Tasha King-Moser

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Education

Doctor of Philosophy in Animal Science - Ruminant Nutrition — August 2020
University of Nebraska, Lincoln, NE
Dissertation: Influence of Strategic Supplementation and Genetic Potential for Milk Yield on Forage Digestibility, Amino Acid Utilization, and Livestock Production.
Major Advisors: Drs. Travis Mulliniks and James MacDonald

Master of Science in Animal Science- Ruminant Nutrition — May 2017
University of Nebraska, Lincoln, NE
Thesis: Estimates of Corn Residue Quality
Major Advisor: Dr. James MacDonald

Bachelor of Science- Major: Animal Science Minor: Biochemistry — December 2013
Northwest Missouri State University, Maryville, MO

Experience

Assistant Professor of Animal Science

CASNR — *East Texas A&M University,* August 2025 – Present

- Instruct undergraduate animal science courses
  - Taught the fundamentals of animal science for various livestock species in ANS 1319 and ANS 317
  - Met the core learning requirements through educational assessments and activities throughout the semester
- Collaborate and conduct impactful research
  - Determine research opportunities and needs for the region and university
  - Interact with peers to develop and conduct research projects
  - Mentor undergraduate and graduate students through the research process to provide a positive learning opportunity

Ranch Hand

Elder Ranch, Nov. 2023 – Nov. 2024

- Provide cattle handling assistance as needed for cattle movement, branding, calving, processing, and pregnancy detection
- Coordinate intensive grazing of yearlings through virtual fencing technology
- Utilize various irrigation methods and grazing strategies to ensure successful pasture management
- Maintain calving records

Adjunct Instructor

January 2023 – December 2023

- Served as an online adjunct instructor for animal science courses at Arkansas Tech University and New Mexico State University
- Instructed students utilizing video conferencing systems in coordination with on campus support to provide interactive courses including: companion animal and livestock health and diseases, genetics, nutrition, and reproduction

Assistant Professor

Dept. of Agriculture *Arkansas Tech University*, August 2020 – December 2022

- Developed various undergraduate animal science courses
    - Introduced anatomy, endocrinology, and biochemistry to instruct on reproduction and nutrition in various livestock species
    - Designed hands on activities introducing artificial insemination procedures for various livestock species
    - Maintained a safe environment to allow students the opportunity to work with livestock on identifying reproductive anatomical structures
    - Structured course syllabi and materials to create an environment promoting critical thinking
    - Utilized presentations, projects, and assessments to gauge students understanding of nutrient utilization, management practices, and livestock industries
- Participated in department events, meetings, and planning
    - Aided in determining schedule for courses offered to ensure that students are capable of success
    - Attended and volunteered at welcome back events to develop relationships with students
    - Encouraged students to become involved and offered advice on various internship and career opportunities

Guest Lecturer

Dept. of Agric. Prod. Systems *Nebraska College of Tech. Agric.*, Aug. 2019- Dec. 2019

- Developed an undergraduate nutrition course
    - Designed course syllabi and materials to meet a minimum of four core learning objectives
    - Utilized digestive tract anatomy to provide hands-on learning experience when discussing absorption of nutrients
    - Introduced the Pearson Square method of ration formulation to develop diets for animals located on campus
    - Maintained online course content, developed assessment tools, and active learning materials
- Taught a fundamentals of animal biology lecture and laboratory

- Conducted 3 hours of lecture per week with weekly assessment activities
- Stimulated hands on learning through laboratories including strawberry DNA extraction, acid-base reactions, microscope utilization, and fetal pig dissection
- Interacted with students one-on-one and in a classroom setting to assess knowledge retention and explain concepts

