



• Teaching • Research • Extension • Departmental Activities

Meat Chemistry and Cuisine

Submitted by Dr. Derris Burnett



The Department of Animal and Dairy Sciences is offering a First Year Experience (FYE) course for the first time this fall semester. Co-taught by our resident Meat Scientists, Dr. Derris Burnett and Dr. Thu Dinh, “Meat Chemistry and Cuisine” is a course designed to introduce students to the field of Meat Science and Muscle Biology in a creative and interactive atmosphere. Cooking meat is as much an exercise in chemical transformation as it is in culinary flare.

The Chemistry and Cuisine course teaches students about the ABC’s of Meat Cuisine. These include the Anatomy, Biology, and Chemical composition of various meat cuts and how this can be manipulated to make culinary masterpieces.

Through interactive taste tests and demonstrations, students learn the principles of meat flavor, meat safety, Maillard vs. Pyrolysis reactions (a.k.a. browning vs. burning), grilling vs. smoking, marinating vs. dry rubs, preparation of variety meats, and much more. We also expose the students to meat products from various species including Beef, Pork, Lamb, and Goat. Using this approach the instructors are able to convey how understanding the ABC’s of Meat Cuisine can influence the selection and cookery of various meat products.



Photo credit: Anuraj “the meat man” Sukumaran

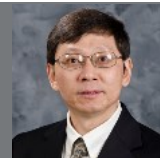
Meat C_6^{12} hemistry and Cuisíne



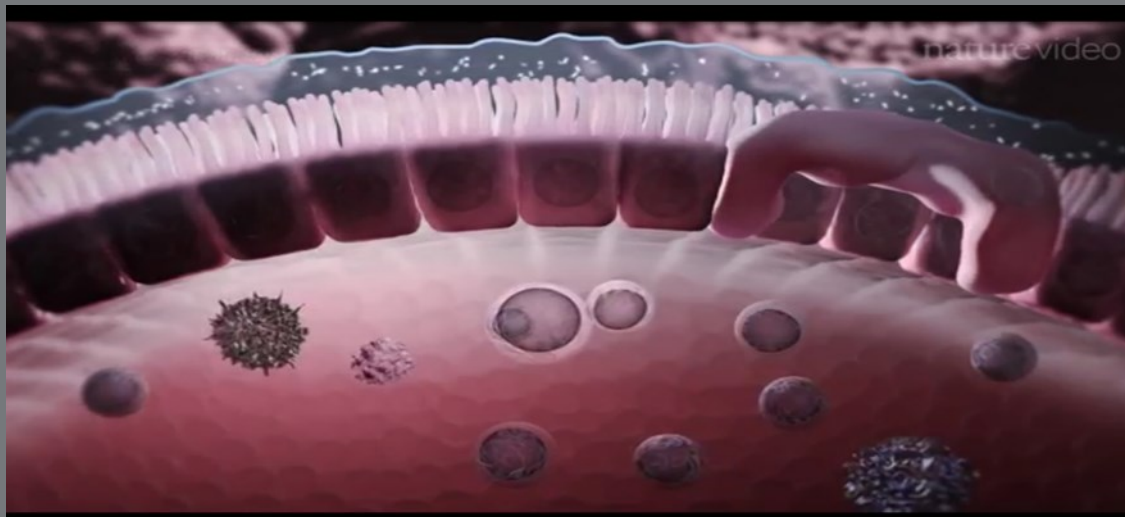
At the end of the semester students will prepare their own meat masterpiece as final project and share the results with the class. So far the course has received rave reviews from the students enrolled and needless to say class attendance has not been an issue. In fact, we always manage to attract some non-enrolled students and passers-by eager to participate in the class. Our students range from ADS majors to chemical engineers. The concept has become such a success that we are looking to offer the course as a standard course available to all students in the coming semesters. Additionally, we are in the process of developing a student club dedicated to Meat Chemistry and Cuisine for all of the aspiring meatheads on campus.

Industry/Research Seminar

Submitted by Dr. Shengfa Liao



“CLAY APPLICATION AND ANIMAL GUT HEALTH”



PRESENTED BY

DR. SAN (CHRIS) CHING

TECHNICAL RESEARCH MANAGER

AMLAN INTERNATIONAL

OIL-DRI CORPORATION OF AMERICA, VERNON HILLS, IL

8:30 – 9:30 AM ON SEPT. 23 (FRIDAY), 2016

ROOM 4043, WISE CENTER

**DONUTS WILL BE SERVED WHILE IT LASTS (BRING YOUR OWN
COFFEE IF NEEDED)**

CONTACT: DR. SHENGFALIAO: 662-325-7318; S.LIAO@MSSTATE.EDU

Upcoming Extension Events

Beef Extension – Dr. Brandi Karisch, Cobie Rutherford



- **BQA Meeting:** Sept. 19th in Corinth, MS
- **BQA Meeting:** Sept. 20th in West Point, MS
- **BQA Meeting:** Sept. 29th in Tylertown, MS

