



• Teaching • Research • Extension • Departmental Activities

Teaching

On Wednesday October 28, 2015, Dr. Erdogan Memili gave a seminar titled "From Bench to Barn: Sperm Factors Influencing Bull Fertility and Cattle Agriculture" at the Department of Animal Science, Cornell University, Ithaca, NY. The Endocrinology and Physiology Seminar series is hosted by the Departments of Animal Science, Biomedical Sciences, and the Baker Institute for Animal Health at Cornell

Research

Mississippi State University GRAZING Dairy

After considerable work **Kenneth Graves, Dr. Stephanie Ward** and the entire crew at the Bearden Dairy have developed a fully functioning grazing operation.



Extension

Dr. Brandi Karisch received the first annual **Dr. Joe Street Outstanding Extension Agriculture and Natural Resources Award** at the Extension Annual Conference awards dinner on November 11, 2015.

This is a well-deserved recognition of Dr. Karisch's hard work and dedication to Mississippi beef producers.



Dr. Brandi Karisch

Extension

UPCOMING EVENTS

4-H Events:

- February 29, 2016—FARMTASTIC, Jackson County
- For more events, go to [Mississippi 4-H Calendar of Events](#) or contact **Dean Jousan** dj230@msstate.edu

Beef Extension Events:

- March 2, 2016 - [BCIA Annual Meeting and Supper](#), Hinds Bull Sale Facility, Raymond, MS

For more events go to [Beef Cattle Calendar of Events](#) or contact **Brandi Karisch** brandi.karisch@msstate.edu or **Cobie Rutherford** cobie.rutherford@msstate.edu

Riding Clinics:

- Horse Management 101 Clinic in Winona, MS - This 8-wk course starts March 22 and runs from 6-9 PM each Tuesday night through May 10, 2016.
- April 2, 2016 - Ranch Riding Clinic in Richton, MS.
- July 2016 - Basic Horsemanship Clinics at the county/district level. Agents have been asked to organize riding clinics in their areas to address topics such as making a more enjoyable horse, leads and lead departures, side passing and two tracking, speed control, bridling up, stopping, and much more! Clinicians from MSU will teach these clinics. Please contact your county agent to organize one of these clinics if you are interested.

The Mane Event:

The MSU Extension Service is proud to introduce a new informational video series! The Mane Event is a monthly “how-to” video series concerning horse management, nutrition concerns, and training tips. These short informative videos provide a source of information to all who are interested in horse care, use, and riding.

- Neck Reining - February (newest video)
- Link to Video web page: [The Mane Event](#)

For more info, go to [Horse Production in Mississippi](#) or contact **Clay Cavinder** clay.cavinder@msstate.edu

Departmental Activities

Mississippi State Fair 2015

Tim Armstrong and James Cannon did an awesome job at the State Fair cooking Bully Burgers. They worked 16 - 18 hours each day for over 12 days representing the department. They were the greatest ambassadors for Animal and Dairy Sciences.



Departmental Activities

Horseman's Association Volunteers at Horse Poor Barrel Race

Dr. Molly Nicodemus, advisor for the Horseman's Association, reported that their members worked the Horse Poor Barrel Race at the Mississippi Horse Park in Starkville, MS on October 16-18, 2015.

To date, this was the largest event the Mississippi Horse Park has hosted. The barrel race was an American Qualifier and included \$20,000 in cash prizes.

Club members were responsible for running the gates during the race. Members signed up for 5-8 hour shifts with shifts starting Friday afternoon at 5 pm and running through Sunday with the last shift ending Sunday night at 9 pm. A total of 6-8 members signed up for each shift with well over 20 members getting a chance to be a part of this event.

Due to the members' exceptional work during the event, the Mississippi Horse Park donated \$500 to the Gary Woodruff Memorial Scholarship, which was started by last year's Horseman's Association officers to recognize members that are dedicated to the improvement and development of the Mississippi horse industry.



