



**Sunday, January 23, 2022**

**SERA 41 Symposium**

Chair: Jennifer J. Tucker, University of Georgia  
1:00 PM - 3:05 PM  
Cypress I & II

1:00 p.m.     **SERA 41 Symposium Introduction**

1:05 p.m.    **3 Grantsmanship and Research—how to Do Systems Research and Obtain Funding**

Nicolas DiLorenzo <sup>1</sup>

<sup>1</sup>University of Florida, NFREC

1:40 p.m.    **1 Communicating Sustainability to Consumers – How to Effectively Tell Our Story**

Peter J. Ballerstedt <sup>1</sup>

<sup>1</sup>Barenbrug USA

2:20 p.m.    **2 Conducting and Communicating Environmental Impacts of Research: Forage Production, Soil Health, Sustainability**

Myriah D. Johnson <sup>1</sup>, Jose C. B. Dubeux <sup>2</sup>, Alan J. Franzluebbers <sup>3</sup>

<sup>1</sup>National Cattlemen's Beef Association, <sup>2</sup>University of Florida, <sup>3</sup>USDA ARS

**Graduate Student Competition - MS**

Chair: John Richeson, West Texas A&M University  
2:00 PM - 4:25 PM  
Magnolia V & VI

2:00 p.m.     **Graduate Student Competition - MS Introduction and Logistics**

2:10 p.m.    **13 WITHDRAWN: Influence of Prenatal Exposure to Endophyte-infected Tall Fescue on Glucose Metabolism in Weaned Steer Calves**

R. F. Benefield <sup>1</sup>, Don S. Hubbell <sup>2</sup>, Doug L. Galloway <sup>3</sup>, Charles R. Looney <sup>4</sup>, Jeremy G. Powell <sup>3</sup>, Beth B. Kegley <sup>5</sup>, Brittini P. Littlejohn <sup>6</sup>

<sup>1</sup>Department of Animal Science, Division of Agriculture, University of Arkansas, Fayetteville, AR,

<sup>2</sup>UA Livestock and Forestry Station, retired, <sup>3</sup>University of Arkansas System Division of Agriculture, <sup>4</sup>University of Arkansas, <sup>5</sup>University of Arkansas Division of Agriculture, <sup>6</sup>University of Arkansas System, Division of Agriculture, Department of Animal Science

2:15 p.m.    **14 Podcasting as an Extension Tool: Limitations and Opportunities**

Samantha P. Bennett <sup>1</sup>, Donald Mulvaney <sup>2</sup>

<sup>1</sup>Auburn University Department of Animal Sciences, <sup>2</sup>Auburn University

2:20 p.m. 8 **Efficacy of Sequential Estrus Synchronization and Timed Artificial Insemination Protocols in Beef Cattle**

Courtne L. Carter <sup>1</sup>, Justin D. Rhinehart <sup>2</sup>, Pedro L.P. Fontes <sup>3</sup>, Ben Crites <sup>4</sup>, Les Anderson <sup>4</sup>, Liesel G. Schneider <sup>5</sup>, Vitor R. G. Mercadante <sup>6</sup>

<sup>1</sup>University of Tennessee- Knoxville, <sup>2</sup>University of Tennessee Institute of Agriculture, <sup>3</sup>University of Georgia, <sup>4</sup>University of Kentucky, <sup>5</sup>Animal Science Department, University of Tennessee Institute of Agriculture, <sup>6</sup>Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences

2:25 p.m. 12 **Inflammatory Response Following a Single Bout of Exercise Is More Prominent in Young Horses Compared to Older Horses**

Amber Gentry <sup>1</sup>, Kayla Mowry <sup>2</sup>, Hannah Albritton <sup>1</sup>, Jessica Suagee-Bedore <sup>2</sup>

<sup>1</sup>SHSU Department of Agricultural Sciences, <sup>2</sup>Sam Houston State University

2:30 p.m. 11 **Inclusion of Quebracho Tannin as a Silage Additive in Tall Fescue Silage: Effects on Fermentation**

Ally J. Grote <sup>1</sup>, Christine C. Nieman <sup>2</sup>, Ken P. Coffey <sup>1</sup>, Ivan R. Thomas <sup>1</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>USDA-ARS

2:35 p.m. 5 **Early Pregnancy Diagnosis in *bos Taurus* beef Replacement Heifers Using Color Doppler Ultrasonography**

Matthew P. Holton <sup>1</sup>, Gabriela Dalmaso <sup>2</sup>, Nicholas W. Dias <sup>3</sup>, Stefania Pancini <sup>3</sup>, Cliff C. Lamb <sup>2</sup>, Ky G. Pohler <sup>2</sup>, Vitor R. G. Mercadante <sup>4</sup>, Kelsey M. M. Harvey <sup>5</sup>, Pedro L.P. Fontes <sup>1</sup>

<sup>1</sup>University of Georgia, <sup>2</sup>Texas A&M University, <sup>3</sup>Virginia Tech, <sup>4</sup>Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences, <sup>5</sup>Mississippi State University

2:40 p.m. **WITHDRAWN -five minute break**

2:45 p.m. 10 **Free Amino Acids at Weaning in the Blood Plasma of Beef Heifers with Differing Reproductive Outcomes Following Estrus Synchronization and Artificial Insemination**

Erin E. Mahoney <sup>1</sup>, Paul W. W. Dyce <sup>2</sup>, Michelle F. Elmore <sup>2</sup>, Soren P. Rodning <sup>2</sup>

<sup>1</sup>Auburn University Department of Animal Sciences, <sup>2</sup>Auburn University

2:50 p.m. 4 **Conversion to an Online Delivery Method for the Tennessee Master Horse Program**

Sawyer Main <sup>1</sup>, Kelly Melvin <sup>2</sup>, Ashley Self <sup>2</sup>, Delaney R. Rostad <sup>2</sup>, Jennie L. Ivey <sup>1</sup>

<sup>1</sup>University of Tennessee Institute of Agriculture, <sup>2</sup>University of Tennessee

2:55 p.m. 6 **Effect of Exogenous Melatonin on the Cellular and Humoral Response of Holstein Heifer Calves During Vaccination**

Allie Martin <sup>1</sup>, Vinicius Machado <sup>1</sup>, Whitney L. Crossland <sup>1</sup>

<sup>1</sup>Texas Tech University

3:00 p.m. 15 **Potential Benefits of Rice Bran Oil for Lightly Worked Young Horses**

Kayla Mowry <sup>1</sup>, Timber Thomson <sup>1</sup>, Cruz Morales <sup>1</sup>, Rachelle Smith <sup>1</sup>, Kalley Fikes <sup>1</sup>, Jessica Suagee-Bedore <sup>1</sup>

<sup>1</sup>Sam Houston State University

3:05 p.m. **Graduate Student Competition MS I Break**

- 3:25 p.m. 18 **Effects of Protein Concentration, Degradability, and Beta-adrenergic Agonists on Ruminal Microbial Communities in Finishing Heifers**  
 Alison P. Pfau <sup>1</sup>, Kendall L. Samuelson <sup>2</sup>, Madison T. Henniger <sup>1</sup>, Kristin E. Hales <sup>3</sup>, Amanda Lindholm-Perry <sup>4</sup>, Phillip R. Myer <sup>5</sup>  
<sup>1</sup>Department of Animal Science -University of Tennessee, <sup>2</sup>West Texas A&M University, <sup>3</sup>Texas Tech University, <sup>4</sup>USDA, ARS, U.S. Meat Animal Research Center, <sup>5</sup>Department of Animal Science- University of Tennessee
- 3:30 p.m. 26 **The Effect of Cannabidiol on Follicular Growth and Ovulation in Cattle**  
 Emily Purnell <sup>1</sup>, Cheyenne L. Runyan <sup>1</sup>, David Roper <sup>1</sup>, Kimberly A. Guay <sup>2</sup>  
<sup>1</sup>Tarleton State University, <sup>2</sup>Department of Animal Science, Tarleton State University
- 3:35 p.m. 21 **WITHDRAWN: Impact of Breed and Method of Semen Collection on Viability and Membrane Integrity of Goat Spermatozoa**  
 Tiffany Reese <sup>1</sup>, Brou Kouakou <sup>2</sup>, Mahipal Singh <sup>2</sup>, Miller Schauston <sup>2</sup>, Adel R. R. Moawad <sup>2</sup>  
<sup>1</sup>Animal Science Program, College of Agriculture, Family Sciences, and Technology, Fort Valley State University,, <sup>2</sup>Fort Valley State University
- 3:40 p.m. 24 **Prevalence, Usage, and Perceptions of Pulsed Electromagnetic Field Therapy (PEMF) in the Equine Industry**  
 Delaney R. Rostad <sup>1</sup>, Jennie L. Ivey <sup>2</sup>  
<sup>1</sup>University of Tennessee, <sup>2</sup>University of Tennessee Institute of Agriculture
- 3:45 p.m. 16 **Beyond the Breeding Soundness Exam: The Evaluation of the Motility and Viability of Sperm Cells as Well as a Quantification and Evaluation of Mirna 26a-5p and Mirna 574, as Parameters of Bull Infertility**  
 Heather R. Ruemke <sup>1</sup>, Cheyenne L. Runyan <sup>1</sup>, Jolena N. Waddell <sup>1</sup>, David Roper <sup>1</sup>, Brad Daigneault <sup>2</sup>, A. Brant Poe <sup>1</sup>  
<sup>1</sup>Tarleton State University, <sup>2</sup>University of Florida
- 3:50 p.m. 25 **Temperament and Age Impact Skeletal Muscle Mitochondrial Capacities in Angus Steers**  
 Jessica L. Simons <sup>1</sup>, Lauren T. Wesolowski <sup>2</sup>, Pier L. Semanchik <sup>1</sup>, Chloey P. Guy <sup>3</sup>, Audrey Earnhardt <sup>3</sup>, Charles R. Long <sup>4</sup>, George A. Perry <sup>5</sup>, Ron D. Randel <sup>3</sup>, Thomas H. Welsh <sup>6</sup>, Sarah H. White-Springer <sup>7</sup>  
<sup>1</sup>Texas A&M University and AgriLife Research, Department of Animal Science, <sup>2</sup>Department of Animal Science, Texas A&M University and Texas A&M AgriLife Research, <sup>3</sup>Texas A&M AgriLife Research, <sup>4</sup>School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, <sup>5</sup>Texas A&M AgriLife Research, Overton, TX, <sup>6</sup>Texas A&M University, Department of Animal Science, College Station, TX, <sup>7</sup>Texas A&M University
- 3:55 p.m. 27 **Transcriptome Comparison of Parthenogenetic vs. Biparental Embryos in Beef Cattle**  
 Sarah A. Singleton <sup>1</sup>, Gessica Franco <sup>1</sup>, Gabriela Dalmaso <sup>1</sup>, M. Sofia Ortega <sup>2</sup>, Ky G. Pohler <sup>1</sup>  
<sup>1</sup>Texas A&M University, <sup>2</sup>University of Missouri
- 4:00 p.m. 23 **Performance of Pregnant Beef Heifers During Spring Rotational Grazing of Novel Endophyte Tall Fescue Following Complete Renovation**  
 Charlotte L. Talbott <sup>1</sup>, Deidre D. Harmon <sup>1</sup>, Matthew H. Poore <sup>2</sup>, Carolyn Young <sup>3</sup>, Alan J. Franzluebbbers <sup>4</sup>, Emily H. Griffith <sup>1</sup>, Reagan Bustabad <sup>2</sup>, Madeline Newsome <sup>1</sup>  
<sup>1</sup>NC State University, <sup>2</sup>North Carolina State University, <sup>3</sup>Noble Research Institute, <sup>4</sup>USDA ARS