Graduate Research Assistant

Dept. of Animal Science *University of Nebraska*, January 2015- August 2020

- Study development and data analysis
  - Collaborated on trial design and development with faculty and technicians, diet and nutrient rationing, maintained trial records, analyzed data via SAS, presentation of data via poster and oral presentations at meetings
- Laboratory procedures
  - Proximate analysis- dry matter, ash, neutral/acid detergent fiber, ether extract, Flash Smart nitrogen analyzer
  - *In vitro, in situ,* and *in vivo* digestibility
  - Acetate clearance rate; acetate, glucose, and insulin AUC using trapezoidal summation
  - Serum amino acid concentration analysis
  - Rumen fluid collection (whole rumen evacuation and vacuum pump) and storage for volatile fatty acid, ammonia, and microbial diversity analysis
  - External markers for fecal output, intake, and digestibility
  - Bomb calorimetry for digestible energy
  - Urine N collection and analysis
- Surgical and non-surgical techniques for research
  - Caudal and saphenous venipuncture, jugular venipuncture and cannulation, rumen cannulation, weigh-suckle-weigh and precision milking milk production, and liver biopsy sample collection
- Assist with cattle handling at research feedlot and ranch
  - Receive 2,500 head of calves every fall: tagged, vaccinated, and weighed at receiving
  - Night calving duties of 500 head of cows: performed nightly checks within a rotation crew, check daily health of pairs, tagged, vaccinated, branded, and weighed calves
- Aid in forage and diet sampling
  - Gathered quality and quantity samples of pasture, cover crop, and row crops
  - Recorded yields and separated into various plant components through methods of chipping and threshing to mimic silage and soybean harvest
  - Obtained diet sampling through use of esophageally cannulated cattle and total rumen evacuations

- Organize and prepare coursework for online teaching implementation and serve as teaching assistant
    - Managed online materials via Canvas, graded projects and exams, and maintained gradebook
    - Communicated with students on a group and individual basis on assignments and course topics
    - Lead lecture topics including: Passage rate, development of beef rations, equine and companion animal nutrition, energy, feed products, animal industry ethics, goal development and decision making
    - Courses included (number of semesters): ASCI 320 Animal Nutrition and Feeding (1), ASCI 370 Animal Welfare (1), ASCI 422/822 Advanced Feeding and Feed Formulation (1), ASCI 485 Animal Systems Analysis (3), ASCI 924 Forage Evaluation (1)

Beef Feedlot Management Intern

Rhea Cattle Co., May 2014- November 2014

- Managed feed department
    - Responsibilities included: loading, mixing and delivery of rations, storage of feed, feed inventories, maintaining micro machine and equipment, and completing daily feed reports
- Assisted with animal health
    - Vaccinated, branded, and implemented tagging system on arrival of cattle to feedlot
    - Conducted daily animal health checks on horseback
    - Assessed, treated, and kept records of sick cattle

Feedlot Research Technician

University of Nebraska, January 2014- May 2014

- Conducted daily tasks needed to complete research trial
    - Mixed and delivered rations to cattle
    - Aided in maintenance of automatic waterers and fences
- Maintain and recorded data for ongoing research
    - Weekly collection and analysis of feed samples
- Collaborated on running of the individualized feeding barn
    - Determined feed calls for animals, fed, and checked health daily
    - Trained steers to use Calan gate system for individualized feeding

Extension Experience

- Hosted a Hay Day at Arkansas Tech University for local producers and companies to discuss forage quality, markets, and equipment; spring 2022
- Attended cattlemen's meetings in various counties throughout Arkansas to discuss ATU department and cattle nutrition; fall 2021

- Hosted Arkansas Tech Dept. of Agriculture booth at Arkansas Cattlemen's Convention; July 2021
- Spoke and provided demonstration on milk production research at Ag Builders Tour; July 2019
- Hosted ruminant nutrition station at University of Nebraska- Lincoln Animal Science Open House; October 2018
- Led feedlot career booth at Nebraska State FFA Convention; April 2018
- Provided tours and spoke with visiting students, 2015- 2020
- Speaker for University of Nebraska Women in Agriculture panel, spring 2016

