

Douglas R. Eborn

Texas A&M University - Commerce
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EDUCATION

Postdoctoral Research Physiologist – USDA, ARS, U.S. Meat Animal Research Center

Research Areas: *Estrous Synchronization in Beef Cattle; Effect of Blood Chimerism on Reproductive Tract Development in Freemartins; Incidence of DNA Exchange between Dam and Fetus in Cattle* – Dr. Sherrill Echtenkamp

Postdoctoral Research Assistant (USDA-NRI grant) – Dept of Animal Sciences and Industry, Kansas State University

Research Project: *Regulation of the Nanog Gene in the Pig* – Dr. David Grieger and Dr. Duane Davis

PhD – Dept of Animal Sciences and Industry, Kansas State University

Emphasis: Reproductive Physiology

Dissertation: *Cloning and Expression of Pluripotent Factors around the Time of Gastrulation in the Porcine Conceptus; Timed Insemination of Beef Heifers using the 7-11 Synch Protocol.*

M.S. – Dept of Animal Sciences and Industry, Kansas State University

Emphasis: Animal Breeding and Genetics

Thesis: *Genetic Relationships of Body Condition Score with Carcass Traits in Limousin Cattle*

B.S. – Biology, Utah State University

Minor: Animal Science

Overall GPA: 3.6 Graduation: December 1999

FUNDING

2008-2010 **United States Department of Agriculture NRI Competitive Grant.** Cloning and Characterization of the 5' and 3' Ends of the Porcine Nanog Gene. Douglas Eborn PD. \$125,000.

CURRENT RESEARCH PROJECTS AND INTERESTS

- Mineral supplementation of weaned beef calves grazing winter wheat pasture.
- Effects of weaning strategies and mineral supplementation of beef calf performance
- Deworming strategies and efficacy in beef cattle
- Survey of management practices of beef producers who participate in the NETBIO preconditioned beef calf program
- Estrous Synchronization and Artificial Insemination of Beef Cattle
- Development of Beef Heifers

PROFESSIONAL PRESENTATIONS & PUBLICATIONS

Peer Reviewed

Eborn D.R., R.A. Cushman, and S.E. Echtenkamp. 2013. Effect of postweaning diet on ovarian development and fertility in replacement beef heifers. *J. Anim. Sci.* 91(9):4168-4179.

Eborn D.R. and D.M. Grieger. 2013. Timed insemination of beef heifers using the 7-11 Synch protocol. *J. Anim. Sci.* 91:666-672.

- Sullivan R.R., B.R. Faris, D Eborn, D.M. Grieger, A.G. Cino-Ozuna and T.G. Rozell. 2013. Follicular expression of follicle stimulating hormone receptor variants in the ewe. *Reproductive Biology and Endocrinology*. 11:113 (<http://www.rbej.com/content/11/1/113>)
- Eborn D.R., D.M. Grieger, and D.D. Davis. 2013. Expression of pluripotency genes at gastrulation and later in the pig. *In Preparation*.
- Echternkamp S. E., P. Y. Aad, D. R. Eborn, and L. J. Spicer. 2012. Increased abundance of aromatase and follicle stimulating hormone receptor mRNA and decreased insulin-like growth factor-2 receptor mRNA in small ovarian follicles of cattle selected for twin births. *J. Anim Sci*. 90:2193-2200.
- Dobbins C.A., D.R. Eborn, D.E. Tenhouse, R.M. Breiner, S.K. Johnson, T.T. Marston, and J.S. Stevenson. 2009. Insemination timing affects pregnancy rates in beef cows treated with CO-Synch protocol including an intravaginal progesterone insert. *Theriogenology*. 72(7):1009-1016.
- Stevenson J.S., M.A. Portaluppi, D.E. Tenhouse, A. Lloyd, D.R. Eborn, S. Kacuba, and J.M. DeJarnette. 2007. Interventions after artificial insemination: conception rates, pregnancy survival, and ovarian responses to gonadotropin-releasing hormone, human chorionic gonadotropin, and progesterone. *Journal of Dairy Science*. 90(1):331-340.