4:05 p.m. 17 **Determination of Various Dietary Levels of Inorganic Zinc on *in Vitro* Dry Matter Disappearance of Diets Fed to Cervids as Compared to Other Established Protocols**

Reese J. Thibodeaux<sup>1</sup>, Phil M. Urso<sup>1</sup>, Stanley F. Kelley<sup>1</sup>, Marcy M. Beverly<sup>1</sup>, Chris Stewart<sup>1</sup>  
<sup>1</sup>Sam Houston State University

4:10 p.m. 19 **Evaluation of Fixed-time Artificial Insemination and Estrus Expression in Angus-cross Heifers with Female Sex-sorted Semen Using 6-day and 7-day CIDR Protocols at Multiple Time Intervals**

Wyatt E. Weber<sup>1</sup>, Jeremy G. Powell<sup>2</sup>, Brittini P. Littlejohn<sup>3</sup>, Beth B. Kegley<sup>4</sup>, N. N. Noga<sup>5</sup>, Charles R. Looney<sup>1</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>University of Arkansas System Division of Agriculture, <sup>3</sup>University of Arkansas System, Division of Agriculture, Department of Animal Science, <sup>4</sup>University of Arkansas Division of Agriculture, <sup>5</sup>Department of Animal Science, Division of Agriculture, University of Arkansas System, Fayetteville, AR

4:15 p.m. 20 **Forage Production and Nutritive Quality of Dual-purpose Wheat Managed Under Three Different Grazing Frequencies in the Southeastern United States**

Micayla H. West<sup>1</sup>, Kimberly Mullenix<sup>2</sup>, Adam Rabinowitz<sup>2</sup>, Brandon B. Smith<sup>2</sup>, Russell C. Carrell<sup>3</sup>, Leanne L. Dillard<sup>2</sup>

<sup>1</sup>Auburn University, <sup>2</sup>Auburn University, <sup>3</sup>Cargill Animal Nutrition

4:20 p.m. 22 **Incorporating Crabgrass in Southern Pasture Systems to Improve Animal Performance**

Kendall S. Whatley<sup>1</sup>, Justin C. Burt<sup>1</sup>, Lisa Baxter<sup>1</sup>, Robert Lawton Stewart<sup>1</sup>, Jennifer J. J. Tucker<sup>1</sup>

<sup>1</sup>University of Georgia

**Undergraduate Student Competition**

Chair: Emalee Buttrey, University of Tennessee at Martin; Justin Burt, University of Georgia

3:30 PM - 4:00 PM

Magnolia I & II

3:30 p.m. **Undergraduate Student Competition Introduction and Logistics**

3:40 p.m. 29 **Cotton Gin Trash Processing, Quality and Safety Impacts on Feeding Recommendations for Beef Cattle**

Peyton Zessin<sup>1</sup>, Joshua L. Jacobs<sup>2</sup>, S. Maggie Justice<sup>1</sup>, Kimberly Mullenix<sup>1</sup>, Leanne L. Dillard<sup>1</sup>, Soren P. Rodning<sup>1</sup>, Daniel A. Tigue<sup>1</sup>

<sup>1</sup>Auburn University, <sup>2</sup>Clemson University

3:45 p.m. 30 **Evaluating Proactive versus Therapeutic Use of a Theraplate on English-disciplined Horses and the Effects on Lameness**

Abigail Ellis<sup>1</sup>, Emalee Buttrey<sup>1</sup>

<sup>1</sup>University of Tennessee at Martin

3:50 p.m. 28 **Blood Lactate Response of Yearling Horses on a Progressive Workload**

Merina Jackson<sup>1</sup>, Katie R. Johnson<sup>1</sup>, Jessica L. Leatherwood<sup>2</sup>, Amanda N. Bradbery<sup>3</sup>

<sup>1</sup>Texas A&M University, <sup>2</sup>Department of Animal Science, Texas A&M University and Texas A&M AgriLife Research, <sup>3</sup>Montana State University

3:55 p.m. 31 **The Effect of Increasing Inclusion of Hempseed Meal on Fiber Digestibility and Performance in Meat Rabbits**

Emily G. Verret<sup>1</sup>, Brandon B. Smith<sup>2</sup>, Cheyenne L. Runyan<sup>1</sup>, K. June June Jacobson<sup>1</sup>, Walter F. Owsley<sup>1</sup>, Lea Ann A. Kinman<sup>1</sup>, James P. Muir<sup>3</sup>  
<sup>1</sup>Tarleton State University, <sup>2</sup>Auburn University, <sup>3</sup>TAMU

**Graduate Student Competition - PHD**

Chair: John Richeson, West Texas A&M University  
5:00 PM - 5:45 PM  
Magnolia V & VI

5:00 p.m. **Graduate Student Competition - PHD Introduction and Logistics**

5:10 p.m. 33 **Dietary Impacts on Rumen, Vaginal, and Uterine Microbiota in Beef Heifers**

Autumn Pickett<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, Eduardo Colombo<sup>1</sup>, Shea Mackey<sup>1</sup>, Ramiro V. Oliveira<sup>1</sup>, Gabriela Dalmaso<sup>1</sup>, Rebecca K. Poole<sup>1</sup>, Ky G. Pohler<sup>1</sup>  
<sup>1</sup>Texas A&M University

5:15 p.m. 32 **Bacterial Communities in the Uterus and Rumen of Beef Heifers Throughout Development with Protein Supplementation**

Taylor B. Ault-Seay<sup>1</sup>, Kiernan Brandt<sup>2</sup>, Madison T. Henniger<sup>3</sup>, Daniel Mathew<sup>1</sup>, Sarah Moorey<sup>1</sup>, F. Neal Schrick<sup>1</sup>, Ky G. Pohler<sup>4</sup>, Justin D. Rhinehart<sup>5</sup>, Liesel G. Schneider<sup>6</sup>, Kyle J. McLean<sup>1</sup>, Phillip R. Myer<sup>7</sup>  
<sup>1</sup>University of Tennessee, Knoxville, <sup>2</sup>South Dakota State University, <sup>3</sup>Department of Animal Science -University of Tennessee, <sup>4</sup>Texas A&M University, <sup>5</sup>University of Tennessee Institute of Agriculture, <sup>6</sup>Animal Science Department, University of Tennessee Institute of Agriculture, <sup>7</sup>Department of Animal Science- University of Tennessee

5:20 p.m. 38 **Using Canine Olfaction to Detect Bovine Respiratory Disease: A Pilot Study**

Aiden E. Juge<sup>1</sup>, Nathaniel Hall<sup>2</sup>, John T. Richeson<sup>3</sup>, Courtney L. Daigle<sup>4</sup>  
<sup>1</sup>Texas A&M University, <sup>2</sup>Department of Animal Science, Texas Tech University, <sup>3</sup>West Texas A&M University, <sup>4</sup>Department of Animal Science, Texas A&M University

5:25 p.m. 34 **Extended Effects of Sequential Weaning and Backgrounding Management in Beef Calves**

