



**Mississippi State**  
UNIVERSITY

# Animal and Dairy Sciences

## 2011 Newsletter

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A Message from the Department Head,

August 22, 2011

Greetings everyone. I hope that you have had a great summer and that the remainder of the year will be prosperous for you. As I write this, the students have returned to class and it is truly an exciting time at MSU. Our enrollment continues to hover around 250 students and many good things are happening on campus.

We continue to raise funds for scholarships for our students. This year new scholarships include the Carpenter-McGee-Higgins Dairy Scholarship and the Mississippi State Equine Scholarship. If you would like to contribute to a scholarship or endow a new scholarship contact Jud Skelton in our Foundation office. Scholarships make a big difference to our students as they attend MSU.

We have a new Facebook page for the department.

This Facebook page will be an important source of news from the department and also a good way for you to stay in touch with former and current students at MSU. See Mississippi State University Animal and Dairy Sciences on Facebook.

This is an exciting time for everyone as we have new leadership in the Division of Agriculture, Forestry and Veterinary Medicine. Dr. Gary Jackson has assumed the role of Extension Director for MSU. In addition, Dr. George Hopper is the new Dean for the College of Agriculture and Life Sciences and Director of the Agricultural Experiment Station. We wish them good times and much success as they lead the Agricultural interests at the University.

I will be retiring as the head of Animal and Dairy Sciences on August 31. It has been a great time for me and I am extremely proud of our faculty and their accomplishments in the

department. A search committee is working hard to identify a good candidate to lead the department.

Thank you for being such good supporters of the department. I will miss being in the department, but I will always remember the wonderful times that I have enjoyed. Until we meet again may God bless you.

Sincerely,

*Terry E. Kiser*

Terry E. Kiser, Ph.D.  
Professor and Head



# Highlights of the 4-H Livestock Program

## **Dixie National Junior Round-Up**

The highlight of the 2011 Dixie National Junior Round-Up was the 42<sup>nd</sup> Sale of Junior Champions where youth were recognized for their hard work with their livestock projects. There were 43 animals sold for \$257,162.50. Since the beginning of the sale in 1970, buyers have paid more than \$4.50 million for the champion and reserve champion market animals exhibited at the Dixie National Junior Round-Up.

Another worthy component of the junior sale is the scholarship program that recognizes youth that have developed perseverance and life skills in the 4-H Livestock Program. These scholarships will assist Mississippi youth as they continue to pursue their life goals of going to college and equipping themselves with the knowledge and skills needed to be successful in the next stage of their life.

The Dixie National Sale of Junior Champions Committee distributed \$50,500 worth of scholarships to 33 exhibitors. The five largest scholarships, \$2,000 each, were awarded to the premier exhibitors in beef, dairy, lambs, hogs and goats. Academic scholarships for \$1,500 each went to 25 high school seniors. Additional \$1,000 scholarships were awarded to three exhibitors of the supreme dairy female, supreme beef female, and supreme beef bull.

## **4-H Club Congress**

Approximately 150 youth competed in livestock-related contests in early June during 4-H Club Congress. A wide variety of contests were held, including Dairy Poster Contests, Visual Presentation Contests, Meats Judging, Dairy Products Judging, Livestock Bowl and Dairy Bowl. The winning Dairy Bowl team will compete at the Eastern National 4-H Roundup in Louisville, Kentucky, in November 2011, while the winning 4-H Meats Judging Team will represent Mississippi in the Western National 4-H Roundup in January 2012. Each year, we have a deep field of competitors in our livestock education contests at Club Congress.

## **4-H Horse Shows**

Each year, we have four competitive District 4-H Horse Shows to qualify horses for the State 4-H Horse Championships. Last year, we had our 3<sup>rd</sup> largest horse show in the past 10 years despite tough economic times. Mississippi was well represented at the regional show by our youth in educational contests as well as in the show itself with their horses, as many of our 4-H'ers placed in the top 10 in various classes. We anticipate another great group of competitors again this year.

The State 4-H Horse Championships will be held in Jackson from June 28<sup>th</sup> through July 2<sup>nd</sup> at the Kirk Fordice Equine Center. Our week will begin with several education contests, including Individual and Team Demonstrations, Public Speaking, Horse Judging, Horse Bowl, Hippology, Horse Art, Horse Photography, and T-shirt Design Contests. The horse show kicks off on Wednesday, June 29<sup>th</sup> and will conclude on Saturday, July 2<sup>nd</sup>. From this show, we will qualify 50 horses to represent Mississippi at the 2011 Southern Regional 4-H Horse Championships in Tunica, Mississippi. This will be the first time Mississippi has hosted the regional horse show in the past 10 years.