Horseman's Association officers and members running the gates at the Horse Poor Barrel Race

Departmental Activities

MSU Equestrian Team Competes at the Fall Classic

The equestrian team traveled to their first competition for the season, the Fall Classic, at Berry College November 7-8. This was the largest intercollegiate equestrian competition hosted by Berry College with 13 colleges competing. The team consists of 10 riders. They competed in hunt seat equitation, western horsemanship, and equitation over fences classes. The MSU team members got their names called out with 12 top 10 placings including 2 7th placed ribbons, 4 6th placed ribbons, 4 4th placed ribbons, 1 3rd placed ribbon, and a 1st placed ribbon won by Kelly Moore in novice equitation over fences. Next competition will be in February. **Dr. Molly Nicodemus** is the team's advisor .



Mississippi State University Equestrian Team

Departmental Activities

MSU Block and Bridle's Little I - 2015

Dr. Jamie Larson, Block and Bridle's advisor, reports that they had nearly 30 new pledges this school year. First place went to Amalea West (center of photo in red and blue bright plaid) and second place went to Mr. Quinton Gibson (Carhart jacket far right). We had an alumni show and Matt Janzan won first place. And for the third year in a row (we'll have

to schedule this when she's out of town next year), the faculty award went to Jessica Graves.

Special thanks to Mark Crenshaw, Caleb Lemley, Shengfa Liao, Trent Smith, and Jessica Graves for braving the show ring in the faculty competition!

Also, a special thanks to Kenneth Graves, William White, Cody Glenn, Corey White, Jamie Burkhardt, and Mark Crenshaw for helping these students prep their animals and get them to the Horse Park!

And the cutest photo of the day... Maggie (Dr. Larson's daughter) took a liking to the pigs.



Departmental Activities

Dr. Clay Cavinder is proud to report the results of the Mississippi State Horse Judging Team in the competition at the 2015 **AQHA World Championship Show** in Oklahoma City, OK. In all, 17 University teams competed. Team members consisted of Hannah Miller, Hannah Collins, Ashley Greene, Samantha Miller, Ashley Palmer, Carlee West, and MaeLena Apperson.

Hannah Miller: High Individual in Performance; 5th High Individual in Reasons; 5th High Individual Overall

Hannah Collins: 10th High Individual in Performance; 9th High Individual Overall

Team Awards: High Team Performance; 3rd High Team Overall

Out of a possible 3,600 points, Mississippi State was only 6 points behind Reserve World Champion, West Texas A&M University and 20 points behind the World Champion Team, Oklahoma State. Top 5 teams were:

1. Oklahoma State 3418
2. West Texas A&M 3404
3. Mississippi State 3398
4. Colorado State 3355
5. Virginia Tech 3351



Mississippi State University Horse Judging Team and Dr. Clay Cavinder

Departmental Activities

Mississippi State Livestock Judging Team

The 2015 Livestock Judging Team ended the year at the National Contest in Louisville, KY. The event was host to thirty-three teams from across the country, and the MSU team finished twenty-third. Team member Tucker Wagner ranked tenth in the Performance Swine Division. A new generation of young stockmen has been developed to go make an impact on our state and its livestock industry.

These young people are among the first representatives of our

newly revitalized livestock judging program, and their impact on the future success of our program will be immeasurable.

We'd like to say a special thanks to our Animal and Dairy Sciences Department Head, Dr. John Blanton for his support of this group and future teams to follow!

All the alumni, donors, livestock breeders and faculty, along with our administration, have truly changed the culture for the better, and only time will tell what the true measure of success will be for the young competitors on this year's team.

Team members are as follows:

Michael Agar-Woodstock, GA
Claylee Chism-Pontotoc, MS
Harrison Lang-Brandon, MS
Dana Richardson-Wauchula, FL
Jay Slater-New Hebron, MS
Tucker Wagner-Collinsville, MS