S. Maggie Justice<sup>1</sup>, Kimberly Mullenix<sup>1</sup>, Daniel A. Tigue<sup>1</sup>, Russell C. Carrell<sup>2</sup>, Micayla H. West<sup>3</sup>, Soren P. Rodning<sup>1</sup>, Manuel Chamorro<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Cargill Animal Nutrition, <sup>3</sup>Auburn University

5:30 p.m. 35 **Herbage Accumulation and Nutritive Value of Legume-grass Baleage: A Comparison of Alfalfa-bermudagrass and Red Clover-bermudagrass in the Southeast**

Andrea M. Osorio Doblado<sup>1</sup>, Justin J. Burt<sup>1</sup>, Kendall S. Whatley<sup>1</sup>, Francine M. Messias Ciriaco<sup>1</sup>, Darren D. H. Henry<sup>1</sup>, Lisa Baxter<sup>1</sup>, Jennifer J. J. Tucker<sup>1</sup>  
<sup>1</sup>University of Georgia

5:35 p.m. 37 **Performance, Health, and Physiological Responses of Feedlot Cattle Supplemented with Pre- and Probiotic Ingredients**

Shea Mackey<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, Eduardo Colombo<sup>1</sup>, Autumn Pickett<sup>1</sup>, Luiz Fernando Dias Batista<sup>1</sup>, Elliot Block<sup>2</sup>, Alice P. Brandão<sup>1</sup>

<sup>1</sup>Texas A&M University, <sup>2</sup>Arm & Hammer Animal and Food Production

5:40 p.m. 36 **Inclusion of Different Sources of Ca Salts of Fatty Acids on Productive Responses of Finishing Cattle**

Eduardo Colombo<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, Shea Mackey<sup>1</sup>, Autumn Pickett<sup>1</sup>, Gabriel Zylberlicht<sup>2</sup>, Bruno Cappellozza<sup>2</sup>, Luiz Fernando Dias Batista<sup>1</sup>, Ky G. Pohler<sup>1</sup>, Alice P. Brandão<sup>1</sup>

<sup>1</sup>Texas A&M University, <sup>2</sup>Nutricorp

**Monday, January 24, 2022**

**Breeding and Genetics**

Chair: O'Maya Ajogbor, Alabama A&M University; Erin Mahoney, Auburn University Department of Animal Sciences

8:00 AM - 9:15 AM

Magnolia I & II

8:00 a.m. 46 **WITHDRAWN: Genome Wide Scan Unravels Novel Cnvs Associated with Fecal Egg Count in Florida Cracker Sheep Infected with Haemonchus Contortus**

Zaira M. Estrada-Reyes<sup>1</sup>, Brittany N. Dhiel<sup>2</sup>, Owen Rae<sup>2</sup>

<sup>1</sup>North Carolina A & T University, <sup>2</sup>University of Florida

8:15 a.m. 43 **Evaluation of Fixed-time Artificial Insemination and Estrus Expression in Angus-cross Heifers with Female Sex-sorted Semen Using 6-day and 7-day CIDR Protocols at Multiple Time Intervals**

Wyatt E. Weber<sup>1</sup>, Jeremy G. Powell<sup>2</sup>, Brittini P. Littlejohn<sup>3</sup>, Beth B. Kegley<sup>4</sup>, N. N. Noga<sup>5</sup>, Charles R. Looney<sup>1</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>University of Arkansas System Division of Agriculture, <sup>3</sup>University of Arkansas System, Division of Agriculture, Department of Animal Science, <sup>4</sup>University of Arkansas Division of Agriculture, <sup>5</sup>Department of Animal Science, Division of Agriculture, University of Arkansas System, Fayetteville, AR

8:30 a.m. 45 **Free Amino Acids at Weaning in the Blood Plasma of Beef Heifers with Differing Reproductive Outcomes Following Estrus Synchronization and Artificial Insemination**

Erin E. Mahoney<sup>1</sup>, Paul W W. Dyce<sup>2</sup>, Michelle F. Elmore<sup>2</sup>, Soren P. Rodning<sup>2</sup>

<sup>1</sup>Auburn University Department of Animal Sciences, <sup>2</sup>Auburn University

8:45 a.m. 42 **Beyond the Breeding Soundness Exam: The Evaluation of the Motility and Viability of Sperm Cells as Well as a Quantification and Evaluation of Mirna 26a-5p and Mirna 574, as Parameters of Bull Infertility**

Heather R. Ruemke<sup>1</sup>, Cheyenne L. Runyan<sup>1</sup>, Jolena N. Waddell<sup>1</sup>, David Roper<sup>1</sup>, Brad Daigneault<sup>2</sup>, A. Brant Poe<sup>1</sup>

<sup>1</sup>Tarleton State University, <sup>2</sup>University of Florida

9:00 a.m. 44 **Evaluation of the Relationship Between Hair Coat Shedding Ability and Apparent Digestibility in Angus Cattle**

Margaret P. Loftin<sup>1</sup>, Randy H. Burnett<sup>2</sup>, Trent Smith<sup>1</sup>, Brian J. Rude<sup>1</sup>  
<sup>1</sup>Mississippi State University, <sup>2</sup>Southern Arkansas University

**Meats**

Chair: Kelly Vierck, Department of Animal Science, Division of Agriculture, University of Arkansas System, Fayetteville; Andrew Cassens, Tarleton State University; Becca Grimes, West Texas A&M University  
8:00 AM - 10:00 AM  
Magnolia V & VI

8:00 a.m. 51 **Influence of Thermoforming Films on Surface Color in Vacuum Packaged Ground Beef**

Tristan Reyes<sup>1</sup>, Hunter R. Smith<sup>1</sup>, Madison Wagoner<sup>1</sup>, Barney Wilborn<sup>1</sup>, Tom Bonner<sup>2</sup>, Jason T. Sawyer<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Winpak

8:15 a.m. 53 **Oxygen Exposure Effects on the Biochemical Attributes of *longissimus Lumborum* Muscle During Retail Display**

Morgan Denzer<sup>1</sup>, Gretchen G. Mafi<sup>1</sup>, Morgan Pfeiffer<sup>1</sup>, Ranjith Ramanathan<sup>1</sup>  
<sup>1</sup>Oklahoma State University

8:30 a.m. 50 **Implications of a Thermoforming Vacuum Packaging or Overwrap Packaging Method on a Simulated Retail Display of Longissimus Lumborum Steaks**

Tristan Reyes<sup>1</sup>, Madison Wagoner<sup>1</sup>, Virginia Zorn<sup>1</sup>, Madison Coursen<sup>1</sup>, Barney Wilborn<sup>1</sup>, Tom Bonner<sup>2</sup>, Jason T. Sawyer<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Winpak

8:45 a.m. 47 **Effects of Sous Vide Cooking on the Tenderness of Beef Loins from Different USDA Quality Grades**

Grace Franke<sup>1</sup>, Jennifer Dias<sup>1</sup>, Lea Ann A. Kinman<sup>1</sup>, Andrew M. Cassens<sup>1</sup>  
<sup>1</sup>Tarleton State University

9:00 a.m. 48 **WITHDRAWN: Electrical Conductivity, Color, and Tenderness Values of Fresh And/or Cooked Beef**

Carolina Mesquita<sup>1</sup>, Carl Richardson<sup>1</sup>, Chris R. Kerth<sup>2</sup>, Pratheesh Sudhakaran<sup>1</sup>, Ana Villanueva<sup>1</sup>  
<sup>1</sup>Texas State University, <sup>2</sup>Texas A&M University

9:15 a.m. 54 **Physical Effects of Carrot Fiber as a Binder in Cooked Chicken Sausage**

Jessica A. Johnson<sup>1</sup>, Jacob Heller<sup>1</sup>, Walter F. Owsley<sup>1</sup>, Andrew M. Cassens<sup>1</sup>, Lea Ann A. Kinman<sup>1</sup>  
<sup>1</sup>Tarleton State University

9:30 a.m. 49 **Impact of Hydrocolloids and Poultry Co-product Combinations on Fresh Pet Food Shelf Life**

Madison Wagoner<sup>1</sup>, Marc R. Presume<sup>1</sup>, Moses E. Chilenje<sup>1</sup>, Gerardo Abascal-Ponciano<sup>2</sup>, Jorge L. Sandoval<sup>3</sup>, Hunter R. Smith<sup>1</sup>, Tristan Reyes<sup>1</sup>, Barney Wilborn<sup>1</sup>, Justin Dunavant<sup>3</sup>, Robert P. Mason<sup>4</sup>, Eric K. Altom<sup>4</sup>, Charles W. Starkey<sup>1</sup>, Jason T. Sawyer<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Auburn University, <sup>3</sup>Department of Poultry Science, Auburn University, <sup>4</sup>Balchem Corp

9:45 a.m. 52 **Metabolic Syndrome: Animal Science's Challenge and Opportunity**

Peter J. Ballerstedt<sup>1</sup>  
<sup>1</sup>Barenbrug USA

**Kunkle Symposium**

Chair: Kim Mullenix, Auburn University; Russell Carrell, Cargill Animal Nutrition  
8:00 AM - 10:15 AM  
Cypress I & II

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

8:05 a.m. 40 **Ecosystem Services Provided by Grassland Ecosystems in Southeast USA**

Jose C. B. Dubeux<sup>1</sup>, Liza Garcia<sup>1</sup>  
<sup>1</sup>University of Florida