Scientific Meeting Abstracts and Posters

- Hendricks, M., D.R. Eborn, K.R. Kipp, C.M. Willis, and M.P. Owen. 2020. Performance Effects on Weaned Calves using 3 Weaning Strategies and Nutritional Supplementation. *J. Anim. Sci*. 98 (Suppl.2):45-46.
- Hisaw Z.A., C.M. Willis, K.R. Kipp, D.R. Eborn, and M.P. Owen. 2020. Effects of supplementing heifers with dietary quercetin during late-gestation. *J. Anim. Sci*. 98 (Suppl.2):43.
- Kipp K.R., D.R. Eborn, and M.P. Owen. 2020. Mineral Supplementation Effects in Stocker Cattle Performance Grazed on Wheat Seeded Native Pastures. *J. Anim. Sci*. 98 (Suppl.2):47-48.
- Parker L.R., S.E. Echternkamp, and D.R. Eborn. 2017. Comparison of post-weaning weights and carcass traits between freemartin and twin-heifer calves. *J. Anim. Sci*. 95 (Suppl.1):15.
- Echternkamp S.E., D.R. Eborn, and R.A. Cushman. 2014. Maternal dietary effects on embryonic ovarian development in cattle. *J. Anim Sci*. 92 (Suppl.2):678.
- Eborn D.R., T.G. McDaneld, R.M. Thallman and S.E. Echternkamp. 2012. Fetal to maternal transplacental DNA transfer in female beef cattle. *J. Anim Sci*. 90 (Suppl.3):323.
- Echternkamp S.E., D.R. Eborn, and R.A. Cushman. 2012. Reduced fertility in female progeny from beef heifers on dietary restriction during development. *J. Anim Sci*. 90 (Suppl.3):472.
- Cushman R.A., J.R. Miles, L.A. Rempel, C.A. Lents, A.K. McNeel, D.R. Eborn, S.E. Echternkamp, K.A. Leymaster, and J.L. Vallet. 2012. Litter size influences lamb weight and ovarian reserve, but not reproductive tract development or expression of genes involved in early follicular development. *Accepted*. SSR 45th Annual Meeting State College, Pennsylvania.
- Eborn D.R., E.E. Blair, and D.M. Grieger. 2011. Heifer response to GnRH in a 7-day CIDR synchronization protocol. *Proceedings, Western Section American Society of Animal Science*. 62:292-294.
- Echternkamp S.E., D.R. Eborn, and R.A. Cushman. 2011. Failure of differences in prepubertal dietary intake to affect ovarian development in pubertal beef heifers. *J. Anim. Sci*. 89 (Suppl. 1):93.
- Echternkamp S.E., D.R. Eborn, and L. J. Spicer. 2011. Hedgehog signaling pathway in small bovine ovarian follicles. #673. SSR 44th Annual Meeting Portland Oregon.
- Eborn D.R., D.L. Davis, and D.M. Grieger. 2009. Cloning and expression of pluripotent factors around the time of gastrulation in the porcine conceptus. *Society of Reproduction and Fertility supplement*. 66:211-212. PMID: 19848289.
- Sullivan R., D.R. Eborn, B.R. Faris, D.M. Grieger, and T.G. Rozell. 2009. Expression of Follicle-Stimulating Hormone Receptor Variants During the Estrous Cycle of the Ewe. *Biology of Reproduction*. 81(Supp. 1):346.
- Voge J.L., D.R. Eborn, D.M. Grieger, and D.L. Davis. 2006. Tentative Identification of Nanog Expression in the Pig Conceptus. VIIth International Conference on Pig Reproduction. Rolduc The Netherlands. Pp. 96

- Holiday C.D., A.W. Thompson, D.R. Eborn, and D.M. Grieger. 2003. Pregnancy status of beef heifers immunized against luteinizing hormone and luteinizing hormone-releasing hormone. *J. Anim. Sci.* 81(Supp. 2):93.
- Keenan L.D., D.R. Eborn, D.W. Moser, and T.T. Marston. 2003. Relationships between live animal ultrasound predicted intramuscular fat and shear force in fed cattle. *J. Anim. Sci.* 81(Supp.1):87.
- Eborn D.R. and D.W. Moser. 2003. Genetic relationships of body condition score with carcass traits in Limousin cattle. *J. Anim. Sci.* 81(Supp. 1):87.

