo F. Cooke¹, Eduardo Colombo¹, Jacob Wiegand¹, Autumn Pickett¹, Luiz Fernando Dias Batista¹, Herlon Alhadas¹, Marcos Pacheco¹, Jarret Proctor¹, Elliot Block², Alice Brandão¹

¹Texas A&M University, ²Arm & Hammer Animal and Food Production – Church & Dwight Co. Inc.

(HORSE SPECIES)

PSXV-13 The activity of thiol cathepsins in seminal plasma of stallions with different percentages of viable sperm after freezing-thawing

Mikhail Atroshchenko¹, Anna Shitikova², Mariya Engalycheva²

¹The All-Russian Research Institute for Horse Breeding, ²Ryazan State Medical University

PSXV-14 Level of spontaneous oxidative modification of sperm plasma proteins in stallions of different ages

Mikhail Atroshchenko¹, Mariya Engalycheva², Anna Shitikova²

¹The All-Russian Research Institute for Horse Breeding, ²Ryazan State Medical University

PSXV-15 Application of a survey instrument for understanding pain management practices associated with equine assisted activities and therapy horses

Carter Clark¹, Molly Nicodemus¹, Clay A. Cavinder², Erdogan Memili¹, Katie Holtcamp¹, Cassie Brunson³, Lori Irvin³

¹Animal & Dairy Sciences, Mississippi State University, ²Mississippi State University, ³School of Human Sciences, Mississippi State University

PSXV-16 Blood glucose dynamics after feeding in the Orlov trotter horses in the conditions of the training center in preparation for trotter-racing

Olga Sharaskina¹

¹Saint Petersburg State University of Veterinary Medicine

PSXV-17 Dietary postbiotic mediates cytokine gene expression in senior horses

Sharon A. Norton¹, Amanda A. Adams²

¹Diamond V Mills, Inc., ²University of Kentucky

PSXV-18 Dynamics of steroid hormones in young fine harness horses during the preparatory period of the race-course training

Svetlana A. Zinovieva¹, Sergey S. Markin², Sergey A. Kozlov²

¹Academy of Veterinary Medicine and Biotechnology, ²Moscow State Academy of Veterinary Medicine and Biotechnology

PSXV-19 Informative value of study of mineral composition of the mane hair to assess quality of stallion' sperm

Valeriy Kalashnikov¹, Alexander Zaitcev¹, Mikhail Atroshchenko², Oleg Zavyalov³, Alexey Frolov³, Marina Kurilkina⁴, Natalia Frolova², Oksana Makhmutova¹, Olga Shirokova¹

¹The All-Russian Research Institute for Horse Breeding, Divovo, Russia, ²The All-Russian Research Institute for Horse Breeding, ³Federal Research Centre of Biological Systems and Agrotechnologies, RAS, ⁴Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences

PSXV-20 Pilot Study: How does horse and rider vital signs respond to participation in an equine assisted psychotherapy and learning outpatient collegiate substance use recovery program?

Katie Holtcamp¹, Molly Nicodemus¹, Tommy Phillips², David Christiansen³, Peter Ryan¹, Brian Rude¹, Karen Galarneau³

¹Animal & Dairy Sciences, Mississippi State University, ²School of Human Sciences, Mississippi State University, ³College of Veterinary Medicine, Mississippi State University

(BEEF SPECIES)

PSXV-21 Assessment of the presence of anthelmintic resistance in Maryland beef cattle herds

Sarah B. Potts¹, Amanda M. Grev¹, Jeffery W. Semler¹, Susan Schoenian¹, Dahlia O'Brien²

¹University of Maryland Extension, ²Virginia State University

PSXV-22 Effect of inclusion of dried citrus pulp in the receiving supplement for newly received stocker cattle

Haley Yeatter¹, Beth B. Kegley¹, Reagan N. Cauble², Jana Reynolds¹, Ben P. Shoulders¹, Jeremy G. Powell²

¹University of Arkansas, Department of Animal Science, ²Ten Triple X Ranch

PSXV-23 Effects of a nutritional packet composed of live yeast, vitamins, and electrolytes on the feeding behavior of intensively managed beef steers

Kymberly D. Coello¹, Andrea M. Osorio¹, Kaue Tonelli Nardi¹, Kaliu G. Scaranto Silva¹, Angel A. Raudales¹, Francine M. Ciriaco¹, Jhones Onorino Sarturi¹, Darren D. Henry¹

¹Texas Tech University

PSXV-24 Effects of dietary beet pulp on growth performance, beef quality, rumen fermentation characteristics, and blood parameters in Korean cattle steers

Seok-Hyeon Beak¹, InHyuk Jung¹, da Jin Sol Jung¹, Jinoh Lee¹, Do Hyun Kim¹, HyunJin Kim¹, Mohammad MalekKhahi¹, Myunggi Baik¹

¹Seoul National University

PSXV-25 Effects of multiple grass-fed and grain-fed beef systems on meat fatty acid composition

Sarah C. Klopatek¹, Xiang Yang¹, James W. Oltjen¹, Payam Vahmani¹

¹University of California, Davis

PSXV-26 Late-Breaking: Effects of feeding haylage on the reproductive performance of 2-year-old beef cattle raised in a sustainable production system at Berea college farm