Mississippi State University Horse Judging Team
with Brett Crow and Kipp Brown

2015 Refereed Publications:

- McCain, A. K., P. T. T. Vu, , T. T. M. Tran, M. V. V. Le, D. H. Nguyen, P. R. Broadway, M. M. Brashears, J. R. Donaldson, M. W. Schilling, and **T. T. N. Dinh**. Influence of Market Setting and Time of Purchase on Bacterial Counts and Prevalence of *Salmonella* and *Listeria* in Pork in Vietnam. *Agriculture, Food and Analytical Bacteriology*. 2015. 5: 166-182.
- McCain, A. K., P. T. T. Vu, N. T. Mai, M. V. V. Le, D. H. Nguyen, P. R. Broadway, M. M. Brashears, J. R. Donaldson, M. W. Schilling, and **T. T. N. Dinh**. Influence of Market Setting and Time of Purchase on Counts of Aerobic Bacteria, *Escherichia coli*, and Coliform and Prevalence of *Salmonella* and *Listeria* in Beef in Vietnam. *Agriculture, Food and Analytical Bacteriology*. 2015. 5: 135-152.
- Burnett, D. D.**, C. B. Paulk, M. D. Tokach, J. L. Nelssen, M. A. Vaughn, K. J. Phelps, S. S. Dritz, J. M. DeRouche, R. D. Goodband, K. D. Haydon & J. M. Gonzalez. Effects of Added Zinc on Skeletal Muscle Morphometrics and Gene Expression of Finishing Pigs Fed Ractopomine-HCL. *Animal Biotechnology*. ISSN: 1049-5398 (Print) 1532-2378 (Online) Journal homepage: <http://www.tandfonline.com/loi/labt20>.
- Wang, Taiji, **Mark A Crenshaw**, Naresh Regmi, Timothy Armstrong, **John R Blanton** and **Shengfa F. Liao**. Effect of Dietary Lysine Fed to Pigs At Late Finishing Stage on the Market-Value Associated Carcass Characteristics. *Journal of Animal and Veterinary Advances*. 14 (8): 232-236,2015. ISSN: 1680-5593.
- Love, C.C., J.K. Noble, S.A. Standridge, C.T. Bearden, T.L. Blanchard, D.D. Varner, **C.A. Cavinder**. The relationship between sperm quality in cool-shipped semen and embryo recovery rate in horses. *Theriogenology*. 84 (2015) 1587-1593.
- Brockus, K.E., C.G. Hart, C.L. Gilfeather, B.O. Fleming and **C.O. Lemley**. Dietary melatonin alters uterine hemodynamics in pregnant Holstein heifers. *Domestic Animal Endocrinology*. 55 (2016) 1–10. <http://dx.doi.org/10.1016/j.domaniend.2015.10.006>
- Kurve, V.P., P. Joseph, J.B. Williams, T.J.Kim, H. Boland, **T.Smith**, M.W. Schilling. The effect of feeding native warm season grasses in the stocker phase on the carcass quality, meat quality and sensory attributes of beef loin steaks from grain-finished beef steers. *Meat Science*. 112 (2016) 31–38. <http://dx.doi.org/10.1016/j.meatsci.2015.10.013>.
- Smith, T.** and J. P. Cassady. Genetic resistance to the effects of grazing endophyte-infected tall fescue. *Journal of Animal Science*. J. Anim. Sci. 2015.93. doi:10.2527/jas2015-9285.
- Davis, K. M., **T. Smith**, B. Bolt, S. Meadows, J. G. Powell, **R. C. Vann**, J. D. Arthington, II, N. DiLorenzo, D. L. Lalman, F. M. Rouquette Jr., G. R. Hansen, A. J. Cooper, J. E. Cloud, M. D. Garcia, II, A. D. Herring, D. S. Hale, J. O. Sanders, T. B. Hairgrove, T. J. DeWitt and D. G. Riley. Technical note: Digital quantification of eye pigmentation of cattle with white faces. *American Society of Animal Science*. 2015. J. Anim. Sci. 2015.93:3654–3660. doi:10.2527/jas2014-8786.
- Legako, J.F., **T.T.N. Dinh**, M.F. Miller, K. Adhikari and J.C. Brooks. Consumer palatability scores, sensory descriptive attributes and volatile compounds of grilled beef steaks from three USDA Quality Grades. *Meat Science* 112 (2016) 77–85. 2015.
- Lv, C. H., T. Wang, N. Regmi, X. Chen, K. Huang and **S. F. Liao**. Effects of dietary supplementation of Selenium-enriched probiotics on production performance and intestinal microbiota of weanling piglets raised under high ambient temperature. *Journal of Animal Physiology and Animal Nutrition* **99**. 2015. 1161-1161. DOI: 10.1111/jpn.12326.