### ***The Saga Continues...From Bench to Barn, and to Bed Side... Animal Functional Genomics***

The goal of research in the Laboratory of Animal Functional Genomics is to determine fundamentals of early animal development and identifying biomolecular markers for fertility. To accomplish this goal, researchers in the laboratory conduct original research using innovative approaches including molecular systems biology, functional genomics, and cell and developmental biology.

Much of the research is collaborative in nature involving scientists from Mississippi State, other universities in the US and around the world as well as industry partners. Development of researchers through quality research and mentoring is a key element in the laboratory. Diverse members of our society are included in the research team, thus the team turns into "*Diversity Vigor*"

Both undergraduates and graduate students are empowered with high quality basic and applied research. There are currently four Ph.D. students, doing hypothesis driven research in several essential aspects of animal reproduction and development. Two undergraduates funded by National Science Foundation also conduct mentored research in interdisciplinary areas.

Recent research in the laboratory has provided crucial information on viability of spermatozoa and how this impacts fertilization and embryogenesis at the onset of life. For example, the researchers and their collaborators have identified both genomic and proteomic markers associated with bull fertility.

In order to understand the big picture of early mammalian development, comparative functional genomics approaches are employed. For example, a bovine model is used to identify molecular markers and mechanisms regulating male fertility. The unique aspect of the bovine model is that there is wealth of reliable information on bull fertility phenotypes derived from thousands of breeding including well established IVF techniques. Thus, the markers and mechanisms associated with male fertility may improve both animal and human reproductive health and assisted reproductive therapies.



Ph.D. student Kamilah Grant and undergraduate student Lauren Belser conduct research on proteomics and epigenomics of the spermatozoa. Some of the findings were presented at the annual conferences of Society for the Study of Reproduction this summer.

## Faculty, Staff & Student Achievements

**Dr. John Fuguay**, Professor Emeritus, is the editor-in-chief of the 2nd edition of the Encyclopedia of Dairy Science (picture below). Dr. Fuguay also recently wrote "Musings of a Depression Era Southern Farm Boy" which is available through VANTAGE Press, Inc. ISBN 13: 978-0-533-16282-6.

**Dr. Dean Jousan** was a recipient of the Achievement in Service Award from the National Association of Extension 4-H Agents in October 2010. He received the Achievement Award from the National Association of County Agricultural Agents in August 2011.

**Ms. Ann Leed** received the 2011 CALS Excellence in Teaching Upper Division Award and CALS Excellence in Teaching Overall Award.

**Dr. Carolyn Huntington** was the recipient of the 2011 MSU Irvin Atly Jefcoat Excellence in Advising Award for faculty and the 2011 National Academic Advising Association Advising Award.

**Heather Duoss**, M.S. student under Dr. Ty Schmidt, was recognized as the Animal and Dairy Sciences graduate student of the year. She also received the MSU Women's Club Scholarship.

**Landon Marks**, M.S. student under Dr. Jane Parish, received the Alabama Beef Cattle Improvement Foundation Graduate Fellowship.

**Nicholas Simmons**, M.S. student under Dr. Trent Smith, received the 2011 Annual Cattle Industry Convention and NCBA Trade Show Fellowship.

**Kamilah Grant**, Ph.D. student under Dr. Erdogan Memili, received a travel award to the Society of the Study of Reproduction Travel Award.



For more information, go to:  
[msucares.com/livestock/beef/aischool.html](http://msucares.com/livestock/beef/aischool.html)

## Artificial Insemination School

The Mississippi State University Extension Service and Animal and Dairy Sciences Department host two Cattle Artificial Insemination (AI) Schools each year. The AI Schools are held in spring and fall annually at the Mississippi Agricultural and Forestry Experiment Station Bearden Dairy Research Unit and in departmental classrooms. There is strong demand for the MSU Cattle AI school. The course consistently fills to participant capacity at each offering, with waiting lists formed each time for future offerings. School participation has expanded from primarily Mississippi-based attendees to producer representation from 17 additional U.S. states in the program. In excess of 850 persons have completed the MSU Cattle AI school since its inception in 1997.

