

Animal Science Weekly

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Southwest Beef Symposium held in Amarillo

AMARILLO – Several Texas AgriLife Extension faculty members in the Department of Animal Science participated in the Southwest Beef Symposium held in Amarillo Jan. 18-19, 2011. The Southwest Beef Symposium is a joint effort between Texas AgriLife Extension Service and New Mexico Cooperative Extension Service.

The educational program is tailored for beef producers and was established to annually provide timely information about current industry issues and practical management. This year, 159 people attended the program and trade show, and they reported an average herd size of 540 head (cow-calf), 4,016 head (stocker) and 11,530 head (feeder).

Dr. Dennis Avery, a senior-fellow at the Hudson Institute in Washington,

D.C., was the keynote speaker, and discussed how modern agricultural technology will be the key to both feeding the world and saving some of the world's key ecosystems, now and in the future.

Dr. Jim MacDonald presented information on how management technologies reduce beef production's carbon footprint; Dr. Ted McCollum spoke on managing weight relationships in stocker/feeder calves and on managing gain in stocker cattle; and Dr. Bruce Carpenter presented information on managing fertility in bulls.

The event was carried on live radio by KFLP, Floydada; and KZIP, Amarillo. Reporters from Beef Magazine and Livestock Weekly also attended. For more information on the symposium, visit <http://swbs.nmsu.edu/>.

TAMU Horseman's Association hosts national convention

FORT WORTH – Texas A&M University Horseman's Association hosted the American Collegiate Horseman's Association National Convention in Fort Worth Jan. 26-30, 2011. ACHA convention was the largest ever in 2011 with 140 attendees from 13 universities from 11 states. Convention goers visited industry leaders from several

disciplines during a North Texas farm tour, got a little western at the Fort Worth Stock Yards and Fort Worth Livestock Show and Rodeo, and learned from career speakers consisting of industry leaders.

The convention concluded with business meetings and election of new officers for the national organization. Katie Owens, a junior Animal Science major, was elected Representative, and Alexis Duhon, a junior Animal Science major, was elected President of the American Collegiate Horseman's Association. In total, 16 Aggies attended the national convention, and were accompanied by their advisor, Dr. Laura M. White, lecturer in the Department of Animal Science.



TAMU Horseman's Association members are pictured here with world renowned reining horse trainer Tim McQuay (on horseback).

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ANS RESEARCH at WORK

Animal Behavior Program: Research

by Ted H. Friend, Ph.D.
Professor and Texas AgriLife Research Faculty Fellow
Department of Animal Science

The Animal Behavior Program in the Department of Animal Science was one of the first of its kind in the United States, thanks to the foresight of O.D. Butler (then Head of Animal Science), H.O. Kunkel (then Dean of the College of Agriculture), and Neville Clark (then Director of the Agricultural Experiment Station). The USDA and many universities now have programs similar to what we have at Texas A&M University.

Much of my team's work has been in the field of animal wellbeing because I perceived the greatest need and opportunity to make meaningful contributions to be in that arena. Animal welfare is closely linked to an animal's perception of its environment, and concern over whether an animal can carry out its "natural behaviors," making animal behavior synonymous with animal welfare science. A major goal of our research has been to provide a scientific basis for many of the animal wellbeing issues facing animals controlled by people and to work with stake-holders to identify reasonable changes when change may be needed. People in animal agriculture in the United States have reason to be proud of their accomplishments and animal care. Productivity (and ultimately, "greenness") and profitability of livestock are directly related to the wellbeing of the animals in their charge. However, legislators and other decision makers need objective scientific information as they respond to the concerns of the public. The political and marketing pressures placed on decision makers from both sides of issues are immense, and are often based on emotional and unjustified concerns promoted by activist groups.

My students and I have published research articles on sheep, goats, horses, pigs, beef cattle, dairy cattle, dairy calves, poultry, dogs, elephants and tigers. Although every species is unique, making inferences across related species can be very useful. Also, the variety of our projects makes this a very interesting field.

The existing regulations for the transport of slaughter horses in the United States and Canada are largely based on research from my program, using horses and sheep for models. In fact, our transport research was instrumental in convincing the European Union to reconsider some highly restricted regulations that required frequent rest stops. Animals did not obtain meaningful rest during the stops, and the associated unloading and reloading was clearly detrimental. We recently completed a study that helped determine if the E.U.'s proposal for transporting slaughter horses in individual tie stalls is efficacious. The vast majority of untrained horses being transported in the U.S. are transported loose in groups, and a major concern is how untrained horses will cope with being tied in individual stalls. Ten-years ago I initiated a series of studies for the USDA on transport and management of circus elephants and tigers. Those studies found a clear advantage for reducing stereotypic behavior if circuses adopted the use of portable electrified pens (they use a standard cattle fence charger) for maintaining elephants during the day, as opposed to the traditional picketing. All North American and European circuses have now adopted the use of such pens for elephants. We found that the quality of life for circus elephants and tigers is similar to that experienced by show horses, cattle, or dogs.