8:45 a.m. 41 **Genomic Approaches to Improving Forage-based Beef Cow Efficiency**

Troy N. Rowan<sup>1</sup>  
<sup>1</sup>University of Tennessee - Knoxville

9:25 a.m. 39 **Cow-calf Management Strategies and Their Influence on Environmental Sustainability**

David Lalman<sup>1</sup>, Emma A. Briggs<sup>1</sup>, Mikayla F. Moore<sup>1</sup>  
<sup>1</sup>Oklahoma State University

**Nutrition**

Chair: Robert Lawton Stewart, University of Georgia; Jessica Simons, Texas A&M University and AgriLife Research, Department of Animal Science  
10:15 AM - 11:45 AM  
Magnolia V & VI

10:15 a.m. 66 **Performance, Health, and Physiological Responses of Feedlot Cattle Supplemented with Pre- and Probiotic Ingredients**

Shea Mackey<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, Eduardo Colombo<sup>1</sup>, Autumn Pickett<sup>1</sup>, Luiz Fernando Dias Batista<sup>1</sup>, Elliot Block<sup>2</sup>, Alice P. Brandão<sup>1</sup>  
<sup>1</sup>Texas A&M University, <sup>2</sup>Arm & Hammer Animal and Food Production

10:30 a.m. 63 **Cotton Gin Trash Processing, Quality and Safety Impacts on Feeding Recommendations for Beef Cattle**

Peyton Zessin<sup>1</sup>, Joshua L. Jacobs<sup>2</sup>, S. Maggie Justice<sup>1</sup>, Kimberly Mullenix<sup>1</sup>, Leanne L. Dillard<sup>1</sup>, Soren P. Rodning<sup>1</sup>, Daniel A. Tigue<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Clemson University



10:45 a.m. 65 **Inclusion of Different Sources of Ca Salts of Fatty Acids on Productive Responses of Finishing Cattle**

Eduardo Colombo<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, Shea Mackey<sup>1</sup>, Autumn Pickett<sup>1</sup>, Gabriel Zylberlicht<sup>2</sup>, Bruno Cappellozza<sup>2</sup>, Luiz Fernando Dias Batista<sup>1</sup>, Ky G. Pohler<sup>1</sup>, Alice P. Brandão<sup>1</sup>  
<sup>1</sup>Texas A&M University, <sup>2</sup>Nutricorp

11:00 a.m. 67 **Potential Benefits of Rice Bran Oil for Lightly Worked Young Horses**

Kayla Mowry<sup>1</sup>, Timber Thomson<sup>1</sup>, Cruz Morales<sup>1</sup>, Rachele Smith<sup>1</sup>, Kalley Fikes<sup>1</sup>, Jessica Suagee-Bedore<sup>1</sup>  
<sup>1</sup>Sam Houston State University

11:15 a.m. 68 **The Effect of Increasing Inclusion of Hempseed Meal on Fiber Digestibility and Performance in Meat Rabbits**

Emily G. Verret<sup>1</sup>, Brandon B. Smith<sup>2</sup>, Cheyenne L. Runyan<sup>1</sup>, K. June June Jacobson<sup>1</sup>, Walter F. Owsley<sup>1</sup>, Lea Ann A. Kinman<sup>1</sup>, James P. Muir<sup>3</sup>  
<sup>1</sup>Tarleton State University, <sup>2</sup>Auburn University, <sup>3</sup>TAMU

11:30 a.m. 64 **Determination of Various Dietary Levels of Inorganic Zinc on *in Vitro* Dry Matter Disappearance of Diets Fed to Cervids as Compared to Other Established Protocols**

Reese J. Thibodeaux<sup>1</sup>, Phil M. Urso<sup>1</sup>, Stanley F. Kelley<sup>1</sup>, Marcy M. Beverly<sup>1</sup>, Chris Stewart<sup>1</sup>  
<sup>1</sup>Sam Houston State University

**Extension I**

Chair: Chelsey Kimbrough, University of Arkansas Cooperative Extension Service; Micayla West, Auburn University  
10:15 AM - 12:00 PM  
Magnolia I & II

10:15 a.m. 57 **Cool-season Annual Forage Variety Selection Tool for the Southeastern United States**

Michelle South<sup>1</sup>, Leanne L. Dillard<sup>2</sup>, Deidre D. Harmon<sup>1</sup>  
<sup>1</sup>NC State University, <sup>2</sup>Auburn University

10:30 a.m. 58 **Development of Forage Establishment and Management Educational Resources for Alabama Farmers**

Liliane Silva<sup>1</sup>, Kim K. Mullenix<sup>2</sup>, Leanne L. Dillard<sup>2</sup>, Carol M. Vasco<sup>2</sup>  
<sup>1</sup>Clemson University, <sup>2</sup>Auburn University

10:45 a.m. 62 **Transitioning the Alabama Bermudagrass Hay Summit to a Virtual Workshop**

Leanne L. Dillard<sup>1</sup>, Gerry Thompson<sup>2</sup>, Kent Stanford<sup>2</sup>, Landon Marks<sup>2</sup>, S. Maggie Justice<sup>1</sup>, Kim K. Mullenix<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Alabama Cooperative Extension

11:00 a.m. 60 **Repairing Hay Feeding Areas with Crabgrass: A Master Beef Producer Demonstration**

Matt Webb<sup>1</sup>, Katie Mason<sup>2</sup>, Justin D. Rhinehart<sup>2</sup>  
<sup>1</sup>Alabama Cooperative Extension System, <sup>2</sup>University of Tennessee Institute of Agriculture

11:15 a.m. 56 **Characterization of Pasture Management by Horse Operation Purposes in Florida**

Carol M. Vasco <sup>1</sup>, Liliane Silva <sup>2</sup>, Kim K. Mullenix <sup>1</sup>, Leanne L. Dillard <sup>1</sup>, Carissa Wickens <sup>3</sup>, Lori K. Warren <sup>3</sup>

<sup>1</sup>Auburn University, <sup>2</sup>Clemson University, <sup>3</sup>University of Florida

11:30 a.m. 61 **Sheep Grazer's Workshops Improve Producer Understanding of Important Production Practices**

Johnny R. Rogers <sup>1</sup>, Matthew H. Poore <sup>1</sup>

<sup>1</sup>North Carolina State University

11:45 a.m. 59 **Producer Certification in Mobile Processing: Mitigating Lack of Access to Sheep and Goat Processing in Virginia**

Dahlia O'Brien <sup>1</sup>, Stephan Wildeus <sup>1</sup>, Wallace Brousseau <sup>1</sup>

<sup>1</sup>Virginia State University

**Teaching and Undergraduate Education**

Chair: Emalee Buttrey, University of Tennessee at Martin; Samantha Bennett, Auburn University  
Department of Animal Sciences

10:30 AM - 11:45 AM

Cypress I & II

10:30 a.m. 69 **Animal Pharmacology: What Do Animal Science Students Know?**

M. E. Betsy Garrison <sup>1</sup>, Lauren R. Rogers <sup>2</sup>, Isabelle Caldwell <sup>1</sup>, Cathy Williams <sup>3</sup>, Mike Kaller <sup>3</sup>, Mellissa Crosswhite <sup>4</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>University of Arkansas, Department of Animal Science, <sup>3</sup>LSU,

<sup>4</sup>Oklahoma State University

10:45 a.m. 71 **Infusing Animal Science Curricula with Cultural Intelligence**

M. E. Betsy Garrison <sup>1</sup>, Annie Daniel <sup>2</sup>, Jacquelyn Wiersma-Mosley <sup>1</sup>, Cathy Williams <sup>3</sup>, Mellissa Crosswhite <sup>4</sup>, Isabelle Caldwell <sup>1</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>Institute for Healthcare Education Leadership and Professionals,

<sup>3</sup>LSU, <sup>4</sup>Oklahoma State University

11:00 a.m. 70 **Evaluating Network Maps from Student Self-reflections During a Departmental Internship Program**

Sushil Paudyal <sup>1</sup>, William Walker <sup>1</sup>, Jonan Donaldson <sup>1</sup>, Yingying Zhao <sup>1</sup>

<sup>1</sup>Texas A&M University

11:15 a.m. 72 **Keeping Animal Science Courses "Experiential" in an Online Classroom**

Emalee Buttrey <sup>1</sup>

<sup>1</sup>University of Tennessee at Martin

11:30 a.m. 73 **Successful Development and Transition to a Hybrid Livestock Science Camp Experience**

Carrie L. Pickworth <sup>1</sup>, Madison Adams <sup>2</sup>

<sup>1</sup>North Carolina State University, <sup>2</sup>NC State University

### **Small Ruminant Production I: Nutrition**

Chair: Olga Bolden -Tiller, Tuskegee University

1:00 PM - 2:00 PM

Magnolia V & VI

1:00 p.m. 86 **Evaluation of the Super Smartfeeder System (C-Lock, Inc) for Lamb Supplemental Feeding in a Pasture-based System**

Nicole K. Valliere <sup>1</sup>, Donald L. Wright <sup>2</sup>, Scott P. Greiner <sup>3</sup>, Andrew R. Weaver <sup>4</sup>

<sup>1</sup>North Carolina State University, <sup>2</sup>Virginia Tech, Southwest Virginia Agricultural Research and Extension Center, <sup>3</sup>Virginia Tech, <sup>4</sup>Department of Animal Science, North Carolina State University

