



ANIMAL & DAIRY SCIENCES NEWSLETTER

MISSISSIPPI STATE UNIVERSITY
MAY 4, 2018 | VOLUME 86



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2018 National Championship Horse Show



2018 NATIONAL CHAMPIONSHIP HORSE SHOW

THURSDAY, MAY 3, 8:30 A.M.	FRIDAY, MAY 4, 8 A.M.	SATURDAY, MAY 5, 8 A.M.	SUNDAY, MAY 6, 8 A.M.
Individual Open Equitation Over Fences	Collegiate Cup Intermediate Equitation Over Fences	Alumni Equitation Over Fences	AQHA High Point Rider Reining Phase Section A
Individual Intermediate Equitation Over Fences	USEF/Cacchione Cup Over Fences	Collegiate Cup Open Equitation Over Fences	AQHA Advanced Western Horsemanship
Individual Novice Equitation Over Fences	<i>Clear Arena</i>	USEF/Cacchione Cup Work-Off (at Judges Discretion)	AQHA Intermediate Western Horsemanship
Collegiate Cup Novice Equitation Over Fences	<i>Parade of Teams</i>	Clear Arena	AQHA High Point Rider Reining Phase Section B
<i>Clear Arena</i>	AQHA Open Reining	Presentation of the USEF/Cacchione Awards	Individual Advanced Western Horsemanship
Individual Intermediate Equitation on the Flat	USEF/Cacchione Cup Flat Section A	NRHA Individual Open Reining	Individual Intermediate Western Horsemanship
Individual Novice Equitation on the Flat	USEF/Cacchione Cup Flat Section B	Collegiate Cup Open Equitation on the Flat	Individual Beginner Western Horsemanship
Collegiate Cup Novice Equitation on the Flat	Individual Walk-Trot Equitation	Alumni Equitation on the Flat	AQHA Open Rail Horsemanship
Individual Walk-Trot-Canter Equitation	Collegiate Cup Walk-Trot Equitation	Presentation of Collegiate Cup Awards	Individual Novice Western Horsemanship
Individual Open Equitation on the Flat	AQHA Novice Western Horsemanship	Alumni Western Horsemanship	Presentation of AQHA High Point Rider Awards
Collegiate Cup Intermediate Equitation on the Flat	Collegiate Cup Walk-Trot-Canter Equitation	AQHA High Point Rider Rail Phase Section A	Presentation of AQHA Team Awards/ Versatility Award
	Individual Open Western Horsemanship	AQHA Beginner Western Horsemanship	
	Alumni Reining	AQHA High Point Rider Rail Phase Section B	