Leadership

- Arkansas Young Cattlemen's Leadership Class
    - Participated in leadership course with fellow members of Arkansas cattle industry
    - Attended sessions focused on legislation, production, advocacy, and beef products
- Advised Collegiate Cattlemen; 2019
    - Assist students in organization management
    - Aid in development of semester agriculture programming
- Managed teaching assistants for Animal Systems Analysis; 2018 – 2019
    - Held biweekly meetings to discuss upcoming lecture topics and projects
    - Managed and instructed on how to use aspects of Canvas
- Oversaw teaching lamb herd
    - Assisted students with proper lamb handling
    - Aided in experiment design for class project
- Organized and instructed large groups of diverse students for data collection
    - Collection of ruminal fluid with a vacuum pump in cattle and sheep
    - Intensive blood sampling of cows and sheep (acetate tolerance test)
- Development Director; Sigma Alpha; 2017 – 2018; 2022 – 2024
    - Served on the National Board aiding with running of National Sorority
    - Developed materials and worked with universities to bring Sigma Alpha to their campus
- Activities Chair and Secretary, UNL Animal Science Graduate Student Association; 2016 – 2017
    - Kept meeting records, maintained parliamentary procedure at meetings, and hosted activities for animal science graduate students
- Chapter Consultant; Sigma Alpha; 2014 – 2016
    - Oversaw management of 7 collegiate chapters
    - Traveled to various universities putting on workshops of varying topics: team building, conflict management, leadership, agriculture career opportunities, and organizational communication

Interdisciplinary Research

- Assisted colleagues in stress physiology
    - Implanted heart rate monitors and aided in bioimpedance analysis (BIA) in cows

- Aided colleagues in agronomy research
    - Yield and quality collections of corn silage, high moisture corn, dry corn, soybeans, annual rye, and pasture-based forage systems

Research Presentations

- American Society of Animal Scientists- Western Section Graduate Student Competition; July 2020
- American Society of Animal Scientists-Western Section Graduate Student Competition; June 2019
- Nebraska HATCH grant meeting poster; June 2018
- American Society of Animal Scientists-Midwest Section oral presentation; March 2018
- American Society of Animal Scientists-Joint Annual Meeting oral presentation; July 2016
- American Society of Animal Scientists- Midwest Section Graduate Student Competition; March 2016

Awards and Recognition

- Agriculture Professor of the Year, April 2022
- Teaching Assistant Holling Family Award for Teaching Excellence, January 2020
- American Society of Animal Scientists-Western Section Three-Minute Thesis Video Competition; 2nd Place, June 2019

Professional Memberships

- American Society of Animal Scientists
- Professional Animal Scientist

Grants and Gifts

- ABS; Bovine Artificial Insemination (AI) tools and manuals ($1200 value)
- Big Branch Cooper Cattle; Bovine Semen, labor, AI resources ($2500 value)
- Livestock Nutrition Center; feed library ($50 value)

Publications

Dissertation

King, T. M. 2020. Influence of Strategic Supplementation and Genetic Potential for Milk Yield on Forage Digestibility, Amino Acid Utilization, and Livestock Production. University of Nebraska-Lincoln.

M.S. Thesis

King, T. M. 2017. Estimates of Corn Residue Quality. University of Nebraska-Lincoln.

Refereed Journal Articles

King, T. M., J. K. Beard, M. M. Norman, H. C. Wilson, J. M. MacDonald, and J. T. Mulliniks. 2021. Effect of protein and glucogenic precursor supplementation on forage digestibility, serum metabolites, energy utilization, and rumen parameters in sheep. Trans. Anim. Sci. 6:1-8.

Mulliniks, J. T., J. K. Beard, and **T. M. King**. 2019. Invited Review: Impacts of milk production on cow/calf productivity and profitability. App. Anim. Sci. 36:70-77.

Conway, A. C., **T. M. King**, M. L. Jolly-Breithaupt, J. C. MacDonald, T. J. Klopfenstein, and M. E. Drewnoski. 2019. Effect of harvest method and ammoniation of baled corn residue on intake and digestibility in lambs. Trans. Anim. Sci. 3:42-50.

King, T. M., R. G. Bondurant, M. L. Jolly-Breithaupt, J. L. Gramkow, T. J. Klopfenstein, and J. C. MacDonald. 2017. Effect of corn residue harvest method with ruminally undegradable protein supplementation on performance of growing calves and fiber digestibility. J. Anim. Sci. 95:5290-5300.