Equine Events – Dr. Clay Cavinder



MSU Online Horse Judging: Coaches and adult leaders can utilize this site as it contains numerous four-horse classes of Halter, Western Pleasure, Hunter Under Saddle, Western Horsemanship, Hunt Seat Equitation, Trail, Ranch Riding, and Western Riding with a new class or two added each month. Each four-horse class also has a video set of reasons from members of the Mississippi State University Collegiate Judging Team, along with a written critique.

Soon to be added are Reining, Heading, Heeling, and Tie-down Roping. Additionally, quick tips and tutorials will be added routinely concerning “how to mark a score card” and “what are penalties and when should they be applied?”

Cost: There are three options to access all the classes and additional content:

1. Month to month (\$18/month), or
2. Yearly membership (\$180/year).
3. Mississippi resident discount (Contact Clay Cavinder cc2944@msstate.edu)

Register at: <http://extension.msstate.edu/msu-online-horse-judging-educational-page>

4-H Events – Dr. Dean Jousan



- **Mississippi State Fair: October 6 - 17**

Mississippi 4-H

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#MAGGIE at #cowbellyell2016! Kenneth Graves, MSU Dairy Herdsman, greeted the vast number of Bulldog fans as they posed with the iconic, Magge, for photos as they waited to enter the stadium.



Mississippi State University Animal & Dairy Sciences Education

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Mississippi State University Livestock Judging



Submitted by Brett Crow



Some time ago, we started featuring alumni of our livestock judging program by giving our viewers a look into the program's impact on the subsequent professional lives of our former members. We know you'll enjoy reading about our most recent featured alumnus, Brandon Cutrer, who probably needs very little introduction in livestock circles!

Brandon is a breeder of Brahman Cattle, and assistant manager of the family-owned V8 Ranch, a registered Brahman, Shorthorn and commercial cow-calf operation with ranching operations in a 3-county area of the Texas Gulf coast.

He received a B.S. in Agricultural Economics from Mississippi State University, where he was also a member of the Livestock Judging Team. Cutrer stated, "My involvement with the Livestock judging team at Mississippi State allowed me to travel across the country and visit many operations and meet people involved in the livestock industry. These learning opportunities and networking experiences helped expand my knowledge of the size and scope of the entire American livestock industry and its impact worldwide. Even today, as a rancher, I am still in contact with many of the industry professionals and leaders, on a regular

basis, that I met during that time. I feel like, the most important things I gained from being involved with the judging team, aside from learning more about livestock evaluation, were the opportunities to meet key people and experience the livestock world outside of Mississippi."

After graduation, Brandon joined the staff of Mississippi State as herdsman of the South Farm Beef unit. In this position, he was responsible for the management of approximately 530 head of Purebred Angus, Charolais, and Hereford cattle. He also worked extensively with Extension and research programs at the university.

Brandon joined V8 Ranch in 2010, and is responsible for the day to day management of 300 head of cattle owned by he and his wife, along with many responsibilities for the ranch-owned 1500 head operation. His ranch responsibilities include implementing and managing the ranch bull test, bull and heifer development and performance programs, AI and reproduction programs, marketing, international representation, and showing.

V8 Ranch is known as one of the premier registered Brahman herds in the world. They have exported cattle and genetics to over 25 countries, primarily in Central and South America, Africa and Southern Asia. The ranch has also exhibited 37 International Champions and 38 National Champions in the Brahman breed.

Cutrer is an approved judge of the Brahman, Brangus, Beefmaster, and Santa Gertrudis breeds. He has judged internationally in the countries of Colombia and Nicaragua. Brandon resides in Wharton, Texas with his wife Rachel and two daughters, Mollie Jo and Ann Catherine. He is also a member of the El Campo Church of Christ.

ADS CLUBS and ORGANIZATIONS



Thanks to all of our generous donors that support and encourage us!

Mississippi State University Equestrian Team




Mississippi State University Equestrian Team

Mississippi State University Equestrian Team
September 12 at 12:26pm · 🌐

Thank you so much Keith and Denise Richardson for your generous tack donation! We greatly appreciate your support!