Madison Winspare¹, Quinn Baptiste¹, Marlon Knights², Robert Harned¹, Zen Dean¹

¹Berea College, ²University of Trinidad and Tobago

PSXV-27 Late-Breaking: Evaluation of antioxidant capacity in receiving beef calves challenged with lipopolysaccharide (LPS)

Samantha N. Barker¹, Treylr Jackson², John Richeson², Jeff A. Carroll³, Nicole C. Burdick-Sanchez³, Paul R. Broadway³, Jerrad F. Legako¹

¹Texas Tech University, ²West Texas A&M University, ³USDA-ARS Livestock Issues Research Unit

PSXV-28 Late-Breaking: Impact of beef genotypes and finishing systems on beef consumer acceptability and the effect of demographic factors on consumer sensory preferences

Isabella Cristina F. de Faria Maciel¹, Jeannine P. Schweihofe¹, Jenifer I. Fenton¹, Jennifer Hodbod¹, Melissa McKendree¹, Kim Cassida¹, Patricia Rodrigues¹, Jason E. Rowntree¹

¹MSU

PSXV-29 Late-Breaking: Investigating use of machine learning algorithms to predict days in herd for commercial beef cattle

Ghader Manafiazar¹, Mohammad Riazi², John A. Basarab², Changxi Li³, Paul Stothard³, Graham Plastow³

¹Dalhousie University, ²University of Alberta, ³University of Alberta/Agriculture and Agri-Food Canada

PSXV-30 Late-Breaking: Oxidative stress biomarkers in blood plasma and pre-rigor tissues of beef cattle induced by hydrogen peroxide

Chelsie B. Dahlgren¹, Dishnu Sajeev¹, Thu Dinh², Daniel Rivera², Hunter Goodson¹

¹Mississippi State University, ²Animal and Dairy Sciences Department Mississippi State University

SSASAS: Small Ruminant Production II

Chair: Thomas Terrill, Fort Valley State University

1:15 PM - 3:00 PM

L006

1:15 p.m. 458 **Growth Performance of Short Scrotum and Castrated Hair Sheep Lambs on Pasture During Different Seasons**

Stephan Wildeus¹, Dahlia O'Brien¹, Gabriel J. Pent², Kathryn M. Payne³

¹Virginia State University, ²Virginia Tech - SVAREC, ³Southern Piedmont Agricultural Research and Extension Center, Virginia Tech

1:30 p.m. 463 **Immunomodulatory Effects of Gum Arabica in Goat Blood**

Yaser M. Ahmed¹, Hamid Ismail¹, Djaafar M. Rehra², Mulumebet Worku¹

¹NC A&T State University, ²NC A&T State University.

1:45 p.m. 455 **Survey to Determine Knowledge of Bioactive Forages Among Small Ruminant Producers**

Niki C. Whitley¹, Chelsea Pulsifer¹, Thomas H. Terrill¹

¹Fort Valley State University

2:00 p.m. 460 **Selection Methods for Models to Predict Feedstuff Associative Effects in Goats**

Yoko Tsukahara ¹, Terry A. Gipson ², Ryszard Puchala ³, Arthur L. Goetsch ³

¹American Institute for Goat Research Langston University, ²Langston, ³Langston University

2:30 p.m. 462 **Influence of Season of Lambing on Gastrointestinal Nematode (GIN) Infection of Lambs**

Joan M. Burke ¹, Jim E. Miller ², Erin Wood ³

¹USDA ARS Dale Bumpers Small Farms Research Center, ²Louisiana State University, ³USDA-ARS

2:45 p.m. 457 **Influence of Season of Birth, Breed and Reproductive Status on Carcass Traits of Male Hair Sheep Lambs**

Dahlia O'Brien ¹, Stephan Wildeus ¹

¹Virginia State University

2:45 p.m. 465 **Legume-grass Pastures Enhanced the Performance of Kiko Does**

Anand Tiwari ¹, Uma Karki ¹, Kendra Norwood ¹, Ja'Nia Johnson ¹, Lila B. Karki ²

¹Tuskegee University, ²University of Maryland Eastern Shore

Nonruminant Nutrition I: Low Protein Formulation and Amino Acids

Chair: Sung Woo Kim, NC State University

1:30 PM - 3:00 PM

M108/M111

1:30 p.m. 214 **Dietary Supplementation with a Combination of Valine and Isoleucine Annuls the Negative Effects of Very Low Protein Diets on Growth and Gut Development of Young Pigs**

Mohammad Habibi ¹, Parniyan Goodarzi ¹, Cedrick n. Shili ¹, Julia Sutton ¹, Caitlyn M. M. Wileman ¹, Dohyung Markus Kim ¹, Dingbo Lin ², Adel Pezeshki ¹

¹Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK 74078,

²Department of Nutritional Sciences, Oklahoma State University, Stillwater, OK 74078

1:45 p.m. 215 **Effects of Reducing Crude Protein with Supplementation of Six Essential Amino Acids and Glutamate on Growth and Backfat of Finishing Pigs**