MSU Horse Sale

MSU Horse Sale Bid May 11-13, 2018

Viewing at Horse Unit Open House 5/5 from 9-11 am

Athleticism

Quality

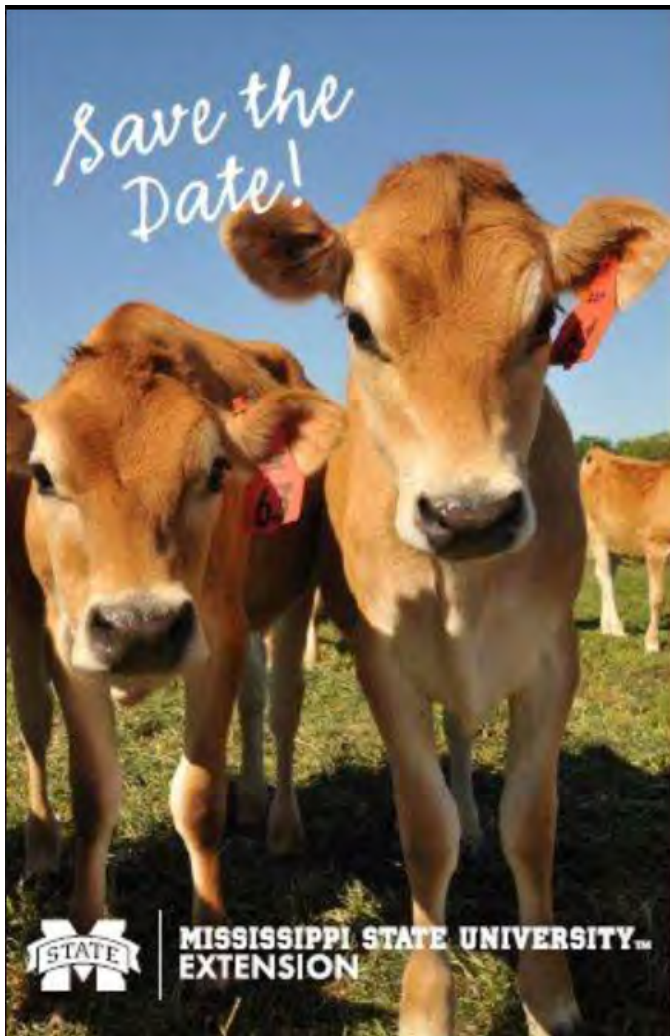
Versatility



Facebook: Mississippi State University Horse Unit
Contact: Ashley Shiffler - (580) 795-4349 - aes779@msstate.edu
Quick, Convenient Bidding At AUCTION.MSUCARES.COM

Bidding begins at 8 am the 11th and closes at 8 pm the 13th

Breakfast on the Farm



Breakfast on the Farm

BEARDEN DAIRY RESEARCH CENTER
2128 Turkey Creek Road, Starkville, MS 39759

SEPTEMBER 27 & 28 | 9 A.M.-NOON
open to school groups & field trips

SEPTEMBER 29 | 9 A.M.-NOON
open to the public & families

EDUCATIONAL ACTIVITIES
FOR ALL AGES

DAIRY TOUR

ANATOMY & DISSECTION ACTIVITIES

MILK A COW

Registration for a designated date & time will be *required*. Registration opens this fall.

For more information, contact Amanda Stone at amanda.stone@msstate.edu

Run for the Roses Banquet

*Presented by the MSU Horse Judging and
Equestrian Teams*

May 5th, 2018 Derby Day

4:45 pm at The Mill Conference Center

Tickets \$40 each

Or \$450 each table

Live Viewing of the 144th Kentucky Derby

Live and Silent Auction

Dinner



**MISSISSIPPI STATE UNIVERSITY
RUN FOR THE ROSES BANQUET**

Email Ashley Shiffler at aes779@msstate.edu to purchase tickets

2018 Deep South Stocker Conference

**JULY 13, 2018
HALE COUNTY COLLEGE AND
CAREER ACADEMY
GREENSBORO, ALABAMA**

2018 DEEP SOUTH STOCKER CONFERENCE

8 A.M. TO 4 P.M.

Topics:

Forage and Supplemental Nutrition
Receiving Calf Health Management
Market and Weather Outlook
Producer Panel

Register at:

<http://www.deepsouthstocker.org/registration/>

Contact:

Dr. Kim Mullenix: (334) 844-1546 or

Brenda Glover: (334) 624-8710



Beef Improvement Federation



BEEF IMPROVEMENT FEDERATION
 50th Annual Research Symposium and Convention
ELEVATING THE INDUSTRY
 JUNE 20-23, 2018
 Embassy Suites Convention Center Hotel | Loveland, Colo.



For 50 years, BIF has provided the framework, discussion, education and guidelines for the practical application of the science of beef cattle genetics.

Join us for the 50th Anniversary Convention as BIF looks at:

- **Positioning for the future of beef production**
 - *Efficient Red Meat Production*
 - *Quality*
 - *Sustainability*
 - *Traits Not Considered*
 - *Alternative Selection Objectives*
- **Who will own our data and our industry?**
- **Where is the data and how will it be used?**



"At BIF, you get the chance to rub shoulders with some of the most advanced cattlemen in the industry. There is nothing about politics or policy at BIF. BIF is focused on making better cattle through genetics, efficiency, profitability and sustainability."

Donnell Brown, BIF President
 R.A. Brown Ranch,
 Throckmorton, Texas

There will also be a Young Producers Forum, afternoon breakout sessions and nightly activities, including an evening at the CSU Stadium Club.