1:15 p.m. 85 **Effects of the Nutritional Plane During Gestation and Lactation on Performance by Alpine Goats**

Luana Ribeiro <sup>1</sup>, Ryszard Puchala <sup>2</sup>, Terry A. Gipson <sup>3</sup>, Roger C. Merkel <sup>4</sup>, Arthur L. Goetsch <sup>2</sup>

<sup>1</sup>American Institute for Goat Research, Langston University, <sup>2</sup>Langston University, <sup>3</sup>Langston, <sup>4</sup>American Institute for Goat Research Langston University

1:30 p.m. 87 **Probiotic Supplementation Improves Lamb Performance When Transitioning to High Concentrate Diets**

Jordan N. Moody <sup>1</sup>, Whitney Whitsel <sup>2</sup>, W.S. Ramsey <sup>2</sup>, Reid Redden <sup>3</sup>

<sup>1</sup>Texas A&M AgriLife, <sup>2</sup>Texas A&M University, <sup>3</sup>Texas A&M AgriLife Extension

1:45 p.m. 84 **Carcass Characteristics, Meat Color and Fatty Acid Profile of Feedlot Lambs Fed Novel Anthocyanin-rich Corn Cobs**

Danilo G. Quadros <sup>1</sup>, Wenwei Xu <sup>1</sup>, Chris Kerth <sup>2</sup>, Douglas Tolleson <sup>1</sup>, Travis R. Whitney <sup>1</sup>

<sup>1</sup>Texas A&M AgriLife Research, <sup>2</sup>Texas A&M University

### **Ruminant Animal Production I: Behavior/Management**

Chair: Ryon Walker, Texas A&M University; Damon Smith, Texas A&M University

1:00 PM - 2:30 PM

Magnolia I & II

1:00 p.m. 91 **Efficacy of Sequential Estrus Synchronization and Timed Artificial Insemination Protocols in Beef Cattle**

Courtnie L. Carter <sup>1</sup>, Justin D. Rhinehart <sup>2</sup>, Pedro L.P. Fontes <sup>3</sup>, Ben Crites <sup>4</sup>, Les Anderson <sup>4</sup>, Liesel G. Schneider <sup>5</sup>, Vitor R G. Mercadante <sup>6</sup>

<sup>1</sup>University of Tennessee- Knoxville, <sup>2</sup>University of Tennessee Institute of Agriculture, <sup>3</sup>University of Georgia, <sup>4</sup>University of Kentucky, <sup>5</sup>Animal Science Department, University of Tennessee Institute of Agriculture, <sup>6</sup>Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences

1:15 p.m. 95 **Temperament and Age Impact Skeletal Muscle Mitochondrial Capacities in Angus Steers**

Jessica L. Simons<sup>1</sup>, Lauren T. Wesolowski<sup>2</sup>, Pier L. Semanchik<sup>1</sup>, Chloey P. Guy<sup>3</sup>, Audrey Earnhardt<sup>3</sup>, Charles R. Long<sup>4</sup>, George A. Perry<sup>5</sup>, Ron D. Randel<sup>3</sup>, Thomas H. Welsh<sup>6</sup>, Sarah H. White-Springer<sup>7</sup>

<sup>1</sup>Texas A&M University and AgriLife Research, Department of Animal Science, <sup>2</sup>Department of Animal Science, Texas A&M University and Texas A&M AgriLife Research, <sup>3</sup>Texas A&M AgriLife Research, <sup>4</sup>School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, <sup>5</sup>Texas A&M AgriLife Research, Overton, TX, <sup>6</sup>Texas A&M University, Department of Animal Science, College Station, TX, <sup>7</sup>Texas A&M University

1:30 p.m. 94 **WITHDRAWN: Nutritional Grouping and Machine-learning Techniques: Towards a Feed Efficiency Improvement in Beef Cattle Production**

Pablo Guarnido Lopez<sup>1</sup>, Antonio de Vega<sup>2</sup>, Mohammed Ben Aouda<sup>3</sup>, Luis O. Tedeschi<sup>4</sup>  
<sup>1</sup>INRA, <sup>2</sup>Universidad de Zaragoza-CITA, <sup>3</sup>Institut AgroDijon, University Bourgogne, University Bourgogne Franche-Comté, F-21000, Dijon, France, <sup>4</sup>Texas A&M University

1:45 p.m. 92 **Evaluating the Utility of Individual Cattle Brush Use Behavior as a Novel Behavioral Phenotype Regarding Productivity, Temperament, and Feeding Behavior of Bos Indicus Steers and Heifers Housed in Dry Lots**

Keara O'Reilly<sup>1</sup>, Claudia C. Lozada<sup>2</sup>, Courtney L. Daigle<sup>1</sup>, Gordon Carstens<sup>3</sup>, David G. Riley<sup>3</sup>  
<sup>1</sup>Department of Animal Science, Texas A&M University, <sup>2</sup>TAMU, <sup>3</sup>Texas A&M University

2:00 p.m. 93 **Extended Effects of Sequential Weaning and Backgrounding Management in Beef Calves**

S. Maggie Justice<sup>1</sup>, Kimberly Mullenix<sup>1</sup>, Daniel A. Tigue<sup>1</sup>, Russell C. Carrell<sup>2</sup>, Micayla H. West<sup>3</sup>, Soren P. Rodning<sup>1</sup>, Manuel Chamorro<sup>1</sup>  
<sup>1</sup>Auburn University, <sup>2</sup>Cargill Animal Nutrition, <sup>3</sup>Auburn University

### Physiology I

Chair: Pedro L.P. Fontes, University of Georgia; Lauren Wesolowski, Texas A&M University and AgriLife Research, Department of Animal Science

1:00 PM - 4:15 PM

Magnolia IV

1:00 p.m. 80 **Randel Lectureship: Practical Applications for Developmental Programming of the Bovine Ovary**

Robert A. Cushman<sup>1</sup>

<sup>1</sup>USDA, ARS, US Meat Animal Research Center, Livestock Bio-Systems Research Unit

2:00 p.m. 82 **The Effect of Cannabidiol on Follicular Growth and Ovulation in Cattle**

Emily Purnell<sup>1</sup>, Cheyenne L. Runyan<sup>1</sup>, David Roper<sup>1</sup>, Kimberly A. Guay<sup>2</sup>

<sup>1</sup>Tarleton State University, <sup>2</sup>Department of Animal Science, Tarleton State University

2:15 p.m. 76 **Dietary Impacts on Rumen, Vaginal, and Uterine Microbiota in Beef Heifers**

Autumn Pickett<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, Eduardo Colombo<sup>1</sup>, Shea Mackey<sup>1</sup>, Ramiro V. Oliveira<sup>1</sup>, Gabriela Dalmaso<sup>1</sup>, Rebecca K. Poole<sup>1</sup>, Ky G. Pohler<sup>1</sup>

<sup>1</sup>Texas A&M University

2:30 p.m. 75 **Bacterial Communities in the Uterus and Rumen of Beef Heifers Throughout Development with Protein Supplementation**

Taylor B. Ault-Seay<sup>1</sup>, Kiernan Brandt<sup>2</sup>, Madison T. Henniger<sup>3</sup>, Daniel Mathew<sup>1</sup>, Sarah Moorey<sup>1</sup>, F. Neal Schrick<sup>1</sup>, Ky G. Pohler<sup>4</sup>, Justin D. Rhinehart<sup>5</sup>, Liesel G. Schneider<sup>6</sup>, Kyle J. McLean<sup>1</sup>, Phillip R. Myer<sup>7</sup>

<sup>1</sup>University of Tennessee, Knoxville, <sup>2</sup>South Dakota State University, <sup>3</sup>Department of Animal Science -University of Tennessee, <sup>4</sup>Texas A&M University, <sup>5</sup>University of Tennessee Institute of Agriculture, <sup>6</sup>Animal Science Department, University of Tennessee Institute of Agriculture, <sup>7</sup>Department of Animal Science- University of Tennessee

2:45 p.m. **Physiology I Break**

3:00 p.m. 79 **Prenatally Stressed Brahman Bulls Produced Embryos with Decreased Embryonic Development**

Jaclyn N. Ketchum<sup>1</sup>, Jessica N. Nora Drum<sup>2</sup>, M. Sofia Ortega<sup>2</sup>, Charles R. Long<sup>3</sup>, Thomas H. Welsh<sup>4</sup>, Ronald D. Randel<sup>5</sup>, George A. Perry<sup>6</sup>

<sup>1</sup>Department of Animal Science, Texas A&M University, College Station, TX, <sup>2</sup>University of Missouri, <sup>3</sup>School of Veterinary Medicine and Biomedical Sciences, Texas A&M University, <sup>4</sup>Texas A&M University, Department of Animal Science, College Station, TX, <sup>5</sup>Texas A&M AgriLife Research, <sup>6</sup>Texas A&M AgriLife Research, Overton, TX

3:15 p.m. 81 **Reproductive Dysfunction in Cattle Following Vaccination Not a Result of Viral Infection of the Reproductive Tract**

Kaitlin M. Epperson<sup>1</sup>, Jerica JJ Rich<sup>2</sup>, Emmalee J. Northrop-Albrecht<sup>3</sup>, Erin Beck<sup>3</sup>, Stephanie Perkins<sup>3</sup>, Russell F. Daly<sup>4</sup>, George A. Perry<sup>5</sup>