Marcos Elias Elias Duarte ¹, Sung Woo Kim ²

¹North Carolina State University, ²NC State University

2:00 p.m. 218 **Replacement of Soybean Meal with Corn DDGS and Crystalline Amino Acids Impacts Performance and Carcass Characteristics of Finishing Pigs**

Brooke E. Anderson ¹, Jonathan P. Holt ², R.D. Boyd ³, Eric van Heugten ¹

¹NC State University, ²NCSU, ³Hanor Company

2:15 p.m. 216 **Effect of Dietary L-valine Supplementation on Growth Performance, Immune Response, and Microbial Metabolites in Weaned Pigs Raised in Varying Sanitary Conditions**

Bonjin Koo ¹, Charles Martin Nyachoti ¹

¹University of Manitoba

2:30 p.m. 219 **Effects of Feeding Low Protein Diets with Additional Supplementation of First Five Limiting AA on Performance and Diarrhea Incidence in Weaned Pigs**

Natasha van Niekerk¹, John K. Khun Kyaw Htoo², Caroline Gonzalez Vega³
¹Evonik Africa (Pty) Ltd, ²Evonik, ³Cargill Animal Nutrition

2:45 p.m. 217 **Comparative Effects of Dietary Methionine and Cysteine Supplementation on Redox Status and Intestinal Integrity in Immunologically Challenged-weaned Pigs**

Bonjin Koo¹, chengbo Yang², Charles Martin Nyachoti¹
¹University of Manitoba, ²Department of Animal Science, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada

Late-Breaking Ruminant Nutrition
Chair: Matt Hersom, Clemson University
1:30 PM - 4:30 PM
M101 & 102

1:30 p.m. 518 **Late-Breaking: Effect of Feedlot Diets on Environmental Emissions from Four Representative U.S. Feedlots and the Beef Production System**

Jessica Gilreath¹, Al Rotz², Sara Place³, Greg Thoma⁴, Tryon A. Wickersham¹
¹Texas A&M University, ²USDA-ARS, ³Elanco Animal Health, ⁴University of Arkansas

1:45 p.m. 524 **Late-Breaking: Growth Performance of Neonatal Calves Fed Milk Replacer 2 versus 3 Times per Day**

David P. Casper¹, Lydia Olagunju², Uchenna Y. Anele³, Abigayle Bacon¹
¹Casper's Calf Ranch, ²North Carolina A & T University, ³North Carolina Agricultural and Technical State University

2:00 p.m. 525 **Late-Breaking: Late Gestational Nutrient Restriction of Primiparous Beef Heifers Decreases Milk Yield and Pre-weaning Calf Growth**

Allison M. Meyer¹, Colby A. Redifer¹, Lindsey G. Wichman², Erin M. Shangraw², Thomas B. McFadden³
¹University of Missouri, ²Division of Animal Sciences, University of Missouri, ³Division of Animal Science, University of Missouri

2:15 p.m. 526 **Late-Breaking: Poor Maternal Diet Alters the Muscle Proteome at Mid-gestation in Sheep**

Sarah A. Reed¹, Jeremy Balsbaugh², Xiaomeng Li², Timothy Moore², Amanda Jones³, Sambhu Pillai⁴, Maria L. Hoffman⁵, Kristen E. Govoni¹, Steven A. Zinn¹
¹Dept. of Animal Science, University of Connecticut, ²University of Connecticut, ³Boehringer Ingelheim, ⁴Georgetown University, ⁵University of Rhode Island

2:30 p.m. 522 **Late-Breaking: Effects of Corn Processing and Age on Energy Balance, Nutrient Digestion and Rumination in Cattle**

Emily A. Petzel¹, Derek W. Brake¹
¹University of Missouri

2:45 p.m. 523 **Late-Breaking: Non-nutrient Factors in Colostrum: Systems Biology of Mammary Derived Bioactive Proteins and Gut Receptors That Network Functions in the Bovine Neonate**

Kasey Schalich¹, Prasanthi P. Koganti¹, Blake Nguyen¹, Olivia Reiff¹, Cassandra Lamb¹, Shailesh Gurung¹, Vimal Selvaraj¹
¹Cornell University

3:00 p.m. 519 **Late-Breaking: Evaluation of the 7 & 7 Synch and Bee Synch II protocols for control of the estrous cycle among cows of varying percentage Bos indicus influence**

Carson M. Andersen¹, Matthew P. Holton², Pedro L.P. Fontes², Jordan M. Thomas¹, Lucas Melo Goncalves², Samir Burato³
¹University of Missouri, ²University of Georgia, ³Sao Paulo State University

3:15 p.m. 520 **Late-Breaking: Effect of Technology on Environmental Emissions from Four Representative U.S. Feedlots and the Beef Production System**

Jessica Gilreath¹, Al Rotz², Sara Place³, Greg Thoma⁴, Tryon A. Wickersham¹
¹Texas A&M University, ²USDA-ARS, ³Elanco Animal Health, ⁴University of Arkansas

3:30 p.m. 521 **Late-Breaking: Oral Mineral Drench to Reduce Morbidity and Increase Performance on Remote Summer Pastures**

