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# ANIMAL & DAIRY SCIENCES NEWS LETTER

MISSISSIPPI STATE UNIVERSITY  
ANIMAL AND DAIRY SCIENCES

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## WELCOME BACK

The Mississippi State University Animal and Dairy Sciences Department would like to welcome you back to what we are sure will be a great spring semester.



**Mississippi State University Extension Beef** shared their event.

December 29, 2017 at 10:50am · 🌐

Make plans to attend the 5th Annual Central MS Replacement Heifer Sale on January 13th! To view the catalog: <http://extension.msstate.edu/.../5th-annual-central-mississip...>



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**Central Mississippi Replacement He...**

Sat 1 PM · Hinds Community College Sale Ba...  
226 people interested

★ Interested



Like



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## HEIFER SALE

Buyers and Visitors: Welcome to our 5th Annual Bred Heifer Replacement Sale. Thanks for your interest in this set of quality females and the producers who consigned them. Heifers are palpated by a certified veterinarian and pelvic measured. Cattle are screened for obvious defects and other problems. If you see a problem we might have missed, please bring it to our attention before the sale.

Interest has always been strong in Central Mississippi for quality replacement heifers and we are pleased with this offering. If you have any questions, please feel free to ask our consignors.



 **Mississippi State University Extension Dairy** shared  
Brandi Bourg Karisch's post.  
December 20, 2017 at 9:56am · 🌐

 **Brandi Bourg Karisch**  
December 20, 2017 at 9:54am · 🌐

Livestock friends

Dixie National schedule and entries are up. There have been a few changes to the schedule so be sure to check it out:



2018 Dixie National Livestock Show and Rodeo |  
Mississippi Department of Agriculture and Commerce  
MDAC.MS.GOV

👍 Like    💬 Comment    ➦ Share    🌐

## DIXIE NATIONAL

Welcome to the 53rd Annual Dixie National Livestock Show and Rodeo. The Dixie National is the largest professional rodeo east of the Mississippi River. The Dixie National Rodeo is produced by Smith, Harper, and Morgan Rodeo Company and hosted by the Mississippi Fair Commission in Jackson, Mississippi.

The Dixie National has been nominated as one of the Top 5 Large Indoor Rodeos of The Year for the past five years. This award is voted on by the cowboys in the Professional Rodeo Cowboy Association (PRCA).



**Renee Anderson**



**Admin** · January 8 at 3:48pm

Welcome back! I hope everyone had a great first day of the semester. I would like for y'all to mark your calendars for Tuesday, January 16th for our next meeting. It will be at 5:30 pm in Ballew Hall.  
Hope to see you there!



Like



Comment

## COLLIGATE CATTLEMANS ASSOCIATION

You don't want to miss the Colligate Cattleman's first meeting of the semester.

Where: Ballew Hall

When: Tuesday, January 16th

Time: 5:30 pm

# STUDENT SPOTLIGHT



## DORTHY COTTONHAM

Dorothy Cottonham is animal and dairy sciences major. Her friends call her DeeDee and she's always had a love for animals. She hopes to become a vet one day. This summer, she cared for sows and their growing piglets. "I took an academic course called swine science taught by Professor Shengfa Liao. This course taught me about pigs and their behavior." After that, she earned a paid internship at a swine breeding farm. in West Point. "The experience is valuable even though I don't plan to pursue a career in the industry. I see several aspects of the industry and have the chance to work with some great people. The swine industry would not be as successful as it is without its dedicated employees."





**Mississippi State University Extension**  
**Beef**



January 4 at 8:29pm · 🌐

Throwing it back to the first day of Spring 2017 and remembering that spring 2018 is only 75 days away! #tbt



👍 Like

💬 Comment

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# Upcoming Events

## BEEF EXTENSION - DR. BRANDI KARISCH & COBIE RUTHERFORD

- February 28- MBCIA Annual Membership Meeting
- March 1- Hinds/MBCIA Spring Bull Sale, Raymond
- March 15-17- MSU Spring Artificial Insemination School



## EQUINE EVENTS - DR. CLAY CAVINDER

- March 24 Hands on Horses
- March 27 - May 1 Horse Management 101
- June 1-3 MSU Horse Judging Camp



## 4-H EVENTS - DR. DEAN JOUSAN

- February 1-8 - Dixie Nationals, Jackson 4-H
- February 9-10 - Dixie National Judging Contest 4-H



## DAIRY EVENTS - DR. AMANDA STONE

- Upcoming programs and publications are online at <http://extension.msstate.edu/dairy>
- For more info, contact Dr. Stone at [amanda.stone@msstate.edu](mailto:amanda.stone@msstate.edu)





## 2017 Refereed Publications

**Liao, Shengfa F.**, Naresh Regmi, Guoyao Wu. Homeostatic Regulation of Plasma Amino Acid Concentrations. *Frontiers in Bioscience, Landmark*. 23, 640-655, January 1, 2018.

Capik, Sarah F., Brad J. White, Robert L. Larson, Nicholas Van Engen, Natalia Cernicchiaro, Terry J. Engelken, Jeffrey Lakritz, Michael A. Ballou, Lindsey E. Hulbert, **Rhonda C. Vann**, Jeff L. Caswell, Gabriella Jacob, Jeffery A. Carroll, Johann F. Coetzee. Effect of oral administration of meloxicam prior to transport on inflammatory mediators and leukocyte function of cattle at feedlot arrival. *American Journal of Veterinary Research*. December 2017. Vol 78, No. 12.

Phillips, C. A., PAS, **C. A. Cavinder, PAS**, D. H. Sigler, and J. D. Fluckey. Effect of Various Levels of Dietary Starch on Glycogen Replenishment in the Light Working Horse. *The Professional Animal Scientist*. 33:729–738. <https://doi.org/10.15232/pas.2017-01651>.

Kaya, Abdullah, Hakan Sagirkaya, Müge Misirlioglu, Ahmet Gümen, John J. Parrish, **Erdogan Memili**. Leptin and IGF-I improve bovine embryo quality in vitro. *Animal Reproduction*. Oct./Dec. 2017, v.14, n.4, p.1151-1160.

Ferjak, E. N., **C. A. Cavinder, D. D. Burnett**, C. Mc. Argo, and **T. T. N. Dinh**. Body fat of stock-type horses predicted by rump fat thickness and deuterium oxide dilution and validated by near-infrared spectroscopy of dissected tissues. *Journal of Animal Science*. 2017.95:4344–4351. doi:10.2527/jas2017.1676

Hergenreder, J. E., J. F. Legako, **T. T. N. Dinh**, P. R. Broadway, K. S. Spivey, J. O. Baggerman, J. P. Hutcheson, M. E. Corrigan, and B. J. Johnson. Zilpaterol Hydrochloride affects Cellular Muscle Metabolism and Lipid Components of 10 Different Muscle in Feedlot Heifers. *Meat Science and Muscle Biology*. 1:192–206 (2017) doi:10.22175/mmb2017.02.0013.

Kutchy, N.A., E. S. B. Menezes, A. Chiappetta, W. Tan, R. W. Wills, A. Kaya, E. Topper, A. A. Moura, A. D. Perkins, **E. Memili**. Acetylation and methylation of sperm histone 3 lysine 27 (H3K27ac and H3K27me3) are associated with bull fertility. *Andrologia*. 2017;e12915. <https://doi.org/10.1111/and.12915>.

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.

## 2017 Refereed Publications:

- 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.
- 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.
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## 2017 Refereed Publications:

- 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](http://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.