<sup>1</sup>Department of Animal Science, Texas A&M University, College Station, TX, <sup>2</sup>College of Agriculture, Arkansas State University, <sup>3</sup>South Dakota State University, <sup>4</sup>South Dakota State University Department of Veterinary & Biomedical Sciences, Brookings, SD, <sup>5</sup>Texas A&M AgriLife Research, Overton, TX

3:30 p.m. 77 **Factors Impacting Abundance of Pags After Embryo Transfer in Beef Cattle**

Lacey K. Quail<sup>1</sup>, Jaclyn N. Ketchum<sup>1</sup>, Kaitlin M. Epperson<sup>1</sup>, Saulo Menegatti Zoca<sup>2</sup>, Taylor N. Andrews<sup>3</sup>, Adalaide C. Kline<sup>4</sup>, Jerica JJ Rich<sup>5</sup>, Abby L. Zezeski<sup>6</sup>, Makayla A. Ogg<sup>7</sup>, Jim R. Rhoades<sup>8</sup>, Michael F. Smith<sup>9</sup>, George A. Perry<sup>10</sup>, Tom W. Geary<sup>6</sup>

<sup>1</sup>Department of Animal Science, Texas A&M University, College Station, TX, <sup>2</sup>South Dakota State University, <sup>3</sup>New Mexico State University, <sup>4</sup>Department of Animal Science, South Dakota State University, <sup>5</sup>College of Agriculture, Arkansas State University, <sup>6</sup>USDA-ARS, <sup>7</sup>Montana State University, <sup>8</sup>IDEXX Laboratories, <sup>9</sup>University of Missouri, <sup>10</sup>Texas A&M AgriLife Research, Overton, TX

3:45 p.m. 83 **Transcriptome Comparison of Parthenogenetic vs. Biparental Embryos in Beef Cattle**

Sarah A. Singleton<sup>1</sup>, Gessica Franco<sup>1</sup>, Gabriela Dalmaso<sup>1</sup>, M. Sofia Ortega<sup>2</sup>, Ky G. Pohler<sup>1</sup>

<sup>1</sup>Texas A&M University, <sup>2</sup>University of Missouri

4:00 p.m. 78 **Influence of Prenatal Exposure to Endophyte-infected Tall Fescue on Glucose Metabolism in Weaned Steer Calves**

Brittini P. Littlejohn<sup>1</sup>, R. F. Benefield<sup>2</sup>, Don S. Hubbell<sup>3</sup>, Doug L. Galloway<sup>4</sup>, Charles R. Looney<sup>5</sup>, Jeremy G. Powell<sup>4</sup>, Beth B. Kegley<sup>6</sup>

<sup>1</sup>University of Arkansas System, Division of Agriculture, Department of Animal Science,

<sup>2</sup>Department of Animal Science, Division of Agriculture, University of Arkansas, Fayetteville, AR,

<sup>3</sup>UA Livestock and Forestry Station, retired, <sup>4</sup>University of Arkansas System Division of Agriculture, <sup>5</sup>University of Arkansas, <sup>6</sup>University of Arkansas Division of Agriculture

**Pastures and Forages I**

Chair: Jennifer J. Tucker, University of Georgia; Kendall Whatley, University of Georgia

2:30 PM - 3:45 PM

Magnolia V & VI

2:30 p.m. 102 **Effects of Cattle Removal Date on Forage Production and Steer Performance in Grazed Cover Crops**

Russell C. Carrell<sup>1</sup>, Leanne L. Dillard<sup>2</sup>, Kim K. Mullenix<sup>2</sup>, Audrey Gamble<sup>2</sup>, Russell B. Muntifering<sup>2</sup>

<sup>1</sup>Cargill Animal Nutrition, <sup>2</sup>Auburn University

2:45 p.m. 106 **Performance of Pregnant Beef Heifers During Spring Rotational Grazing of Novel Endophyte Tall Fescue Following Complete Renovation**

Charlotte L. Talbott<sup>1</sup>, Deidre D. Harmon<sup>1</sup>, Matthew H. Poore<sup>2</sup>, Carolyn Young<sup>3</sup>, Alan J. Franzluebbers<sup>4</sup>, Emily H. Griffith<sup>1</sup>, Reagan Bustabad<sup>2</sup>, Madeline Newsome<sup>1</sup>

<sup>1</sup>NC State University, <sup>2</sup>North Carolina State University, <sup>3</sup>Noble Research Institute, <sup>4</sup>USDA ARS

3:00 p.m. 104 **Grazing Evaluation of Two Bermudagrass Bases Interseeded with Alfalfa for Stocker Production in Southeastern US**

Justin C. Burt<sup>1</sup>, Liliane Silva<sup>2</sup>, Kim K. Mullenix<sup>3</sup>, Chris Prevatt<sup>4</sup>, Lisa Baxter<sup>1</sup>, Nicholas Shay<sup>1</sup>, Kendall S. Whatley<sup>1</sup>, Andrea M. Osorio Doblado<sup>1</sup>, Jennifer J. J. Tucker<sup>1</sup>

<sup>1</sup>University of Georgia, <sup>2</sup>Clemson University, <sup>3</sup>Auburn University, <sup>4</sup>University of Florida

3:15 p.m. 105 **Incorporating Crabgrass in Southern Pasture Systems to Improve Animal Performance**

Kendall S. Whatley<sup>1</sup>, Justin C. Burt<sup>1</sup>, Lisa Baxter<sup>1</sup>, Robert Lawton Stewart<sup>1</sup>, Jennifer J. J. Tucker<sup>1</sup>

<sup>1</sup>University of Georgia

3:30 p.m. 110 **Herbage Accumulation and Nutritive Value of Legume-grass Baleage: A Comparison of Alfalfa-bermudagrass and Red Clover-bermudagrass in the Southeast**

Andrea M. Osorio Doblado<sup>1</sup>, Justin J. Burt<sup>1</sup>, Kendall S. Whatley<sup>1</sup>, Francine M. Messias Ciriaco<sup>1</sup>, Darren D. H. Henry<sup>1</sup>, Lisa Baxter<sup>1</sup>, Jennifer J. J. Tucker<sup>1</sup>

<sup>1</sup>University of Georgia

3:30 p.m. 103 **WITHDRAWN: Effects of Hay Maturity on the Enteric Methane Emission, Intake, and Energy Metabolism by Beef Heifers**

Emalee J. Friend<sup>1</sup>, Stacey A. Gunter<sup>1</sup>, Corey A. Moffet<sup>1</sup>, Paul A. Beck<sup>2</sup>

<sup>1</sup>USDA-ARS, Oklahoma and Central Plains Agricultural Research Center, <sup>2</sup>Oklahoma State University

## **Ruminant Animal Production II: Health**

Chair: Brooke Clemmons, Texas A&M University; Pier Semanchik, Texas A&M University and AgriLife Research, Department of Animal Science

2:45 PM - 4:15 PM

Magnolia I & II

2:45 p.m. 101 **Using Canine Olfaction to Detect Bovine Respiratory Disease: A Pilot Study**

Aiden E. Juge<sup>1</sup>, Nathaniel Hall<sup>2</sup>, John T. Richeson<sup>3</sup>, Courtney L. Daigle<sup>4</sup>

<sup>1</sup>Texas A&M University, <sup>2</sup>Department of Animal Science, Texas Tech University, <sup>3</sup>West Texas A&M University, <sup>4</sup>Department of Animal Science, Texas A&M University

3:00 p.m. 96 **WITHDRAWN: Characterization and Comparison of the Bovine Nasal Microbiome to Exposure of Persistently Infected Bovine Viral Diarrhea Virus**

Hunter M. Usdrowski<sup>1</sup>, Jianmin Chai<sup>1</sup>, Bin Zuo<sup>1</sup>, Jana L. Reynolds<sup>2</sup>, Benjamin P. Shoulders<sup>2</sup>, Beth B. Kegley<sup>3</sup>, Jeremy G. Powell<sup>2</sup>, Jiangchao Zhao<sup>1</sup>

<sup>1</sup>Department of Animal Science, University of Arkansas, Fayetteville, AR, 72701, <sup>2</sup>University of Arkansas System Division of Agriculture, <sup>3</sup>University of Arkansas Division of Agriculture

3:15 p.m. 97 **Comparison of Tulathromycin and Gamithromycin as Metaphylactic Treatment on Growth Performance, Morbidity, and Treatment Cost in High-risk, Newly Received Beef Calves**

Kirsten A. Midkiff<sup>1</sup>, Jase Ball<sup>2</sup>, Beth B. Kegley<sup>3</sup>, Benjamin P. Shoulders<sup>1</sup>, Jana L. Reynolds<sup>1</sup>, Jeremy G. Powell<sup>1</sup>

<sup>1</sup>University of Arkansas System Division of Agriculture, <sup>2</sup>University of Arkansas, <sup>3</sup>University of Arkansas Division of Agriculture

3:30 p.m. 100 **Inflammatory Profiles of High Risk Cattle Exposed to Common Management Practices**

Alexandra M. Pittman<sup>1</sup>, Brandi B. Karisch<sup>1</sup>, Amelia Woolums<sup>1</sup>, Rhonda C. Vann<sup>1</sup>, William Crosby<sup>1</sup>