Bob B. Sager¹
¹Medicine Creek Bovine Health and Consulting

3:45 p.m. 527 **Late-Breaking: Objective Assessment of Behaviour, Pain, and Lameness Due to Digital Dermatitis in Beef Cattle**

Anice D. Thomas¹, Karin Orsel¹, Edmond Pajor¹
¹University of Calgary

4:00 p.m. 528 **Late-Breaking: Late Gestation Metabolizable Energy Intake Increases Colostrum Yield and Alters Colostrum Composition in Beef Cattle**

Koryn S. Hare¹, Emily Croft², Katharine M. Wood², Michael A. Steele³
¹Department of Animal Bioscience, University of Guelph, ²University of Guelph, ³Department of Animal Biosciences, University of Guelph

4:15 p.m. 543 **Late-Breaking: Development of a Model to Predict Dietary Metabolizable Energy from Digestible Energy in Beef Cattle**

Seongwon Seo¹, Kyewon Kang¹, Seoyoung Jeon², Luis O. Tedeschi³
¹Chungnam National University, ²Chungnam national university, ³Texas A&M University

Swine Species Symposium

Chair: Mark Knauer, North Carolina State University

1:30 PM - 5:15 PM

M100/M103

1:30 p.m. **Swine Species Symposium Introduction**

1:35 p.m. 483 **Current Knowledge Gaps in Swine Reproduction**

Brad A. Belstra¹
¹Fast Genetics, Ames, IA

2:20 p.m. 484 **Current Knowledge Gaps in Swine Genetics**
Justin W. Holl ¹
¹Genus PIC

3:05 p.m. **Swine Species Symposium Break**

3:15 p.m. 480 **Current Knowledge Gaps in Swine Nutrition**
Keith D. Haydon ¹
¹CJ Bio America

4:00 p.m. 481 **Current Knowledge Gaps in Swine Production Management**
Ashley DeDecker ¹
¹Smithfield Foods

4:45 p.m. **Presentation of the Gary L. Cromwell Award for Minerals Nutrition**
Meghan Wulster-Radcliffe ¹
¹ASAS

4:50 p.m. 482 **Awardee Talk: Challenges and Opportunities Facing Mineral Nutrition in the Next Decade**
John Patience ¹
¹Oxford Nutrition Consulting, LLC

Forages and Pastures Symposium II
Chair: William Smith, Tarleton State University
1:45 PM - 3:30 PM
M112

1:45 p.m. **Forages and Pastures Symposium II Introduction**

1:50 p.m. 190 **Where Should Forage Courses Be Housed?**
Larry Redmon ¹
¹Texas A&M AgriLife Extension Service

2:10 p.m. 187 **Forage Agronomists Are Needed in Animal Science Departments**
Michael L. Looper ¹, John A. Jennings ²
¹University of Arkansas System Division of Agriculture, Department of Animal Science Fayetteville, AR, ²University of Arkansas System Division of Agriculture, Department of Animal Science, Little Rock, AR

2:30 p.m. 189 **Techniques in Teaching Forages to Animal Scientists**
Harley D. Naumann ¹
¹University of Missouri

3:00 p.m. 188 **Extension Programming in Forages: Opportunities and Challenges**
Leanne L. Dillard ¹
¹Auburn University

Forages and Pastures II

Chair: Chad Page, Utah State University

2:00 PM - 2:45 PM

M109 & 110

2:00 p.m. 180 **Effects of Forage Mixtures on Rumen Fermentation Parameters as Assessed by Continuous Culture**

Miriam A. Snider¹, Jacqueline M. Johnson², Sara E. Ziegler³, Heather M. Darby³, Sabrina L. Greenwood¹

¹University of Vermont, ²University of Vermont Department of Animal and Veterinary Sciences,

³UVM Extension Northwest Crops and Soils Program

2:15 p.m. 181 **Effect of Application Rate of Sodium Lignosulfonate and Propionic Acid on DM Losses, Nutritional Composition, and Fungal Counts of High Moisture Alfalfa Hay Mini Bales**

Marjorie A. Killerby¹, Godloves M. Oppong², Saulo T. Almeida³, Colt W. Knight¹, Anna Robinson², Kaycee Ames², Zhengxing Ma⁴, Seanna Annis⁵, Changqing Wu⁶, Juan Jose J. Romero¹

¹University of Maine, ²Animal and Veterinary Sciences, University of Maine, ³Department of Animal Sciences, University of Lavras, ⁴Mount Desert Island Biological Laboratory, ⁵School of Biology and Ecology, University of Maine, Orono, ⁶Department of Animal and Food Sciences, University of Delaware

2:30 p.m. 182 **Economic Impact of Bale Grazing on Delayed Feedlot Entry Steer Performance, Carcass Measurement, and Net Return**

Songul Senturklu¹, Douglas G. Landblom², Steve Paisley³

¹Canakkale Onsekiz Mart University, ²North Dakota State University Dickinson Research Extension Center, ³University of Wyoming

Ruminant Nutrition VI: Nutrient Management, RFI, Receiving Cattle

Chair: Ryon Walker, Texas A&M University

2:00 PM - 4:00 PM

L005/009

2:00 p.m. 339 **Effects of a Blend of Mannan and Glucan on Growth Performance and Immunocompetence of Newly Weaned Beef Steers**

