

Animal and Dairy SCIENCES News & Current Events



- Teaching
- Research
- Extension
- Departmental Activities



NOV
4

Mississippi BCIA Fall 2017 Bull and Heifer Sale

Public · Hosted by Mississippi State University Extension Beef

★ Interested

✓ Going

➦ Share ▼

⋮

🕒 Saturday, November 4 at 12 PM

📍 Hinds Community College Sales Arena

📄 Ticket Information
extension.msstate.edu

[Find Tickets](#)



Small Ruminant Management & Famacha Training

This program will train
small ruminant producers
on:

- What is FAMA CHA?
- Strategies
- Parasite Control
- Pasture Management
- Herd Management

WHEN:
Monday
November 6, 2017

TIME:
6:00 – 9:00 PM

LOCATION:
Lincoln County Civic Center Barn
1096 Belt Line Dr NE
Brookhaven, MS 39601

COST: \$15 per participant, meal included

Contact the Lincoln County Extension Office for more information:

601-835-3460

Participants must RSVP by October 30, 2017



Programs of Mississippi State University Extension Service are open to all people without regard to race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, or group affiliation.

MSU Extension will provide reasonable accommodations to persons with disabilities or special needs.

Please contact our office (601-835-3460) prior to a program or event to request reasonable accommodation.



Mississippi 4-H Livestock and Horse ... Programs

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2017 Mississippi State Fair photo, courtesy of Jeff L Homan Photography - <http://www.jefflhoman.com/> — with Jeff Homan. K. & K. Wade with the Pretty Cow Contest theme of "Go to the Moo-on and Back with Milk." 1st place entry.



Grad Student Spotlight: Megan Owen



Megan Owen is a doctoral student in the Animal and Dairy Science Department that hails from New Mexico. She received her Bachelor's and Master's degrees from New Mexico State University and joined our department in January of 2015 under the advisement of Dr. Caleb Lemley. Her research focuses on hormone metabolism in reproductive tissues of cattle. Megan has performed several research projects throughout her almost 3 years with the department that has utilized techniques such as uterine biopsies, laser doppler blood perfusion, and tissue collections. Collection of uterine blood perfusion using a laser doppler probe has never been utilized in cattle before and has provided some interesting results that allow for greater insight to the blood flow within the uterus around the time of conception. Megan has observed the activity of the hormone metabolizing enzymes in uterine tissues, corpora lutea, fetal liver, and maternal liver samples from cattle. In addition, she has been able to detect differences in the activity of these enzymes between pregnant and non-pregnant animals. This greater understanding of the localized metabolism of hormones within the reproductive tract allows for a vast amount of future research. She has collaborated with several universities including North Dakota State University, South Dakota State University, and the University of Florida to name a few. These collaborations have allowed for some excellent and exciting research to be conducted by Megan and her laboratory group. This research has never been performed before and we are very excited to see where this field of research leads.



Mississippi State University Horse Judging Team



added 2 new photos — with Cheyenne Jones and 6 others.

11 hrs · Columbus, OH · 🌐

Mississippi State was represented well at Congress! The team competed in the limited division and started the fall contest season off right! All contestants placed within the top 20 individuals in limited overall.

Individual Results

Mary Claire Cornett: 10th halter, 2nd performance, 8th reasons, 3rd overall

Rachel Mcdaniel: 5th performance, 2nd reasons, 9th overall

Shawna Downs: 7th performance, 10th overall

Tori Stroupe: 6th reasons



Dr. Clay Cavinder, Tori Stroupe, Shawna Downs, Mary Claire Cornett, Cheyenne Jones, Rachel McDaniel, Alex Blackburn

Alex Pittman: 1st in sheep, 5th in cattle, 10th in Angus division, 3rd high individual overall
Kirsten Midkiff: 3rd in cattle, 3rd in reasons, 5th in Angus division, 6th high individual overall
Emily Vowell: 2nd in cattle, 2nd in Angus division, 6th in sheep, 9th high individual overall
Tate Powell: 6th in Angus division
Wyatt Haynes: 9th in sheep



Mississippi State University Livestock Judging Team



Mississippi State University Horse Judging Team



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Meet the 2017 MSU Horse Judging Team!