<sup>1</sup>Mississippi State University

3:45 p.m. 98 **WITHDRAWN: Determining the Effect of Zinc Status on Eye Health and Its Relationship with Infectious Bovine Keratoconjunctivitis in Beef Calves**

Reagan N. Cauble<sup>1</sup>, Michael C. Hickinbotham<sup>2</sup>, Beth B. Kegley<sup>3</sup>, Jeremy G. Powell<sup>4</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>Department of Animal Science, University of Arkansas System Division of Agriculture, <sup>3</sup>University of Arkansas Division of Agriculture, <sup>4</sup>University of Arkansas System Division of Agriculture

4:00 p.m. 99 **Effect of Exogenous Melatonin on the Cellular and Humoral Response of Holstein Heifer Calves During Vaccination**

Allie Martin<sup>1</sup>, Vinicius Machado<sup>1</sup>, Whitney L. Crossland<sup>1</sup>

<sup>1</sup>Texas Tech University

**Tuesday, January 25, 2022**

**Small Ruminant Production II: Breeding and Management**

Chair: Olga Bolden -Tiller, Tuskegee University

8:00 AM - 9:15 AM

Magnolia V & VI

8:00 a.m. 121 **Breed and Mating Season Effects on Gestation Length in Landrace Hair Sheep Ewes**

Tom W. Murphy <sup>1</sup>, Stephan Wildeus <sup>2</sup>

<sup>1</sup>USDA ARS U.S. Meat Animal Research Center, <sup>2</sup>Virginia State University

8:15 a.m. 125 **Utilization of Performance-tested and NSIP Sires Improved Progeny Performance and Value in Ram Test Program**

Andrew R. Weaver <sup>1</sup>, Donald L. Wright <sup>2</sup>, Scott P. Greiner <sup>3</sup>

<sup>1</sup>Department of Animal Science, North Carolina State University, <sup>2</sup>Virginia Tech, Southwest Virginia Agricultural Research and Extension Center, <sup>3</sup>Virginia Tech

8:30 a.m. 124 **The Effect of Innate Immune Receptor Activation on Differential Breed Responses to LPS in Sheep**

Samanthia R. Johnson <sup>1</sup>, Denzel Middleton <sup>1</sup>, Scott A. Bowdridge <sup>1</sup>, Scott P. Greiner <sup>2</sup>

<sup>1</sup>West Virginia University, <sup>2</sup>Virginia Tech

8:45 a.m. 122 **Evaluation of Sire FEC EBV Type and *haemonchus Contortous* Infection on Feed Efficiency in Katahdin Sheep**

Scott L. Bowdridge <sup>1</sup>, Andrew R. Weaver <sup>2</sup>, Scott L. Bowdridge <sup>1</sup>, Eugene Felton <sup>1</sup>, Scott P. Greiner <sup>3</sup>

<sup>1</sup>West Virginia University, <sup>2</sup>Department of Animal Science, North Carolina State University, <sup>3</sup>Virginia Tech

9:00 a.m. 123 **Selection for Post-weaning Fecal Egg Count Estimated Breeding Value Is Associated with Greater Antibody Production After Clostridial Vaccination in Katahdin Sheep**

Kelsey Bentley <sup>1</sup>, Andrew R. Weaver <sup>2</sup>, Lee Wright <sup>3</sup>, Scott Griener <sup>3</sup>, Scott A. Bowdridge <sup>1</sup>

<sup>1</sup>West Virginia University, <sup>2</sup>Department of Animal Science, North Carolina State University, <sup>3</sup>Virginia Tech

**Physiology II**

Chair: Pedro L.P. Fontes, University of Georgia; Molly Alexander, North Carolina State University

8:30 AM - 11:15 AM

Cypress I & II

8:30 a.m. 119 **Randel Lectureship: The Role of Maternal Nutrition in Developmental Programming Using a Sheep Model**

Kristen E. Govoni <sup>1</sup>

<sup>1</sup>Dept. of Animal Science, University of Connecticut



9:30 a.m. 116 **Impact of Breed and Method of Semen Collection on Viability and Membrane Integrity of Goat Spermatozoa**  
Dahlia O'Brien<sup>1</sup>, Tiffany Reese<sup>2</sup>, Brou Kouakou<sup>3</sup>, Mahipal Singh<sup>3</sup>, Miller Schauston<sup>3</sup>, Adel R. R. Moawad<sup>3</sup>

<sup>1</sup>Virginia State University, <sup>2</sup>Animal Science Program, College of Agriculture, Family Sciences, and Technology, Fort Valley State University,, <sup>3</sup>Fort Valley State University

9:45 a.m. 115 **Early Pregnancy Diagnosis in *bos Taurus* beef Replacement Heifers Using Color Doppler Ultrasonography**

Matthew P. Holton<sup>1</sup>, Gabriela Dalmaso<sup>2</sup>, Nicholas W. Dias<sup>3</sup>, Stefania Pancini<sup>3</sup>, Cliff C. Lamb<sup>2</sup>, Ky G. Pohler<sup>2</sup>, Vitor R G. Mercadante<sup>4</sup>, Kelsey M. M. Harvey<sup>5</sup>, Pedro L.P Fontes<sup>1</sup>

<sup>1</sup>University of Georgia, <sup>2</sup>Texas A&M University, <sup>3</sup>Virginia Tech, <sup>4</sup>Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences, <sup>5</sup>Mississippi State University

10:00 a.m. **Physiology II Break**

10:15 a.m. 120 **Trilostane Effectively Reduces CL Progesterone Synthesis Prior to Acquisition of Luteolytic Sensitivity in Cyclic Gilts**

Molly K. Alexander<sup>1</sup>, Xiaoqiu Wang<sup>1</sup>, John E. Gadsby<sup>2</sup>, Daniel H. Poole<sup>1</sup>

<sup>1</sup>North Carolina State University, <sup>2</sup>NC STATE UNIVERSITY

10:30 a.m. 117 **Inflammatory Response Following a Single Bout of Exercise Is More Prominent in Young Horses Compared to Older Horses**

Amber Gentry<sup>1</sup>, Kayla Mowry<sup>2</sup>, Hannah Albritton<sup>1</sup>, Jessica Suagee-Bedore<sup>2</sup>

<sup>1</sup>SHSU Department of Agricultural Sciences, <sup>2</sup>Sam Houston State University

10:45 a.m. 112 **Blood Lactate Response of Yearling Horses on a Progressive Workload**

Merina Jackson<sup>1</sup>, Katie R. Johnson<sup>1</sup>, Jessica L. Leatherwood<sup>2</sup>, Amanda N. Bradbery<sup>3</sup>

<sup>1</sup>Texas A&M University, <sup>2</sup>Department of Animal Science, Texas A&M University and Texas A&M AgriLife Research, <sup>3</sup>Montana State University

11:00 a.m. 113 **Cannabidiol Supplementation and Physiological Response in Transported Horses**

Paxton L. Turner<sup>1</sup>, Kimberly A. Guay<sup>2</sup>, Trinetta N. Jones<sup>2</sup>, Lori Cohen<sup>3</sup>, Faith Elwonger<sup>3</sup>, Renata Van Geem<sup>3</sup>, William B. Smith<sup>4</sup>, Vitor R G. Mercadante<sup>5</sup>

<sup>1</sup>Tarleton State University, <sup>2</sup>Department of Animal Science, Tarleton State University, <sup>3</sup>Tarleton State University, <sup>4</sup>Auburn University, <sup>5</sup>Virginia Tech - School of Animal Sciences, Large Animal Clinical Sciences

1:00 a.m. 118 **WITHDRAWN: Lipidomic Analyses of Uterine Fluid in Cyclic and Pregnant Pigs**

Bangmin Liu<sup>1</sup>, Likun Duan<sup>1</sup>, Xiaojing Liu<sup>1</sup>, Xiaoqiu Wang<sup>1</sup>

<sup>1</sup>North Carolina State University

### **Ruminant Animal Production III: Nutrition**

Chair: Darren D. Henry, University of Georgia; Abbigail Hines, Auburn University

8:45 AM - 11:30 AM

Magnolia III

8:45 a.m. **Awardee Talk: Supplementing Omega-6 Fatty Acids to Beef Cows--An Alternative to Improve Overall Beef Production Efficiency**

Alice P. Brandão<sup>1</sup>

<sup>1</sup>Texas A&M University

9:15 a.m. 127 **Effect of Inclusion of Dried Citrus Pulp in the Receiving Supplement for Newly Received Stocker Cattle**

Robin A. Cheek<sup>1</sup>, Beth B. Kegley<sup>2</sup>, Reagan N. Cauble<sup>3</sup>, Jana L. Reynolds<sup>1</sup>, Benjamin P. Shoulders<sup>1</sup>, Kirsten A. Midkiff<sup>1</sup>, Jeremy G. Powell<sup>1</sup>

<sup>1</sup>University of Arkansas System Division of Agriculture, <sup>2</sup>University of Arkansas Division of Agriculture, <sup>3</sup>University of Arkansas

9:30 a.m. 129 **Evaluation of Cotton Gin Byproduct and Whole Cottonseed in Diets for Growing Beef Steers**

Elizabeth P. Mullins<sup>1</sup>, Matthew H. Poore<sup>1</sup>, April D. Shaeffer<sup>1</sup>, Deidre D. Harmon<sup>2</sup>, Carrie L. Pickworth<sup>1</sup>