Godstime A. Taiwo¹, Ibukun M. Ogunade¹

¹West Virginia University

2:15 p.m. 344 **Replacing a High-roughage Receiving Diet with a High-energy Finishing Diet Improved Growth Performance and Feed Efficiency with No Impact on Health of High-risk Newly-received Calves**

David M. Crawford¹, John T. Richeson¹, Tommy L. Perkins¹, Kendall L. Samuelson¹

¹West Texas A&M University

2:30 p.m. 342 **Effects of Maternal Nutrient Restriction During Late Gestation on Primiparous Dam Performance and Fetal Growth**

Colby A. Redifer¹, Lindsey G. Wichman², Allison M. Meyer¹

¹University of Missouri, ²Division of Animal Sciences, University of Missouri

2:45 p.m. 341 **Meta-analysis of the Performance Responses of Replacement Heifers and Beef Cows to Monensin**

Mikayla F. Moore¹, Shane Gadberry², David Lalman¹, Frank White³, Sara K. Linneen⁴, Paul A. Beck¹

¹Oklahoma State University, ²University of Arkansas, ³Elanco, ⁴Elanco Animal Health

3:00 p.m. 340 **Relationship of Retained Energy in Lactating Beef Cows to Maintenance Energy Requirement and voluntary Feed Intake**

Emma A. Briggs¹, Claire Anderson¹, Amanda Holder², Megan A. Gross¹, David Lalman¹

¹Oklahoma State University, ²College of the Ozarks

3:15 p.m. 343 **The Influence of Weather Variables on Average Daily Gain of Beef Steers**

Mustapha Yusuf¹, Marc L. Bauer¹, Kendall C. Swanson¹, Lauren L. Hanna¹

¹North Dakota State University

3:30 p.m. 338 **Nitrogen Use Efficiency Is Proportionally More Improved When Young Bulls Are Ranked on Residual Body Gain Rather Than on Residual Feed Intake**

Pablo Guarnido Lopez¹, Isabelle Ortigues Marty², Cantalapedra-Hijar Gonzalo²

¹INRA, ²INRAE-VetAgro Sup, UMRH

3:45 p.m. 337 **Efficient RFI Bulls Presented Lower Fractional Synthesis Rates of Plasma Proteins When Fed Corn but Not Grass Based Diets**

Pablo Guarnido Lopez¹, Isabelle Ortigues Marty², Pascal Faure³, Chantelauze Celine², Cantalapedra-Hijar Gonzalo²

¹INRA, ²INRAE-VetAgro Sup, UMRH, ³INRAE, UE Herbipôle

Extension Education

Chair: Matt Poore, NC State University

3:00 PM - 3:45 PM

M109 & 110

3:00 p.m. 171 **The Northeast Georgia Beef Cattle Short Course: An Eight-year Review**

Marrissa J. Blackwell¹, Alexa Lamm¹, Robert Lawton Stewart¹

¹University of Georgia

3:15 p.m. 170 **Effectiveness of On-line Webinars for Delivering Extension Education to Beef Producers Throughout the COVID-19 Pandemic**

Katherine VanValin¹, Darrh Bullock¹, Les Anderson¹, Kevin Laurent¹, Jeffrey W. Lehmkuhler¹

¹University of Kentucky

3:30 p.m. 172 **Scenario-based Training Is an Effective Tactic for Teaching Applied Livestock Management Practices to Extension Personnel**

Jennie L. Ivey¹, Lew G. Strickland¹, Justin D. Rhinehart²

¹University of Tennessee Institute of Agriculture, ²University of Tennessee

Nonruminant Nutrition II: Feedstuffs and Additives

Chair: Michael Edmonds, Kent Nutrition Group, Inc.

3:15 PM - 4:00 PM

M108/M111

3:15 p.m. 221 Camelina Meal as an Alternative Ingredient in Growing-finishing Pig Diets

Adrienne Hilbrands¹, Yuzhi Li¹, Lee J. Johnston¹, Ryan Cox², William Lazarus², Wayne Martin², Franklin Forcella³, Russ Gesch³

¹West Central Research and Outreach Center, University of Minnesota, ²University of Minnesota, ³USDA-ARS NC Soil Conservation Research Lab

3:30 p.m. 222 Corn-expressed Phytase Modulates Serum Amino Acids and Proteomics Profiles in Nursery Pigs Fed with Low-protein, -calcium, and -phosphorous Diets

Cedrick n. Shili¹, Mohammad Habibi¹, Parniyan Goodarzi¹, Frank Kiyimba², Steve Hartsen³, Jonathan N. Broomhead⁴, Ranjith Ramanathan⁵, Adel Pezeshki¹

¹Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK 74078,

²Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK,

³Department of Biochemistry and Molecular Biology, Oklahoma State University, Stillwater, OK,

⁴Agrivida, ⁵Oklahoma State University

3:45 p.m. 220 Effects of Actisaf HR+ SC47 Live Yeast Probiotic Fed at Two Levels to Sows on Offspring Performance Before and After Weaning