Introducing Cheyenne Jones from Hickory Flat, MS.

"I am a Senior Biochemistry and Animal and Dairy Science major. My favorite class to judge is either reining or cutting classes. To me the horse judging team is not just an extracurricular activity that judges horses, but it is a way to make friends and broaden my horizon of how to speak in the horse industry. I have become extremely close friends with all 5 women on the team and because of this relationship I am able to talk to them and lean on them for support day or night. Not only is making relationships a favorite part of being on the team, but also getting to see the huge people, trainers, and horses in this industry. It is truly amazing to be able to watch them perform!" — with [Cheyenne Jones](#).



Breakfast on the Farm!

Breakfast on the Farm



MISSISSIPPI STATE UNIVERSITY
DEPARTMENT OF ANIMAL
AND DAIRY SCIENCES

BOO!

FRIDAY, OCTOBER 27 | 9 A.M.-NOON

open to school groups & field trips

SATURDAY, OCTOBER 28 | 9 A.M.-NOON

open to the public & families

BEARDEN DAIRY RESEARCH CENTER | STARKVILLE

2128 Turkey Creek Road

\$5 per person

Breakfast, milk, and ice cream included

DAIRY TOUR

TRICK-OR-"TEAT"

COW COSTUME CONTEST (11 a.m. daily)

HALLOWEEN ACTIVITY

HAUNTED PARLOR

AND MORE!

Registration required by **OCTOBER 20**

extension.msstate.edu/breakfast



MISSISSIPPI STATE UNIVERSITY™
EXTENSION

For more information, contact Amanda Stone
at 662-769-9941 or amanda.stone@msstate.edu.



Upcoming Events!

Beef Extension - Dr. Brandi Karisch & Cobie Rutherford

- **Mississippi State University Artificial Insemination School, October 26 - 28, Animal and Dairy Sciences Department, Mississippi State, MS**



Equine Events - Dr. Clay Cavinder

- **Upcoming Programs and publications are online at <http://extension.msstate.edu/agriculture/livestock/equine/upcoming-programs>**
- **For more info, contact Dr. Cavinder at clay.cavinder@msstate.edu**



4-H Events - Dr. Dean Jousan

- **For publications and upcoming events go to: <http://extension.msstate.edu/4-h> or contact Dr. Dean Jousan at dj230@msstate.edu**



Dairy Events - Dr. Amanda Stone

- **Breakfast on the Farm, Dairy tours with a cow Costume Contest, a "Haunted Parlor, Breakfast with Milk & Ice Cream. October 27-29, MSU Bearden Dairy Research Center. \$5 pp; Register by Oct. 20 at extension.msstate.edu/breakfast**