For more information, visit
www.beefimprovement.org



Symposium hosted by:
ANIMAL SCIENCES
 COLORADO STATE UNIVERSITY



MSU Horse Judging Camp



**MISSISSIPPI STATE UNIVERSITY™
EXTENSION**

2018 MSU Horse Judging Camp

What: Horse Judging Camp instructed by Dr. Clay Cavinder and the MSU Horse Judging Team! Up-to-date industry instruction on halter and performance classes to improve the understanding of beginners and advanced judges. Additionally, instruction on reasons will be conducted.

When: June 1-3, 2018

Where: Mississippi State University, Starkville

Who: Youth (experienced or beginners) interested in horse judging

Cost: \$275/person to include: all meals, dorms, and 100+ page judging manual

For program itinerary and to register, please visit: <https://techoutreach.msucare.com/annual-msu-horse-judging-camp-registration>

For further information contact Dr. Cavinder, Extension Horse Specialist, Mississippi State University, clay.cavinder@msstate.edu



\$400,000 USDA Grant

Awarded to Dr. Caleb Lemley

USDA Competitive Standard Grant Proposal Awarded at \$400,000 for 5 years (03/01/2018 – 02/28/2023), titled, *Melatonin-mediated regulation of bovine placental circadian rhythms during compromised pregnancies.*

Project Director, **Caleb Lemley**; co-Principal Investigators, **Derris Burnett**, **Brian Rude**; collaborators, Heath King, Richard Hopper.

Below is the Non-Technical Summary:

Proper fetal nutrition through adequate blood flow to the uterus and placenta is critical to maximize offspring production potential while minimizing pregnancy wastage and calf morbidity and mortality, which are estimated to cost cattle producers over \$1 billion annually. Recently our team observed daily rhythms in uterine and placental blood flow, which increased following melatonin supplementation. Our rationale for the proposed studies is that once the impact of melatonin on controlling daily rhythms in placental function are identified in the context of a compromised pregnancy (such as maternal nutrient restriction), strategies for improving and maximizing offspring health and vigor can be optimized. The hypothesis for the proposed research is that supplemental melatonin during the daytime will ameliorate inadequate

placental function during maternal nutrient restriction. Our objectives are to examine daily rhythms in uterine and placental blood flow in adequately fed and nutrient restricted cattle supplemented with or without dietary melatonin. Moreover, we will examine daily rhythms in placental gene expression associated with blood flow and nutrient transfer. For our results, we expect that dietary melatonin supplementation during the daytime will counteract the maternal nutrient restriction-induced decrease in daytime uterine and placental blood flow. Moreover, placental gene expression related to daily rhythms will be increased in dietary melatonin supplemented heifers, thereby reversing the negative consequences of a compromised pregnancy brought about by nutrient restriction. These outcomes are expected to have significant positive impacts on maximizing cattle placental efficiency and directly informing the development of superior strategies to mitigate wastage of placental function during pregnancy. In addition, the new knowledge gained from these studies will change future placental research by expanding our understanding of daily placental rhythms, which have not been previously studied.

Upcoming Events

ANIMAL AND DAIRY SCIENCES

Upcoming Events

BEEF EXTENSION - DR. BRANDI KARISCH & COBIE RUTHERFORD

- April 5 to 6 Southeast Cattle Handling for Women Producers
- May 27-28 MSU Animal & Dairy Sciences Alumni Weekend and
- May 1 - Beef Quality Assurance Certification, Lafayette County Extension Office, Oxford
- May 5 - Beef Cattle Basics, Brandon



EQUINE EVENTS - DR. CLAY CAVINDER

- June 1-3 MSU Horse Judging Camp



4-H EVENTS - DR. DEAN JOUSAN

- May 19: 4-H Livestock Judging Contest, MSU South Farm



DAIRY EVENTS - DR. AMANDA STONE

- August 25: Ice cream and a Moo-vie
- September 20-21: Calf College
- September 27-29: Breakfast on the Farm
- For more info, contact Dr. Stone at amanda.stone@msstate.edu