Joe Loughmiller¹, Jimmie Corley¹, Gene Gourley², Brian Hotze¹, Emily Bruder³, Fabio Catunda¹

¹Phileo by Lesaffre, ²Gourley Research Group, ³Protein Sources

SSASAS: Extension II

Chair: Deidre Harmon, NC State University

3:15 PM - 5:00 PM

L006

3:15 p.m. 378 Incorporation of a Statewide Webinar Series into an Existing County-based Beef Cattle Extension Program

Courtnie L. Carter¹, Justin D. Rhinehart²

¹University of Tennessee- Knoxville, ²University of Tennessee

3:30 p.m. 375 Integration of Virtual Programming into Beef Cattle Producer and Extension Agent Education

Ashley K. Edwards¹, A. Lee Faulk¹, Vincent Deshotel¹, Jason Holmes¹

¹Louisiana State University Agricultural Center

3:45 p.m. 382 Knowledge Transfer in Online Meat and Dairy Goat Certification Programs in English and Spanish

Terry A. Gipson¹, Roger C. Merkel², Abner A. Rodriguez³, John Fernandez⁴

¹Langston, ²American Institute for Goat Research Langston University, ³Universidad de Puerto Rico Mayagüez, ⁴University of Puerto Rico

4:00 p.m. 386 **Use of an Unmanned Aerial Vehicle (UAV) to Document Vegetation Coverage Rate in Managed Grasslands Following a Historic River Flood**

Shane Gadberry¹, Kevin Lawson², John A. Jennings³, Kenny Simon²

¹University of Arkansas, ²University of Arkansas, Division of Agriculture, ³University of Arkansas System Division of Agriculture, Department of Animal Science, Little Rock, AR

4:15 p.m. 383 **Targeted Extension Programming for New and Beginning Beef Cattle Producers Through a Multi-night Lecture Series**

Kim K. Mullenix¹, Luke L. Jacobs², Landon Marks³, Gerry Thompson³, Paul Vining³, Josh Elmore¹, Alex Tighe⁴, Rickey Hudson⁴, Kent Stanford³, Danny Miller⁴, Danny McWilliams⁵, Ken Kelley¹

¹Auburn University, ²Clemson University, ³Alabama Cooperative Extension, ⁴Auburn University/Alabama Cooperative Extension System, ⁵Alabama Cooperative Extension System

4:30 p.m. 385 **Needs and Challenges Cattle Producers Face in Adapting Preconditioning Programs**

Paul A. Beck¹, Jeff Robe¹, David Lalman¹, Dana L. Zook¹, Marty G. New¹, Earl Ward¹, Brian M. Freking¹

¹Oklahoma State University

4:45 p.m. 374 **Woodland Grazing: Untapped Resource to Increase Economic Benefits from Forestland**

Lila B. Karki¹, Uma Karki², Anand Tiwari²

¹University of Maryland Eastern Shore, ²Tuskegee University

POSTER SESSION XVI

3:30 PM – 4:30 PM

(NONRUMINANT NUTRITION)

PSXVI-1 Effect of dietary poppy seed meal supplementation on growth performance, nutrient digestibility, fecal microbiota, and blood profile in growing-finishing pigs.

Koo Deokho¹, Serge Muhizi¹, Seok wooJung¹, Gao Shanshui¹, Song Junho¹, Kim Inho¹

¹Dankook University

PSXVI-2 Response of ileal microbiota composition and immunity function to xylanase supplementation in broilers fed wheat-based diets

Jian Wang¹, Sujie Liu², Shenfei Long², Jiayu Ma¹, Xiangshu Piao²

¹China Agricultural University, ²College of Animal Science and Technology, China Agricultural University

PSXVI-3 Supplemental effects of Bacillus sp. in prevention of post-weaning diarrhea caused by enterotoxigenic F18+ Escherichia coli in nursery pigs

Marcos E. Duarte¹, Sung Woo Kim¹

¹North Carolina State University

PSXVI-4 Supplemental effects of increasing levels of soy protein concentrate replacing animal protein supplements on growth performance and intestinal health of nursery pigs

Zixiao Deng¹, Marcos E. Duarte¹, Sung Woo Kim¹

¹North Carolina State University

PSXVI-5 Supplemental effects of soy protein concentrate replacing animal protein supplements on growth performance and intestinal health of nursery pigs

Zixiao Deng¹, Marcos E. Duarte¹, Sung Woo Kim¹
¹North Carolina State University

PSXVI-6 Supplemental effects of phytase on bone parameters, intestinal health, nutrient digestibility and growth performance on broiler chickens

Vitor Hugo C. Moita¹, Marcos E. Duarte¹, Sung Woo Kim¹
¹North Carolina State University

PSXVI-7 Supplemental effects of Lactobacillus extract postbiotics in prevention of post-weaning diarrhea caused by enterotoxigenic F18+ Escherichia coli in nursery pigs

Xiangyi Xu¹, Marcos E. Duarte¹, Sung Woo Kim¹
¹North Carolina State University

PSXVI-8 Taxifolin impact on the consequences of moderate heat stress in fattening pigs