GRADUATE AND UNDERGRADUATE THESIS COMMITTEES

Graduate – Major Advisor

- Kaylee R. Kipp. 2020. Effectiveness of Anthelmintic Classes in Beef Calves and Their Implications on Beef Cattle Performance.
- Genevieve M. D'Souza. 2018. Effect of Yeast Supplementation on the Performance of High Risk Beef Cattle.
- Kristi L. Geckler. 2018. Equine Physiologic Responses to Training Methods in Cutting Horses.
- Lauren C. Parker. 2018. Effectiveness of Different Anthelmintic Classes on the Texas A&M University-Commerce Goat Herd.
- Courtney M. Sutton. 2015. The Hormonal Response of Presynchronization with GnRH and/or Calf Removal Leading up to Breeding. Evaluation of Stress on Calves during Separation.

Graduate – Committee Member

- Brad Voss. 2020. Establishing Eastern Gamagrass (*Tripsicum Dactyloides* L.) via Transplantation into Texas Blackland Prairie Soils.
- Zachary A. Hisaw. 2019. Effects of Supplementing Heifers Dietary Quercetin during Late-Gestation on Uterine Artery Blood Flow.
- Taiwo Bankole. 2016. Feeder Cattle Price Differentials using NETBIO Sulphur Springs and Cattle Auction Data.
- Brooke C. Harris. 2016. Equine Physiological Responses to Competitive Barrel Racing.
- Katie Morgan Michelsohn. 2015. Use of Artificial Lighting to Increase Photoperiod Length for Pasture-Raised Laying Hens to Improve Egg Productivity and Quality.

Undergraduate – Thesis Chair

- Meagan E. Hendricks. May 2020. Implications of Stress on Beef Calves at Weaning: A study on Fence-Line Weaning.
- Breanothy Baker. 2018. Comparative Economic Analysis of Beef Calf Preconditioning Programs.
- Rebecca R. Kirchoff. 2018. Comparison of Equine Behavior Temperaments to Parelli “Horsenality” Categories and Training Effects.
- Ashlyn M. Thomas. 2018. Testing the Reliability of the Use of the Draminski for Estrus Detection in Heifers.
- Hanna S. Wilson. 2017. Effects of equine appeasing pheromone on heart rate and heart rate variability during temporary separation of equine preferred partners.

Undergraduate – Member

- Brandy Spoor. Anthelmintic Resistance and the Use of Diatomaceous Earth as an Alternative Anthelmintic in *E. Caballus*.
- Cortney Stewart. 2015. Efficacy of Benzimidazole Anthelmintics in a Managed Equine Herd in Northeast Texas-- Strategies for an Evidence-Based Targeted Parasite Control Program.

TEACHING EXPERIENCE

<i>Assistant Professor</i> – Texas A&M University - Commerce	2014 to Present
Introduction to Animal Science Laboratory (ANS 1119)	Spring 2016
Introduction to Animal Science (ANS 1319)	Spring 2016-2017, Fall 2016
Animal Nutrition (ANS 308)	Fall 2015, 2018-2019
Animal Genetics (ANS 310)	Spring 2020
Genetics of Livestock Improvement (ANS 310)	Spring 2014-2019
Reproductive Physiology of Domestic Animals (ANS 311)	Fall 2014-2018
Artificial Breeding of Domestic Animals (ANS 312)	Spring 2015, 2017
Dairying (ANS 313)	Summer 2014, 2016, 2018-2019
Livestock Management Techniques (ANS 317)	Fall 2014-2019, Spring 2014-2019
Sheep and Goat Management (ANS 411)	Summer 2015-2016
Beef Cattle Management (ANS 412)	Fall 2015, 2017-2019
Swine Management (ANS 413)	Summer 2015, 2017-2019
Diseases and Parasites of Livestock (ANS 419)	Summer 2017
Advanced Reproductive Physiology (ANS 511)	Fall 2014, 2016, 2018
Endocrinology (ANS 512)	
Advanced Animal Nutrition (ANS 515)	Spring 2016
Animal Breeding (ANS 522)	Fall 2019
Advanced Dairying (ANS 597)	Summer 2014, 2018-2019
Scientific Methodology in Agricultural Research (AG 532)	Spring 2015
 <i>Graduate Teaching Assistant</i> – Kansas State University	 2000 to 2008
ASI Problem/Calving (ASI 666)	Spring 2005-2007
<ul style="list-style-type: none"> • Managed course schedule related to “hands-on” experience at animal units • Lectured yearly on calving genetics 	
ASI Problem/Applied Animal Technology (ASI 666), 15 students	Spring 2005-2007
<ul style="list-style-type: none"> • Set up and assisted with setup of labs • DNA isolation, primer design, PCR • Sperm labeling • Cell transformations and transfections 	
Bovine reproductive technologies (ASI 512), 24 students	Fall 2001, 2004-2007
<ul style="list-style-type: none"> • Assisted with weekly labs in: rectal palpation, embryo transfer, ultrasound of pregnancy • Taught classes in absence of professor when needed on reproductive physiology 	
The Horse as a Window to the World (ASI 330), 30 students	Spring 2007
<ul style="list-style-type: none"> • Graded weekly assignments, quizzes, exams, and papers • Managed and interacted with students on an online discussion board 	
Animal Breeding Principles (ASI 510), 40 students	Fall 2000, Spring 2004
<ul style="list-style-type: none"> • Graded weekly assignments and taught lectures on beef cattle crossbreeding 	