2018 Refereed Publications

- T. Williams, **B. Rude**, **S. Liao**, C. Mochal-King, **M. Nicodemus**. Effects of fat supplementation on plasma glucose, insulin and fatty acid analysis in ponies maintained on a forage- based diet. *Journal of Animal Physiology and Animal Nutrition*. 2018;1–8. DOI: 10.1111/jpn.12905.
- Gastal, G.D.A., **J.M. Feugang**, F.L.N. Aguiar, A.P.R. Rodrigues, J.M. Scimeca, G.A. Apgar, W.J. Banz, E.L. Gastal. Cryopreservation and in vitro culture of white-tailed deer ovarian tissue. *Theriogenology*. 113 (2018) 253-260.
- Velho, Ana Luiza Cazaux, Einko Topper, Erika Menezes, **Thu Dinh**, Abdullah Kaya, Arlindo Alencar Moura, **Erdogan Memili**. Metabolomic markers of fertility in bull seminal plasma. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0195279>.
- Owen, MPT , EN Ferjak, **CA Cavinder**, KJ McCarty, KC Yankey, CG Hart, **DD Burnett**, **TTN Dinh**, **CO Lemley**. Effects of body condition score (BCS) on steroid- and eicosanoid- metabolizing enzyme activity in various mare tissues during winter anoestrus. *Reproduction in Domestic Animals*. 2018;53:296–303. <https://doi.org/10.1111/rda.13104>.
- Park, Seong B., **Scott T. Willard**, Christy S. Steadman, Atul A. Chaudhari, Shreekumar R. Pillai, Shree R. Singh, **Peter L. Ryan** and **Jean M. Feugang**. Proteomic analysis of antimicrobial effects of pegylated silver coated carbon nanotubes in Salmonella enterica serovar Typhimurium. *Journal of Nanobiotechnology*. (2018) 16:31 <https://doi.org/10.1186/s12951-018-0355-0>.
- Cavinder, C. A., PAS**, E. N. Ferjak, C. A. Phillips, **D. D. Burnett**, and **T. T. N. Dinh**. REVIEW: The importance of overall body fat content in horses. *The Professional Animal Scientist* 34:125–132. <https://doi.org/10.15232/pas.2017-01708>.
- Sukumaran, Anuraj T. , Alexander J. Holtcamp, April K. Englishbey, Yan L. Campbell, Taejo Kim, Mark W. Schilling, **Thu T.N. Dinh**. Effect of deboning time on the growth of Salmonella, E. coli, aerobic, and lactic acid bacteria during beef sausage processing and storage. *Meat Science* 139 (2018) 49–55.
- Wang, T., **M. A. Crenshaw**, N. Regmi, **B. J. Rude**, M. S. Hasan, A. T. Sukumaran, **T. Dinh**, and **S. F. Liao**. 2018. Effects of dietary lysine level on the content and fatty acid composition of the intramuscular fat in late-stage finishing pigs. *Canadian Journal of Animal Science*. 98: 241-249. DOI: [dx.doi.org/10.1139/cjas-2017-0083](https://doi.org/10.1139/cjas-2017-0083).
- Owen, M.P.T., K.J. McCarty, C.G. Hart, C.S. Steadman, **C.O. Lemley**. Endometrial blood perfusion as assessed using a novel laser Doppler technique in Angus cows. *Animal Reproduction Science*. 190 (2018) 119-126. <https://doi.org/10.1016/j.anireprosci.2018.01.015>.
- Feugang, Jean M. , Shengfa F. Liao, Scott T. Willard**, and **Peter L. Ryan**. In-depth proteomic analysis of boar spermatozoa through shotgun and gel-based methods. *BMC Genomics*. (2018) 19:62 DOI 10.1186/s12864-018-4442-2.
- Liao, Shengfa F.**, Naresh Regmi, Guoyao Wu. Homeostatic Regulation of Plasma Amino Acid Concentrations. *Frontiers in Bioscience, Landmark*. 23, 640-655, January 1, 2018.

2018 Book Chapters:

Jain, Sapna, Seong B. Park, Shreekmar R. Pillai, **Peter L. Ryan**, **Scott T. Willard** and **Jean M. Feugang**. Applications of Fluorescent Quantum Dots for Reproductive Medicine and Disease Detection. In *Unraveling the Safety Profile of Nanoscale Particles and Materials—From Biomedical to Environmental Applications*, Chapter 6, pp. 133-148, <http://dx.doi.org/10.5772/intechopen.72978>.