- Hergenreder, J. E., J. F. Legako, **T. T. N. Dinh**, K. S. Spivey, J. O. Baggerman, P. R. Broadway, J. L. Beckett, , M. E. Branine, B. J. Johnson. Zinc Methionine Supplementation Impacts Gene and Protein Expression in Calf-Fed Holstein Steers with Minimal Impact on Feedlot Performance. *Biological Trace Elements Research*. 2015. DOI 10.1007/s12011-015-0521-2.
- Miles, E.D., B. W. McBride, Y. Jia, **S. F. Liao**, J. A. Boling, P. J. Bridges, and J. C. Matthews. Glutamine synthetase and alanine transaminase expression are decreased in livers of aged vs. young beef cows and GS can be upregulated by 17 β -estradiol implants. *Journal of Animal Science*. 2015. 93:4500–4509 doi:10.2527/jas2015-9294.
- Uzbas, F., I.D. May, A.M. Parisi, S.K. Thompson, A. Kaya, A. Perkins, **E. Memili**. 2015. Molecular physiognomies and applications of adipose-derived stem cells. *Journal of Stem Cell Reviews and Reports*. DOI 10.1007/s12015-014-9578-0.
- Grant, K.E., R.V. Oliveira, B.S. Hennington, A. Govindaraju, A.D. Perkins, J. Stokes, D. Rowe, E. Topper, A. Kaya, A. Moura, **E. Memili**, 2015. Sperm Superoxide Dismutase is Associated with Bull Fertility. In press; *Journal of Reproduction, Fertility and Development*. doi: 10.1071/RD14399. PMID: 25896743.
- Doğan, S., P. Varcovic, R. Oliveira, L.E. Belser, A. Kaya, A. Moura, P. Sutovsky, J. Parrish, E. Topper, **E. Memili**. 2015. Sperm chromatin structure reflects fertility phenotypes in breeding bulls. *Journal of Biology of Reproduction*. pii: biolreprod.114.124255. PMID: 25673563.
- Lekatz, L.A., T.J. Swanson, L.E. Camacho, M.L. Van Emon, C.S. Schauer, K.R. Maddock Carlin, C.J. Hammer, **C.O. Lemley**, K.A. Vonnahme. 2015. Maternal metabolizable protein restriction during late gestation on uterine and umbilical blood flows and maternal and fetal amino acid concentrations near term in sheep. *Animal Reproduction Science*, 158 (2015) 115-125.
- Feugang J.M.**, R.C. Youngblood, J.M. Greene, **S.T. Willard**, & **P.L. Ryan** . Self-illuminating quantum dots for non-invasive bioluminescence and fluorescence imaging of mammalian gametes. *J Nanobiotechnol* 13:38, **2015**
- Feugang J.M.**, **S.F. Liao**, **M.A. Crenshaw**, Clemente H, *Willard ST*, & **P.L. Ryan** . Lectin-functionalized magnetic iron oxide nanoparticles for reproductive improvement. *JFIV Reprod Med Genet*,3:2 **2015**
- Feugang J.M.**, J.M. Greene, H.L. Sanchez-Rodríguez, J.V. Stokes, **M.A. Crenshaw**, **S.T. Willard**, & **P.L. Ryan**. Profiling of relaxin and its receptor proteins in boar reproductive tissues and spermatozoa. *BMC Reprod Biol Endocrinol* 13:46, **2015**
- Stevenson, J. S., S. L. Hill, G. A. Bridges, **J. E. Larson**, and G. C. Lamb. 2015. Progesterone status, parity, body condition, and days postpartum before estrus or ovulation synchronization in suckled beef cattle influence artificial insemination pregnancy outcomes. *J. Anim. Sci.* 93:2111-2123.
- Feugang, J.M.**, J. C. Rodriguez-Munoz, D. S. Dillard, **M. A. Crenshaw**, **S. T. Willard** and **P. L. Ryan**. 2015. Beneficial effects of relaxin on motility characteristics of stored boar spermatozoa. *Reproductive Biology and Endocrinology*. 13:24
- Vonnahme, K.A., **C. O. Lemley**, J. S. Caton and A. M. Meyer. 2015. Impacts of Maternal Nutrition on Vascularity of Nutrient Transferring Tissues during Gestation and Lactation. *Nutrients*. 7, 3497-3523.