<u>In Progress</u>

King, T. M., M. L. Jolly-Breithaupt, H. C. Wilson, G.E. Erickson, and J. C. MacDonald. Effect of isolated nutrient components of modified distillers grains plus solubles on digestibility and digestible energy in growing diets.

Conway, A. C., **T. M. King**, R. G. Bondurant, J. C. MacDonald, T. J. Klopfenstein, M. E. Drewnoski. Effect of harvest method and ammoniation of baled corn residue on bale nutrient composition and performance of growing beef cattle.

<u>Proceedings</u>

King, T. M., J. A. Musgrave, R. N. Funston, and J. T. Mulliniks. 2020. Impact of cow milk production on cow-calf performance in the Nebraska Sandhills. Trans. Anim. Sci. Western ASAS meetings.

King, T. M., J. K. Beard, M. M. Norman, H. C. Wilson, J. M. MacDonald, and J. T. Mulliniks. 2019. Effect of supplemental rumen undegradable protein and glucogenic precursors on digestibility and energy metabolism in sheep. Trans. Anim. Sci. Western ASAS meetings.

<u>Abstracts</u>

Mulliniks, J. T., J. K. Beard, and **T. M. King**. 2019. Impacts of milk production on cow/calf profitability. J. Anim. Sci. Midwest ASAS meetings**.**

King, T. M., M. L. Jolly-Breithaupt, H. C. Wilson, G. E. Erickson, and J. C. MacDonald. 2018. Effect of isolated nutrient components of modified distillers grains plus solubles on digestibility and digestible energy in growing diets. J. Anim. Sci. Midwest ASAS meetings.

King, T. M., M. L. Jolly-Breithaupt, J. L. Gramkow, J. C. MacDonald, and T. J. Klopfenstein. 2016. Effect of harvest method on digestibility of corn residue. J. Anim. Sci. Joint Annual meetings.

Conway, A. C., **T. M. King**, M. L. Jolly-Breithaupt, J. C. MacDonald, T. J. Klopfenstein, and M. E. Drewnoski. 2016. Effect of harvest method and ammoniation on apparent digestibility and intake of baled corn residue in lambs. J. Anim Sci. Joint Annual meetings.

King, T. M., R. G. Bondurant, J. L. Harding, J. C. MacDonald, and T. J. Klopfenstein. 2016. Effect of harvest method on corn residue quality and RUP supplementation on residue quality and performance of growing calves. J. Anim. Sci. Midwest ASAS meetings.

Research Reports

King, T. M., J. K. Beard, M. M. Norman, H. C. Wilson, J. M. MacDonald, and J. T. Mulliniks. 2020. Effect of supplemental rumen undegradable protein and glucogenic precursors on digestibility and energy metabolism in sheep. Nebr. beef cattle report MP107.

King, T. M., M. L. Jolly-Breithaupt, H. C. Wilson, G. E. Erickson, J. C. MacDonald. 2019. Effects of isolated nutrients in distillers grains on total tract digestibility and digestible energy in forage diets. Nebraska beef cattle report MP106.

Conway, A. C., **T. M. King**, M. L. Jolly-Breithaupt, J. C. MacDonald, T. J. Klopfenstein, and M. E. Drewnoski. 2017. Effect of harvest method and ammoniation on digestibility and intake of corn residue. Nebraska beef cattle report MP104.

King, T. M., M. L. Jolly-Breithaupt, J. L. Gramkow, T. J. Klopfenstein, and J. C. MacDonald. 2017. Effect of harvest method on digestibility of corn residue. Nebraska beef cattle report MP104.

King, T. M., R. G. Bondurant, J. L. Harding, J. C. MacDonald, and T. J. Klopfenstein. 2016. Effect of harvest method on residue quality. Nebraska beef cattle report MP103.

Extension Articles

King, Tasha and Joslyn Beard. 2019. Technical note: Acetate tolerance test. Gudmundsen Sandhills Laboratory Researcher Fall 2019.

Popular Press

Mulliniks, J. T., J. K. Beard, and **T. M. King**. 2019. Milk production and cow performance. Sioux Nation Beef Magazine.