<sup>1</sup>North Carolina State University, <sup>2</sup>NC State University

9:45 a.m. 134 **Using a 100% Extruded DDGS Cube on Steers Grazing Native Range**

Zane N. Grigsby<sup>1</sup>, Paul A. Beck<sup>1</sup>

<sup>1</sup>Oklahoma State University

10:00 a.m. **Ruminant Animal Production III Break**

10:15 a.m. 131 **WITHDRAWN: Pilot: Does Drinking Water Availability Affect Stocker Cattle Grazing Wheat Pasture?**

Taylor J. Garcia<sup>1</sup>, Mariano Menghini<sup>2</sup>, Jancy Jeffus<sup>1</sup>, Ryan R. Reuter<sup>1</sup>

<sup>1</sup>Oklahoma State University, <sup>2</sup>Depto. Agronomía Universidad Nacional del Sur

10:30 a.m. 128 **Effects of Protein Concentration, Degradability, and Beta-adrenergic Agonists on Ruminal Microbial Communities in Finishing Heifers**

Alison P. Pfau<sup>1</sup>, Kendall L. Samuelson<sup>2</sup>, Madison T. Henniger<sup>1</sup>, Kristin E. Hales<sup>3</sup>, Amanda Lindholm-Perry<sup>4</sup>, Phillip R. Myer<sup>1</sup>

<sup>1</sup>Department of Animal Science -University of Tennessee, <sup>2</sup>West Texas A&M University, <sup>3</sup>Texas Tech University, <sup>4</sup>USDA, ARS, U.S. Meat Animal Research Center

10:45 a.m. 132 **Ranking Beef Heifers for Residual Intake Using an Unprocessed Grass Hay Diet and Its Relationship to Greenhouse Gasses**

Emma A. Briggs<sup>1</sup>, Amanda Holder<sup>2</sup>, Mikayla F. Moore<sup>1</sup>, David Lalman<sup>1</sup>

<sup>1</sup>Oklahoma State University, <sup>2</sup>College of the Ozarks

11:00 a.m. 133 **Ranking Mature Beef Cows for Residual Intake Using an Unprocessed Grass Hay Diet and Its Relationship to Greenhouse Gas Exchange**

Mikayla F. Moore<sup>1</sup>, Emma A. Briggs<sup>1</sup>, David Lalman<sup>1</sup>, Amanda Holder<sup>2</sup>

<sup>1</sup>Oklahoma State University, <sup>2</sup>College of the Ozarks

11:15 a.m. 135 **Vitamin E and Selenium Effects on White-tailed Deer Conception Success in Artificial Insemination Programs**

Phil M. Urso<sup>1</sup>, Kacey Lewis<sup>1</sup>, Stanley F. Kelley<sup>1</sup>, Marcy M. Beverly<sup>1</sup>, Megan Greenwood<sup>1</sup>, Chris Stewart<sup>1</sup>

<sup>1</sup>Sam Houston State University

1:00 a.m. 130 **WITHDRAWN: Meta-analysis of the Effects of Dietary Inclusion of Peanut Skins (*Arachis Hypogaea*) Byproduct on Performance, Digestibility, and Rumen Fermentation of Beef Cattle**

Modoluwamu Idowu<sup>1</sup>, Ibukun M. Ogunade<sup>1</sup>, Andres A. Pech-Cervantes<sup>2</sup>

<sup>1</sup>West Virginia University, <sup>2</sup>Fort Valley State University

**Pastures and Forages II**

Chair: Leanne Dillard, Auburn University; S. Maggie Justice, Auburn University

9:00 AM - 10:00 AM

Magnolia I & II

9:00 a.m. 111 **Inclusion of Quebracho Tannin as a Silage Additive in Tall Fescue Silage: Effects on Fermentation**

Ally J. Grote<sup>1</sup>, Christine C. Nieman<sup>2</sup>, Ken P. Coffey<sup>1</sup>, Ivan R. Thomas<sup>1</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>USDA-ARS

9:15 a.m. 107 **Comparison of Vegetative Indices Using an Unmanned Aerial Vehicle (UAV) and Satellite Imagery in Heifers Grazing Annual Ryegrass**

Sarah M. Montgomery-Williams<sup>1</sup>, Brandi B. Karisch<sup>1</sup>, Joby Czarnecki<sup>1</sup>

<sup>1</sup>Mississippi State University

9:30 a.m. 109 **Forage Production and Nutritive Quality of Dual-purpose Wheat Managed Under Three Different Grazing Frequencies in the Southeastern United States**

Micayla H. West<sup>1</sup>, Kimberly Mullenix<sup>2</sup>, Adam Rabinowitz<sup>2</sup>, Brandon B. Smith<sup>2</sup>, Russell C. Carrell<sup>3</sup>, Leanne L. Dillard<sup>2</sup>

<sup>1</sup>Auburn University, <sup>2</sup>Auburn University, <sup>3</sup>Cargill Animal Nutrition

9:45 a.m. 108 **Forage Mass and Nutritive Value of Stockpiled Alfalfa-bermudagrass Systems**

Liliane Silva<sup>1</sup>, Justin J. Burt<sup>2</sup>, Katie Mason<sup>3</sup>, Luke L. Jacobs<sup>1</sup>, Kaylyn Groce<sup>2</sup>, Kim K. Mullenix<sup>4</sup>, Jennifer J. J. Tucker<sup>2</sup>

<sup>1</sup>Clemson University, <sup>2</sup>University of Georgia, <sup>3</sup>University of Tennessee Institute of Agriculture, <sup>4</sup>Auburn University

**Extension II**

Chair: Deidre Harmon, NC State University; Sarah Montgomery-Williams, Mississippi State University

10:00 AM - 12:00 PM

Magnolia V & VI

10:00 a.m. 137 **Application of Performance Metrics to Evaluate Cow Performance: A Collaboration of the Alabama Beef Cattle Improvement Association and the Alabama Cooperative Extension System**

Michelle F. Elmore<sup>1</sup>, Kim K. Mullenix<sup>1</sup>

<sup>1</sup>Auburn University

10:15 a.m. 136 **Application of Ear-attached Sensor Technology (CowManager) to Detect Estrus in a Commercial Beef Cow AI Program**

Wyatt E. Weber<sup>1</sup>, Charles R. Looney<sup>1</sup>, W. L. Rook<sup>2</sup>

<sup>1</sup>University of Arkansas, <sup>2</sup>Department of Animal Science, Division of Agriculture, University of Arkansas System, Department of Animal Science, Division of Agriculture, University of Arkansas System, Southwest Research and Extension Center, Hope, AR

10:30 a.m. 143 **The Effects of Vaccination Strategies on Bovine Viral Diarrhea Virus Antibody Titers and Body Weight Performance in Pre- and Post-weaned Beef Calves**

Jeff Robe<sup>1</sup>, Paul A. Beck<sup>1</sup>, Jordan Adams<sup>1</sup>, David Lalman<sup>1</sup>, Rosslyn Biggs<sup>2</sup>

<sup>1</sup>Oklahoma State University, <sup>2</sup>Oklahoma State University School of Veterinary Medicine

10:45 a.m. 140 **Development of an Online Educational Initiative to Engage Beef Stakeholders in a Global Scale**

Alice P. Brandão<sup>1</sup>, Reinaldo F. Cooke<sup>1</sup>, G. Cliff C. Lamb<sup>1</sup>, Kathrin Dunlap<sup>1</sup>, Ky G. Pohler<sup>1</sup>

<sup>1</sup>Texas A&M University

11:00 a.m. 141 **Podcasting as an Extension Tool: Limitations and Opportunities**

Samantha P. Bennett<sup>1</sup>, Donald Mulvaney<sup>2</sup>

<sup>1</sup>Auburn University Department of Animal Sciences, <sup>2</sup>Auburn University

11:15 a.m. 138 **Conversion to an Online Delivery Method for the Tennessee Master Horse Program**

Sawyer Main<sup>1</sup>, Kelly Melvin<sup>2</sup>, Ashley Self<sup>2</sup>, Delaney R. Rostad<sup>2</sup>, Jennie L. Ivey<sup>1</sup>

<sup>1</sup>University of Tennessee Institute of Agriculture, <sup>2</sup>University of Tennessee

11:30 a.m. 139 **Determination of Population, Demographics, and Location of Equids in Tennessee Using Coggins Test Records and United States Department of Agriculture Census Data**

Amy M. Berger<sup>1</sup>, Liesel G. Schneider<sup>2</sup>, Matt Horsman<sup>3</sup>, Samantha Beaty<sup>4</sup>, Jennie L. Ivey<sup>5</sup>

<sup>1</sup>Blount County Extension, University of Tennessee Institute of Agriculture, Tennessee State University Cooperative Extension, <sup>2</sup>Animal Science Department, University of Tennessee Institute of Agriculture, <sup>3</sup>Williamson County Extension, University of Tennessee Institute of Agriculture, <sup>4</sup>Animal Health Department, Tennessee Department of Agriculture, <sup>5</sup>University of Tennessee Institute of Agriculture

11:45 a.m. 142 **Prevalence, Usage, and Perceptions of Pulsed Electromagnetic Field Therapy (PEMF) in the Equine Industry**

Delaney R. Rostad<sup>1</sup>, Jennie L. Ivey<sup>2</sup>

<sup>1</sup>University of Tennessee, <sup>2</sup>University of Tennessee Institute of Agriculture