- Gifford, C. A., K. A. Branham, J. O. Ellison, B. I. Gomez, **C. O. Lemley**, C. G. Hart, C. R. Krehbiel, B. C. Bernhard, C. L. Maxwell, C. L. Goad, D. M. Hallford, and J. A. Hernandez-Gifford. 2015. Effect of anabolic implants on adrenal cortisol synthesis in feedlot beef cattle implanted early or late in the finishing phase. *Physiology & Behavior*. 138:118-123.
- Voelz, B. E., G. F. Cline, C. G. Hart, C. O. Lemley, and **J. E. Larson**. 2015. Effect of 2 corpora lutea on blood perfusion, peripheral progesterone, and hepatic steroid inactivating enzymes in dairy cattle. *J. Dairy Sci.* 98:288-294.
- Liao, Shengfa F.**, Wang, Taiji and Regmi, Naresh 2015. Lysine nutrition in swine and the related monogastric animals: muscle protein biosynthesis and beyond. *SpringerPlus*, 4:147, pp. 1-12.
- Maples, J. , K.T. Coatney, J.M. Riley, **B.B. Karisch, J.A. Parish**, and **R.C. Vann** 2015. Comparing carcass end-point and profit maximization decision rules using dynamic nonlinear growth functions, *J. Agric. Appl. Econ.* Vol 47 (1):1-25.
- Yunta, C. Vonnahme, Mordhost, B.R. , Hallford, D.M., **Lemley, C.O.**, Parys, C., Bach, A. 2015. Arginine supplementation between 41 and 146 days of pregnancy reduces uterine blood flow in dairy heifers. *Theriogenology*, pp. 1-8.
- Effert, A.W., M.E. Wilson, K.A. Vonnahme, L.E. Camacho, P.P. Borowicz, D.A. Redmer, S. Romero, S.T. Dorsam, J.S. Haring and **C.O. Lemley**. 2015. Effect of melatonin or maternal nutrient restriction on vascularity and cell proliferation in the ovine placenta. *Animal Reproduction Science*. Vol. 153:13-21.
- Uzbas F, May ID, Parisi AM, Thompson SK, Kaya A, Perkins AD, **Memili E.** (2015) Stem Cell Rev. 11 (2):298-308. doi: 10.1007/s12015-014-9578-0. PMID: 25504377

2015 Book Chapters:

- Dinh, T. T.**, 2015. "Cholesterol: Properties, Processing Effects, and Determination." *Encyclopedia of Food and Health*.
- Doğan, S., A. Govindaraju, E. Crate and **E. Memili**. 2015. "Functional genomics of mammalian gametes and preimplantation embryos." *In Molecular and Quantitative Animal Genetics*. Blackwell Publisher – ISBN 978-1-118-67740-7, pp. 239-255.
- Matheny, K.L., A.G.A. Viana, **C. Lemley**, H. King, R. Hopper, **M.C. Nicodemus, E. Memili**. 2015. "Progress and prospects in cryopreservation of stallion sperm." *In Advances in Animal Science and Zoology*. Chapter 1. Volume 7. Editor: Owen P. Jenkins. Nova Science Publishers. ISBN: 978-1-63483-328-8.
- Parisi, A.M., C. D. Glenn, H. M. Hurdle, R. B. Kennedy, A. M. Lesniak, R. N. Mann, L. D. Marsh, R. D. Montgomery, C. M. Oden, L. M. Pannell, T. R. Willingham, M. C. Allen, J. A. Boyette, R. A. Broome, D. R. Bugg, S. E. Clark, J. C. Craig, C. G. Crenshaw, B. S. Dixon, D. E. Dodson, M. L. Dore, C. M., Finerman, D. N. Fortin, M. E. Goings, L. R. Grant, B. T. Hairston, C. L. Hardin, T. L. Harris, T. D. Horton, M. E. Jiminez, A. N. Latch, K. A. Lewis, P. D. Mann, C. L. Markel, S. M. Martin, C. A. Meyer, J. N. Milam, E. A. O'Keefe, B. T. Patterson, C. E. Reynolds, H. A. Rodgers, S. L. Shields, K. L. Simon, S. D. Stewart, W. S. Thornton, S. A. Walton, C. L. Webb, A. M. Webster, J. N. Wells, **B. Rude** and **E. Memili**. 2015. "Solutions for Grand Challenges in Animal Agriculture." *In Advances in Animal Science and Zoology*. Chapter 1. Volume 7. Editor: Owen P. Jenkins. Nova Science Publishers. ISBN: 978-1-63483-328-8.