Roman V. Nekrasov¹, Nadezhda V. Bogolyubova¹, Magomed G. Chabaev¹, Roman A. Rykov¹, Alexey V. Mishurov¹, Elena Y. Tsis¹
¹L.K. Ernst Federal Research Center for Animal Husbandry

PSXVI-9 The effectiveness of using organomineral feed additive in broiler chicken diets

Anastasia P. Ivanishcheva¹, Elena Sizova², Svyatoslav Lebedev¹, Ayna Makaeva¹, Yana Lutkovskaya¹
¹Federal Research Centre of Biological Systems and Agrotechnologies of the Russian Academy of Sciences, ²Federal Research Centre for Biological Systems and Agricultural Technologies of Russian Academy of Sciences, Orenburg State University

PSXVI-10 The effectiveness of using the enzyme-mineral complex in the nutrition of broiler chickens

Kseniya Nechitailo¹, Elena Sizova²
¹Federal Research Centre for Biological Systems and Agricultural Technologies of Russian Academy of Sciences, ²Federal Research Centre for Biological Systems and Agricultural Technologies of Russian Academy of Sciences, Orenburg State University

(CELL BIOLOGY)

PSXVI-11 Reference intervals of concentrations of essential and toxic elements in the hair of Kalmyk cows bred in the Republic of Sakha (Yakutia) of Russia, calculated by the AES-ICP and MS-ICP methods

Sargytaan Okhlopkov¹, Andrey Martynov¹, Yakov Vasiliev¹, Irina Mironova², Ruzel' Khabibullin², Rafael' Rakhmatullin²
¹Arctic State Agrotechnological University, ²Bashkir State Agrarian University

PSXVI-13 Study of migration of antigen-presenting cells in the tissue of the lactating mammary gland under the influence of staphylococcal vaccine

Polina Pogodaeva¹, Larisa Y. Karpenko¹, Svetlana V. Vasileva¹, Roman M. Vasilev¹, Olga Dushenina¹, Nataliya Panova¹, Vladimir Ponamarev¹
¹Saint Petersburg State University of Veterinary Medicine

PSXVI-14 Study of the antagonistic properties of *C. utilis* in relation to the resident microflora of the animal organism

Evgenia Kolodina ¹, Daria A. Nikanova ¹

¹L.K. Ernst Federal Research Center for Animal Husbandry

PSXVI-15 Study of the content of maternal lymphocytes with Barr's bodies in the bloodstream and red bone marrow of newborn male mice

Anastasia A. Ignateva ¹, Svetlana V. Vasileva ¹, Roman M. Vasilev ², Olga Dushenina ², Nataliya Panova ²

¹Federal State Budgetary Educational Institution of Higher Education Saint Petersburg State University of Veterinary Medicine

PSXVI-16 The quality of cows' oocyte derived at different timing regimens of transvaginal follicular puncture

Roman Chinarov ¹, Galina Singina ², Nikolay Taradajnik ¹, Sergey Pozyabin ³

¹L.K. Ernst Federal Science Center for Animal Husbandry, ²L.K. Ernst Federal Research Center for Animal Husbandry, ³Moscow Academy of Veterinary Medicine and Biotechnology Named after K.I. Skryabin

(ANIMAL BEHAVIOR AND WELL-BEING)

PSXVI-17 Estimation of inbreeding in local sheep breeds of west Asian and central Asian origin based on high-density SNP-genotypes

Tatiana E. Deniskova ¹, Alexandra S. Abdelmanova ¹, Arsen V. Dotsev ¹, Eugenia Lushihina ², Asankadyr Zhunushev ², Henry Reyer ³, Marina I. Selionova ⁴, Klaus Wimmers ³, Gottfried Brem ⁵, Natalia A. Zinovieva ¹

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PSXVI-18 Heifers are from Venus, steers are from mars: Sex differences in social behaviors in drylot housed brahman cattle exposed to a cattle brush

Claudia C. Lozada ¹, Gustavo Toro ², Courtney L. Daigle ¹

¹Texas A&M University, ²ST Genetics

PSXVI-19 Posture behavior and truck microclimate in a very long journey of unweaned dairy beef calves: A field study

Sonia Marti ¹, Xenia Moles ², Anna Sole ¹, Marianne Farish ³, Mark Brims ³, Malcolm Mitchell ³, Andrew Voas ⁴, Maria Devant ¹, Antonio Velarde ²

¹IRTA, Ruminant Production, ²IRTA, Animal Welfare, ³SRUC, ⁴The Scottish Government

PSXVI-20 Real-time localization system for dairy cattle in a commercial facility: Evaluation of dynamic positioning ability

Emily M. Rice ¹, Joao H.C. Costa ¹

¹University of Kentucky

PSXVI-21 The effect of enhancing the thermal environment of piglets on physiology, behavior and productivity

Donald C. Lay ¹, Stacey A. Enneking ¹, Gabriella M. Morello ²

¹USDA-ARS, ²IBMC-Institute of Molecular and Cellular Biology

(RUMINANT NUTRITION)

PSXVI-22 The influence of Propionibacteria on in vivo rumen fermentation characteristics and in vitro lactic acid clearance rate in fistulated steers fed moderately high concentrate diets.