# A Decade of Equine Team Competitions

The equine teams representing Mississippi State University and the Animal & Dairy Sciences department reach a decade of successful competitions as they enter into the 2011 competition year. In the spring of 2001 the MSU equestrian team was born traveling with 14 hunt seat team members to Middle Tennessee State University for their first IHSA competition. The spring of 2011 marked a decade of competitions finding this season was no less successful with both the hunt and stock seat teams bringing home multiple ribbons. In the first two shows of the season, the hunt seat team brought home 26 ribbons including four first place ribbons and three second place ribbons. Last year marked a "first" for the team as Katelyn Brumfield, MSU hunt seat Alumni rider, traveled to IHSA Nationals to represent MSU for the first time at the national level. This year was no different as Kristen Walters, MSU hunt seat Alumni rider, qualified for IHSA Nationals after winning her alumni over fences class at Zones competition this spring. Kristen Walters is a graduate student at MSU and was a captain of the hunt seat team during her undergraduate career at MSU from 2007 to 2009. She has continued to assist the undergraduate riders of the MSU equestrian team and helped in initiating the alumni riding program at MSU starting in the fall of 2009. She will be representing MSU at IHSA Nationals at the Kentucky Horse Park during the 2011 summer.

This fall will mark a decade of competition for the MSU horse judging team. After multiple years of MSU not having a horse judging team in the fall of 2001 a team was brought together and went to their first competition in quite some time. The fall of 2001 started with the MSU horse judging team competing for the first time at Morgan Grand Nationals Collegiate Judging Competition, and so, in the fall of 2011 the team will return to Morgan Grand Nationals to mark a decade of competition. The fall 2011 horse judging team will have a hard act to follow as the fall 2010 MSU horse judging teams made a very successful showing at Morgan Grand Nationals in Oklahoma City, Oklahoma in October of 2010. This past fall the MSU horse judging teams brought home multiple Top Ten awards from Morgan Grand Nationals. In the performance division MSU won a fifth place ribbon and a Reserve Championship along with team member Summer Walton winning an individual ninth placing, Brianna Tisdale winning an individual eighth placing, and Will Gentry being awarded the individual Championship in this division. In the halter division MSU won a ninth place ribbon and a Reserve Championship along with team member Paige Nicholson winning an individual eighth placing, Will Gentry winning an individual fourth placing, and Brianna Tisdale being awarded the individual Championship in this division. In the reasons division MSU won a ninth place ribbon and a Reserve Championship along with team member Reagan Bugg winning an individual tenth placing, Brianna Tisdale winning an individual fifth placing, and Will Gentry being awarded the individual Championship in this division. Overall standings for the fall 2010 competition found MSU teams winning a sixth place ribbon and a Reserve Championship along with team member Brianna Tisdale being named third overall in the contest and team member Will Gentry being named Individual Grand Champion.

2010 Reserve Morgan Grand Nationals Champion Team (left to right): Reagan Bugg, Summer Walton, Paige Nicholson, and Will Gentry



## Block and Bridle Club

The MSU Block and Bridle Club had another busy and exciting year. Under the leadership of JB Farrell, the year started off with a fish fry, welcoming back old members and greeting potential pledges. The club quickly became busy halter breaking calves for the Little International show. The Little "I" show was held at the Mississippi Horse Park and judged by Matt Woolfolk. In January, twenty-three new pledges were initiated into the club at the Chapel of Memories. In February, members worked the collegiate livestock judging contest at Dixie Nationals. Throughout the year the club held various fundraisers including a pledge sale, bake sale, and a Dan Mullen signed football raffle. These fundraisers benefited both the club and various community service organizations. Towards the conclusion of the school year, the club organized the Animal and Dairy Sciences Award Banquet where departmental scholarships were presented and clubs recognized outstanding members. The club wrapped up the academic year with a crawfish boil. Plans are already in the works for the 2011-2012 year under the leadership of: President Lanna Durst, Vice President Brandon Leslie, Secretary Holly Walters, Treasurer Morgan Robertson, Pledge Marshalls Finley White and Matt Woolfolk, and Website Editor Cori Webb.



Block and Bridle Pledges

## Cattlemen's Spring Break

During the spring 2011 semester, the MSU Collegiate Cattlemen's Association took the opportunity during spring break to travel and experience different types of operations outside Mississippi. The trip started with travels into Oklahoma where the student group visited several purebred operations, including one of the largest purebred Angus seedstock operations in the country in Express Ranch. The group also toured the Oklahoma City Stockyards which has been trading beef cattle since 1910. From there, the students traveled into the state of Texas and visited several operations including the R. A. Brown Ranch.