2017 Refereed Publications

- Durfey, Casey L., **Derris D. Burnett**, **Shengfa F. Liao**, **Christy S. Steadman**, **Mark A. Crenshaw**, Henry J. Clemente, **Scott T. Willard**, **Peter L. Ryan**, **Jean M. Feugang**. Nanotechnology-based selection of boar spermatozoa: growth development and health assessments of produced offspring. *Livestock Science*. 205 (2017) 137-142. <http://dx.doi.org/10.1016/j.livsci.2017.09.024>
- Liao, Shengfa F.**, Martin Nyachoti. Using probiotics to improve swine gut health and nutrient utilization. *Animal Nutrition*. (2017) 1-13. <http://dx.doi.org/10.1016/j.aninu.2017.06.007>.
- Kutchy, Naseer A., Ana Velho, Erika S. B. Menezes, Marie Jacobsen, Giselle Thibaudeau, Arlindo Moura, Abdullah Kaya, Andy Perkins, and **Erdogan Memili**, Robert W. Wills. Testis specific histone 2B is associated with sperm chromatin dynamics and bull fertility-a pilot study. *Journal of Reproductive Biology and Endocrinology*. (2017) 15:59. DOI 10.1186/s12958-017-0274-1.
- Lemley, Caleb O.** Investigating reproductive organ blood flow and blood perfusion to ensure healthy offspring. *Animal Frontiers*. doi:10.2527/af.2017-0124.
- Keomanivong, F. E., L. E. Camacho, **C. O. Lemley**, E. A. Kuemper, R. D. Yunusova, P. P. Borowicz, J. D. Kirsch, K. A. Vonnahme, J. S. Caton and K. C. Swanson. Effects of realimentation after nutrient restriction during mid- to late gestation on pancreatic digestive enzymes, serum insulin and glucose levels, and insulin-containing cell cluster morphology. *Journal of Animal Physiology and Animal Nutrition*. 101 (2017) 589–604. DOI: 10.1111/jpn.12480.
- Menezes, E.B., R.V. de Oliveira, M.F. van Tilburg, E.A. Barbosa, N.V. Nascimento, A.L.M.C.S. Velho, F.B. Moreno, R.A. Moreira, A.C.O. Monteiro-Moreira, G.M.C. Carvalho, A.F. Ramos, **E. Memili**, A.A. Moura. Proteomic analysis of seminal plasma from locally-adapted “Curraleiro Pé-Duro bulls” (*Bos taurus*): identifying biomarkers involved in sperm physiology in endangered animals for conservation of biodiversity. *Animal Reproduction Science*. <http://dx.doi.org/10.1016/j.anireprosci.2017.05.014>.
- Cavinder, C. A.**, A. Sear, R. Valdez, L. White. Utilization of Social Media as a Marketing Tool for Equine Businesses: An Exploratory Study. *North American Colleges and Teachers of Agriculture Journal*. June 2017, Vol 61(2).
- Gastal, G. D. A., A. Hamilton, B. G. Alves, S. G. S. de Tarso, **J. M. Feugang**, G. A. Apgar, C. K. Nielsen, E. L. Gastal, W. J. Banz. Ovarian features in white-tailed deer (*Odocoileus virginianus*) fawns and does. *PLOS ONE*. 12 (5):30177357. <https://doi.org/10.1371/journal.pone.0177357>.
- Aguiar, F.L.N., G.D.A. Gastal, G.M. Ishak, M.O. Gastal, D.I.A. Teixeira, J.R. Figueiredo, E.L. Gastal, **J.M. Feugang**. Effects of FSH addition to an enriched medium containing insulin and EGF after long-term culture on functionality of equine ovarian biopsy tissue. *Theriogenology* 99 (2017) 124-133.
- Feugang, Jean M.** Novel agents for sperm purification, sorting and imaging. *Molecular Reproduction Development*. 2017. 9999:1-10. DOI: 10.1002/mrd.22831.