Ryan J. Gifford¹, Terry E. Engle¹, Meghan P. Thorndyke¹, Rick Goodall², Harrison Hallmark¹, Tyler A. Thomas¹, Sara Crane¹, Octavio Guimaraes¹, John J. Wagner¹
¹Colorado State University, ²MicroBios, Inc.

PSXVI-23 The influence of trace mineral source on digestion, ruminal fermentation characteristics, and mineral solubility in beef cattle fed a high concentrate feedlot diet.

Octavio Guimaraes¹, Clarissa M. Carver¹, Meghan P. Thorndyke¹, Arquimides Reyes², Jerry Spears³, Terry E. Engle¹, John J. Wagner¹
¹Colorado State University, ²Univeristy of Wisconsin, ³North Carolina State University

PSXVI-24 The succession of reindeer' rumen symbiotic bacteria

Larisa A. Ilina¹, Valentina A. Filippova¹, Elena A. Yildirim¹, Evgeni A. Brazhnik¹, Timur P. Dunnyashev¹, Georgiy Y. Laptev¹, Kasim A. Laishev²
¹BIOTROF+ LTD, ²Saint Petersburg Federal Research Center of Russian Academy Sciences

PSXVI-25 25-hydroxy-vitamin-D3 improves productive performance of grazing Nellore cattle during dry season

Maria Niehues¹, Alexandre Perdigão², Guilherme S. Vasconcellos², Hugo L. Correa¹, Daniel Gouvea¹, Victor Valério de Carvalho², Tiago S. Acedo²
¹São Paulo State University – UNESP, Botucatu, SP, ²DSM Nutritional Products Brazil S.A.

PSXVI-26 Using synchrotron/globar techniques to reveal synergistic and interactive association between molecular structures and nutrient supply in enzymatic and thermal treated oat tissue and whole grain

C. Lang¹, P. Yu¹
¹Department of Animal and Poultry Science, University of Saskatchewan

PSXVI-27 Using tannin to mitigate tall fescue toxicosis

Ally J. Grote¹, Allison Morgan¹, Ken Coffey¹, Christine Nieman², Dirk Philipp¹, Beth B. Kegley³
¹University of Arkansas, ²USDA-ARS, ³University of Arkansas System Department of Animal Science

PSXVI-28 Late-Breaking: Effects of Preconditioning (Value Added Programs) on the Health, Performance, Mannheimia haemolytica, and Pasteurella multocida in Cattle Received on Winter Wheat Pasture

Josiah M. Brooks¹, Jennifer Randall², Robert Steiner³, Robert Briggs⁴, Glenn C. Duff⁵
¹Department of Animal and Range Sciences, New Mexico State University, ²Department of Entomology, Plant Pathology, and Weed Science, New Mexico State University, ³Department of Economics, Applied Statistics, and International Business Development, New Mexico State University, ⁴USDA-ARS, National Animal Disease Center, ⁵Department of Animal and Range Sciences, Clayton Livestock Research Center, New Mexico State University

PSXVI-29 Late-Breaking: Effect of dietary organic acids supplementation on growth performance, nutrient digestibility, and gut health in weaned pigs

Jinyoung Lee ¹, Jong Woong Kim ², Heidi Hall ³, Martin Nyachoti ¹

¹University of Manitoba, ²EASY BIO, ³Anpario plc

Horse Species

Chair: Sarah Reed, Dept. of Animal Science, University of Connecticut

3:45 PM - 4:45 PM

M105 & 106

3:45 p.m. 200 **A Scoring System for Equine Dental Health**

Jesse Fenton ¹, Mary Beth Gordon ², Erin B. Perry ³, Zach Dombek ⁴, Micheal Jerina ⁴, Robert D. Jacobs ⁴

¹Southern Illinois University, ²Purina Animal Nutrition/Land O'Lakes, ³School of Agricultural Sciences, Southern Illinois University, Carbondale, IL, ⁴Purina Animal Nutrition

4:00 p.m. 199 **Do the Microbiomes of Horses Process Nutrients Differently Based on Keeper Status?**

Alexa C.B Johnson ¹, Amy S. Biddle ¹

¹University of Delaware

4:15 p.m. 198 **Effect of Saccharomyces Cerevisiae Fermentate on Immune Cell Function Following Prolonged Head Elevation in 2-year-old Horses in Training**

Melissa Tench ¹, Jillian M. Bobel ¹, Cinthya Bazurto ¹, Tayler L. Hansen ¹, Nicolet Kirk ¹, Claudia Lopez ¹, Lori K. Warren ¹

¹University of Florida

4:30 p.m. 500 **Late-Breaking: Heart Rate During Exercise Is Positively Correlated with State IV Mitochondrial Respiration in the Equine Skeletal Muscle**

Mia Y. Kawaida ¹, Oh Sung Kwon ², Ahram Ahn ³, Amanda S. Reiter ¹, Nicole M. Tillquist ¹, Sarah A. Reed ⁴

¹University of Connecticut, ²Univesrity of Connecticut, ³Univesrity of Connectiut, ⁴Dept. of Animal Science, University of Connecticut