## Cattlemen's Spring Break, cont.

This ranch raises and markets four different breeds of cattle including Angus, Red Angus, SimAngus and a 4-breed composite known as the Hotlander, which was developed on the ranch in the late 80's. The ranch maintains records on over 1,000 head of cows and covers 33,000 acres in Texas and Colorado. While in Texas, a stop was made at the historic Fort Worth Stockyards before heading back home. The trip took 6 days and encompassed 2,000 miles. The students saw well over 1,000 head of cattle and visited 6 cattle operations in the states of Oklahoma, Texas, and Louisiana. The club saw firsthand ways of raising cattle in environments different than here at home and met a lot of interesting people involved in the beef cattle industry. The club decided to make this trip an annual event and works hard throughout the year to raise funds to help with expenses. The plan for future trips is to expose the group to different operations and areas of the country each year.



### White Sand Branch Beef Unit

The White Sand Branch Beef Unit is located approximately 10 miles west of Poplarville on Highway 26 in Southeastern Mississippi. The unit is part of the South MS Branch Experiment Station in Poplarville, and falls under the umbrella of Coastal Research and Extension Center in Biloxi. The unit sits on 400 acres of pasture and has approximately 140 head of crossbred beef cows. Personnel at White Sand include Mr. Larry Fitzgerald (Research Associate), Melvin Gipson (Research Tech.), Kevin Odom (Research Tech.), and Roy Gipson (Research Tech.). Research is conducted under the auspices of Dr. Daniel Rivera and consists of forage/supplement interactions in beef cattle production, especially the use of by-product supplements. The station has a 2 ton capacity feedmill and a 1 ton capacity mixer wagon. Three outside commodity bays and four tank storage units allow for more than adequate storage of feedstuffs. A new office/shop building has just been completed on the station, since the previous buildings were damaged during Hurricane Katrina. Current and recent projects include the evaluation of a patented value-added cotton gin feed product on performance and forage digestibility of beef steers; an implant management study involving pre- and post-weaned calves; a study examining the interactions of protein type on performance, nitrogen metabolism and intake of beef cattle fed ryegrass baleage; an experiment to determine the most effective nitrogen delivery method to grazing beef cattle (nitrogen via a protein supplement or fertilizer); and a study looking at effects of summer planted soybeans on winter ryegrass production (inputs and productivity).

# Undergraduate Departmental Scholarships

Bryan & Nona Baker Endowed Scholarship:

**Matt Woolfolk**  
**Lacy Priest**

Billy Gene Diggs Memorial Scholarship:

**Lanna Durst**

Henry H. Leveck Memorial Scholarship Fund:

**Ashleigh Thomas**  
**Ryan Kennedy**  
**Kathleen Barton**

Janice McCool Durff & Alma McCool Liles  
Endowment & Scholarship Fund:

**Cori Webb**  
**Emerald Barrett**  
**Dorothy Reagan Bugg**  
**Andrea Seitz**  
**Joanna King**

Reverend & Mrs. William Page Brown Memorial  
Scholarship:

**Jordan Craig**

Fuquay Endowed Scholarship in Animal and  
Dairy Sciences:

**Brandon Yelverton**

Rodney Moore Scholarship:

**Morgan Fuller**

Enoch Norton Endowed Scholarship:

**Taylor King**  
**Rachel Montgomery**

Glenn McCullough Scholarship:

**Rachel Howell**

O.W. Scott Scholarship:

**Thomas Ryan Andrews**

Miles Carpenter-Bill McGee-Higgins  
Endowed Scholarship:

**Diana Kaitlyn Hardin**

W.L. Buddy Richmond

**Caitlin Quinn**

Linda "Big Lou" Schuerer Memorial  
Scholarship

**Chelsea Meyer**



Picture: Front row (LR): Emerald Bugg, Kathleen Barton, Cori Webb, Matt Woolfolk, Lanna Durst, Chelsea Meyer. Back row (LR): Jordan Craig, Thomas Ryan Andrews, Rachel Montgomery, Taylor King, Dorothy Reagan Bugg, Ashleigh Thomas, Rachel Howell, Diana Kaitlyn Hardin, Laci Priest.