2017 Refereed Publications:

- Borchers, M. R., Y. M. Chang, K. L. Proudfoot, B. A. Wadsworth, **A. E. Stone**, and J. M. Bewley. Machine-learning-based calving prediction from activity, lying, and ruminating behaviors in dairy cattle. *Journal of Dairy Sciences*, Vol.100:1-11. 2017. <https://doi.org/10.3168/jds.2016-11526>.
- Lemley, C. O.** and K. A. Vonnahme. PHYSIOLOGY AND ENDOCRINOLOGY SYMPOSIUM: Alterations in uteroplacental hemodynamics during melatonin supplementation in sheep and cattle. *Journal of Animal Science* 2017.95:2211-2221. doi:10.2527/jas2016.1151.
- Gastal, G.D.A., F.L.N. Aguiar, B.G. Alves, K.A. Alves, S.G.S. de Tarso, G.M. Ishak, **C.A. Cavinder**, **J.M. Feugang**, E.L. Gastal. Equine ovarian tissue viability after cryopreservation and in vitro Culture. *Theriogenology* 97 (2017) 139-147.
- Maki, C R, S Allen, M Wang, SH Ward, **BJ Rude**, HR Bailey, RB Harvey and TD Phillips. Calcium Montmorillonite Clay for the Reduction of Aflatoxin Residues in Milk and Dairy Products. *Journal of Dairy and Veterinary Sciences*. 2017; 2*3): 555587.
- Regmi, N., T. Wang, **M. A. Crenshaw**, **B. J. Rude**, **S. F. Liao**. Effects of dietary lysine levels on the concentrations of selected nutrient metabolites in blood plasma of late-stage finishing pigs. *Journal of Animal Physiology and Animal Nutrition*. 2017; 1-7. DOI: 10.1111/jpn.12714.
- Wang, Taiji, **Jean M. Feugang**, **Mark A. Crenshaw**, Naresh Regmi, **John R. Blanton Jr.** and **Shengfa F. Liao**. A Systems Biology Approach Using Transcriptomic Data Reveals Genes and Pathways in Porcine Skeletal Muscle Affected by Dietary Lysine. *International Journal of Molecular Sciences* (2017) 18, 885.
- Cain, Amanda J., **Caleb O. Lemley**, F. Kevin Walters, David L. Christiansen, E. Heath King, Richard M. Hopper. Pre-breeding beef heifer management and season affect mid to late gestation uterine artery hemodynamics. *Theriogenology* 87 (2017) 9–15.
- Jones, Barbara W., **Amanda E. Stone**, Connie L. Wood, Kristen J. McQuerry, Joey D. Clark, Denise L. Ray, and Jeffrey M. Bewley, PAS. Case Study: Characterization of milk yield, lying and rumination behavior, gait, cleanliness, and lesions between 2 different freestall bases. *The Professional Animal Scientist* 33:140–149. <https://doi.org/10.15232/pas.2016-01548>.
- Stone, A. E.**, B. W. Jones, C. A. Becker, and J. M. Bewley. 2017. Influence of breed, milk yield, and temperature-humidity index on dairy cow lying time, neck activity, reticulorumen temperature, and rumination behavior. *Journal of Dairy Sciences* 100:1–9. <https://doi.org/10.3168/jds.2016-11607>.
- Hodge, Lauren B., **Brian J. Rude**, **Thu N. Dinh**, **Caleb O. Lemley**. Effect of u-3 Fatty Acid Supplementation to Gestating and Lactating Mares: On Milk IgG, Mare and Foal Blood Concentrations of IgG, Insulin and Glucose, Placental Efficiency, and Fatty Acid Composition of Milk and Serum From Mares and Foals. *Journal of Equine Veterinary Science* 51 (2017) 70–78.
- Littlejohn, B. P., M. C. Roberts, M. N. Bedenbaugh, A. W. Lewis, D. A. Neuendorff, D. G. Riley, J. A. Carroll, **R. C. Vann**, M. Amstalden, R. D. Randel, T. H. Welsh, Jr. (2017). Evaluation of the influence of prenatal transportation stress on GnRH-stimulated luteinizing hormone and testosterone secretion in sexually mature Brahman Bulls. *Journal of Animal Science* 95, 129-138. www.animalsciencepublications.org/publications/jas.
- Gastal, G D A , B G Alves, K A Alves, M E M Souza, A D Vieira, A S Varela Jr, J R Figueiredo, **J M Feugang**, T Lucia Jr and E L Gastal. Ovarian fragment sizes affect viability and morphology of preantral follicles during storage at 4°C. *Reproduction*, (2017) 153, 577-587.

2017 Book Chapters:

- Greene, Jonathan M. and **Peter L. Ryan**. L-Arginine in the Uterus and Placenta and During Gestation in Mammals. In *L-Arginine in Clinical Nutrition, Nutrition and Health*, Chapter 22. 2017. V.B. Patel et al. (eds.). DOI 10.1007/978-3-319-26009-9_22.
- Stone, A. E.** Precision dairy monitoring technology implementation opportunities and challenges. In *Large Dairy Herd Management*, 3rd Edition. (Edited by David K. Beede).
- Wang, Taiji, **M. A. Crenshaw**, M. S. Hasan, G. Wu and **S. F. Liao**. 2017. Effects of dietary lysine levels on the plasma concentrations of growth-related hormones in late-stage finishing pigs. In T. Asao and M. Asaduzzaman. eds. *Amino Acid - New Insights and Roles in Plant and Animal*. Chapter 13. pp. 259-271. InTech, Rijeka, Croatia. DOI: 10.5772/intechopen.68545.