👍 Like 💬 Comment ➦ Share

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 **Mississippi State University Equestrian Team** Denise Richardson
Like · Reply · 👍 2 · September 12 at 12:29pm

 **Keith Richardson** Your welcome-- hope you will be able to put to good use
Like · Reply · 👍 2 · September 12 at 12:44pm

 **Mississippi State University Equestrian Team** We definitely will!
Like · Reply · Yesterday at 7:48am

2016 Refereed Publications:

- Lamb, G. C., PAS, V. R. G. Mercadante, D. D. Henry, P. L. P. Fontes, C. R. Dahlen, **J. E. Larson**, and N. DiLorenzo. Invited Review: Advantages of current and future reproductive technologies for beef cattle production. *The Professional Animal Scientist* 32 (2016):162–171; <http://dx.doi.org/10.15232/pas.2015-01455>.
- Regmi, Naresh, Taiji Wang, **Mark A. Crenshaw**, **Brian J. Rude**, Guoyao Wu, **Shengfa F. Liao**. Effects of dietary lysine levels on plasma free amino acid profile in late-stage finishing pigs. *SpringerPlus* (2016) 5:888, DOI 10.1186/s40064-016-2463-3.
- Mayer, J. J., J. D. Davis, J. L. Purswell, E. J. Koury, N. H. Younan, **J. E. Larson**, and T. M. Brown-Brandl. 2016. Development and characterization of a continuous tympanic temperature logging (CTTL) probe for bovine animals. *Transactions of the ASABE*. 59:703-714. (DOI: 10.13031/trans.59.11367).
- Gilfeather, CL and **CO Lemley**. 2016. Effects of Interferon-Tau and Steroids on Cytochrome P450 Activity in Bovine Endometrial Epithelial Cells. *Reproduction in Domestic Animals*, 51, 415–420 (2016); doi: 10.1111/rda.12695.
- Prezotto, L. D., L. E. Camacho, **C. O. Lemley**, F. E. Keomanivong, K. A. Vonnahme and K. C. Swanson, J. S. Caton. Nutrient restriction and realimentation in beef cows during early and mid-gestation and maternal and fetal hepatic and small intestinal in vitro oxygen consumption. *The Animal Consortium* 2015. doi:10.1017/S1751731115002645.
- Ye, G., J. Liu, Y. Liu, X. Chen, **S. F. Liao**, D. Huang, and K. Huang. 2016. Feeding glycerol-enriched yeast culture improves lactation performance, energy status, and hepatic gluconeogenic enzyme expression of dairy cows during the transition period. *J. Anim. Sci.* doi: 10.2527/jas.2015-0021.
- Cline, G. F., A. M. Muth-Spurlock, B. E. Voelz, **C. O. Lemley**, and **J. E. Larson**. 2016. Evaluating blood perfusion of the corpus luteum in beef cows during fescue toxicosis. *J. Anim. Sci.* 94:90-95.
- Brockus, K. E., C. G. Hart, C. L. Gilfeather, B. O. Fleming, **C. O. Lemley** (2016). Dietary melatonin alters uterine artery hemodynamics in pregnant Holstein heifers. *Domestic Animal Endocrinology*, 55, 1-10.
- Kaya, A., **E. Memili**. Sperm macromolecules associated with bull fertility. *Animal Reproduction Science*. (2016), <http://dx.doi.org/10.1016/j.anireprosci.2016.02.015>
- Hunt, M.R., J.F.Legako, **T.T.N. Dinh**, A.J.Garmyn, T.G.O'Quinn, C.H. Corbin, R.J. Rathmann, J.C. Brooks, M.F. Miller. Assessment of volatile compounds, neutral and polar lipid fatty acids of four beef muscles from USDA Choice and Select graded carcasses and their relationships with consumer palatability cores and intramuscular fat content. *Meat Science* 116 (2016) 91–101.
- Keomanivong, F. E., **C. O. Lemley**, L. E. Camacho, R. Yunusova, P. P. Borowicz, J. S. Caton, A. M. Meyer, K. A. Vonnahme and K. C. Swanson. Influence of nutrient restriction and melatonin supplementation of pregnant ewes on maternal and fetal pancreatic digestive enzymes and insulin-containing clusters. *Animal* (2016), 10:3, pp 440–448.

Brockus, KE, CG Hart, BO Fleming, T Smith, **SH Ward** and **CO Lemley**. Effects of Supplementing Holstein Heifers with Dietary Melatonin during Late Gestation on Growth and Cardiovascular Measurements of their Offspring. *Reproduction in Domestic Animals*. 51, 240–247 (2016); doi: 10.1111/rda.12672 ISSN

Vasquez, Erick S., **Jean M. Feugang**, **Scott T. Willard**, **Peter L. Ryan** and Keisha B. Walters. Bioluminescent magnetic nanoparticles as potential imaging agents for mammalian spermatozoa. *Journal of Nanobiotechnology*. (2016) 14:20.