Farm Animal Reproduction (ASI 400), 80 students Fall 2002
 • Graded assignments and 4 major exams; assisted with weekly lab sessions

Genetics (ASI 500), 40 students Spring 2001
 • Graded weekly assignments and quizzes

ACADEMIC, PROFESSIONAL, AND COMMUNITY POSITIONS/SEVICE

Texas A&M University-Commerce

University

IACUC committee member – Texas A&M University-Commerce September 2016-Present

Academic Integrity Taskforce – Texas A&M University-Commerce October 2014 – May 2015
 • Committee member; assist with proposing new university guideline and standards for academic integrity and updating policies
 • Academic Integrity in the Classroom/Online – subcommittee member

College of Agricultural Sciences and Natural Resources

Ag Executive Council – Member January 2015 - Present

Animal Science IE Program - *Coordinator* August 2016 - Present

Faculty Curriculum Committee – *Member* August 2016 - Present

Graduate Admissions and Guidelines - *Member*

CDE Dairy Evaluation Contest : *Co-Coordinator* April 2014 - Present

Graduate Admissions - *Coordinator* March 2014 – August 2016

Agricultural Sciences Strategic Planning Committee - *Member* April 2014 – August 2014

Agricultural Sciences Interim Farm Manager May 2014 – August 2014

Faculty/Staff Search Committees

- Assistant Professor of Animal Science – *Chair* Summer 2019
- Farm Foreman II – *Member* Spring 2018
- Director of Veterinary Nursing – *Member* Spring 2018
- Assistant Farm Manager/ Equine Supervisor – *Chair* Spring 2017
- Assistant Professor of Animal Science – *Member* Fall 2017
- Director –School of Agriculture – *member* Spring 2016
- Assistant Professor of Animal Science – *Chair* Spring 2016
- Director –School of Agriculture – *member* Summer 2015
- Assistant Professor of Agronomy – *Member* Spring 2014
- Farm Manager – *Chair* Summer 2014

Community

Riley Round-Up for MS – *Volunteer* December 6, 2014
 • Livestock show that raises money for multiple sclerosis

North Texas Beef Improvement Beef Association (NETBIO) – Academic Director 2016 - Present

GRADUATE CURRICULUM

- Asi 801 Hormonal Control of Reproduction and Lactation (3 credits)
- Asi 710 Physiology of Reproduction in Farm Animals (3 credits)
- Asi 802 Gametes, Fertilization, and Pregnancy in Farm Animals (3 credits)
- Asi 825 Stress Physiology of Livestock (3 credits)
- Asi 902 Topics: Biotechnology in Stem Cells (1 credit)
- Stat 703 Statistical Methods for Natural Scientists (3 credits)
- Stat 704 Analysis of Variance (2 credits)
- Stat 705 Regression and Correlation Analysis (2 credits)
- Stat 720 Design of Experiments (3 credits)
- Stat 870 Analysis of Messy Data (3 credits)
- Bioch 755/765 Biochemistry (6 credits)
- Asi 661 Applied Animal Breeding (3 credits)
- Asi 749 Advanced Animal Breeding (3 credits)
- Agron 830 Quantitative Genetics / Plant Breeding (3 Credits)
- Asi 680 Ruminant Nutrition (2 credits)
- Asi 683 Grazing Livestock Nutrition (1 credit)
- Asi 684 Nutrition of Feedlot Cattle (1 credit)
- Agron 501 Range Management (3 credits)

FIELD AND LABORATORY TECHNIQUES

- Ultrasonography
 - Ovarian Scanning
 - Pregnancy Determination
 - Fetal Sexing
- Real-time PCR
- Northern and Western Blots
- Gene Cloning and Sequencing
- Gene Reporter Assays
- Stem Cell Culture