We have always been interested in investigating ways of mitigating transport related stress because it is such a large problem for animal agriculture. Some of our first studies involved quantifying eating and drinking behavior of cattle transported by rail. Our more recent trials found that ventilation in punch-sided semi trailers traveling at highway speeds is surprisingly poor. After a number of preliminary trials, creating cross ventilation in commercial trials has the potential to greatly increase animal comfort while decreasing stress, shrink, ammonia concentrations, animal borne pathogens and disease transmission. However, redirecting air flow does decrease fuel efficiency so more trials are needed to work out the costs and benefits.

We now have several collaborative studies underway with our immunology, genetics, equine, dairy and beef faculty to investigate a recurring problem in stress research. Many of the indicators that we have been using for decades to measure stress respond in a similar manner whether animals experience beneficial or adverse events. The most striking difference between beneficial and adverse stress is impaired health, hence our present interest in factors involved in regulating immune function and health.

Recent publications

- Bazer FW, Spencer TE, Johnson GA, Burghardt RC. Uterine receptivity to implantation of blastocysts in mammals. *Frontiers in Bioscience* 2011; S3:745-767.
- Kim J, Burghardt RC, Wu G, Johnson GA, Spencer TE, Bazer FW. Select Nutrients in the ovine uterine lumen: VII. Effects of arginine, leucine, glutamine and glucose on trophectoderm cell signaling, proliferation and migration. *Biol Reprod* 2011; 84 70-78.
- Kim J, Burghardt RC, Wu G, Johnson GA, Spencer TE, Bazer FW. Select Nutrients in the ovine uterine lumen: VIII. Arginine stimulates proliferation of ovine trophectoderm cells through mTOR-RPS6K-RPS6 signaling cascade and synthesis of nitric oxide and polyamines. *Biol Reprod* 2010; 84 62-69.
- Song G, Fleming JGW, Kim J, Spencer TE, Bazer FW. Pregnancy and interferon tau regulate N-myc interactor in the ovine uterus. *Dom Anim Endocrinol* 2011; 40:87-97.

Upcoming events

Department of Animal Science Seminar Series (Feb. 8, 2011 - Faculty Lounge - 11:45 a.m.) - Ms. Cathryn Clement will present "International Academic Experiences – Benefits & Opportunities." Ms. Clement is an academic coordinator with the Norman Bourlaug Institute for International Agriculture and a lecturer in the Department of Agricultural Leadership, Education and Communications. For more information or to RSVP, contact Tryon Wickersham at <tryon@tamu.edu>.

Animal Science Graduate Student Association Coffee Break (March 11, 2011 - Faculty Lounge) - All Animal Science faculty, staff and graduate students are invited to attend.

Children's Barnyard (April 27-29, 2011 - College Station) - For more information, please contact Kaitlyn Grimshaw at <kaitlyn_grimshaw@neo.tamu.edu> or go to <http://animalscience.tamu.edu/students/clubs/s&s/announcements/index.htm>.

Texas A&M Show Cattle Camp (May 27-29, 2011 & June 3-5, 2011 - College Station) - For more information, please contact Paul Maulsby at 979-862-4736 or email <beefcenter@tamu.edu> or visit <http://animalscience.tamu.edu/academics/beef/beef-center/camps/show-cattle-camp/index.htm>.

Texas A&M Livestock Judging Camp (May 28-30, 2011 & June 24-26, 2011) - For more information, please contact Jake Franke at 979-845-7616 or visit http://animalscience.tamu.edu/workshops/youth-workshops/livestock_judging_camp.htm.

Texas A&M Horse Judging Camp (June 22-24, 2011 & July 6-8, 2011 - College Station) - For more information, please contact Dr. Clay Cavinder at 979-845-7731 or email <cac@tamu.edu> or visit <http://animalscience.tamu.edu/workshops/youth-workshops/tamu-horse-judging-camp.htm>.

Aggieland Lamb & Goat Camps (July 15-17, 2011 & July 22-24, 2011 - College Station) - For more information, please contact Dr. Shawn Ramsey, Katie Fritz or Kelsey Willberg at 979-845-7616 or email <aggielandlambandgoatcamp@gmail.com> or visit <http://animalscience.tamu.edu/academics/sheep-goats/sheep-center/youth-camps/index.htm>.



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Please forward additions to the mailing list and future requests and events to Courtney Coufal <cacoufal@tamu.edu>