

2024-25 **IMPACT REPORT**



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ABOUT THE INSTITUTE FOR Equine sciences



MISSION

To unite stakeholders in advancing research, education, advocacy, and outreach in equine sciences. By prioritizing equine welfare and promoting sustainable practices, we aim to enrich lives through the discovery, communication, and application of science-based knowledge in equine care, health, recreation, and sport.

VISION

To position Texas A&M University as the trusted global leader in equine sciences, ensuring industry sustainability, fostering collaboration among scientists and industry stakeholders, and promoting the well-being of both horses and humans. We strive to educate future industry leaders, drive innovation, and create programs that benefit society and the global equine community.

All things horses. Across Texas and beyond.

COMPLETED Strategic Plan

STRATEGIC OBJECTIVES

Connectivity & Collaboration | Interdisciplinary Research & Innovation Educational Programs & Experiential Learning | Communication & Outreach Industry Engagement & Development | Support for Faculty & Staff Development Infrastructure & Resource Sharing



KEY INITIATIVES & ACTION OF STRATEGIC PLAN

INITIATIVE I: Enhance Internal Research & Innovation Support – Establishing cross functional teams from various colleges in pursuit of solving industries most challenging scientific problems
INITIATIVE II: Establish the Courtney Grimshaw Equine Assisted Services Initiative under the Institute
INITIATIVE III: Enhance Student and Stakeholder Education and Training
INITIATIVE IV: Communication and Outreach
INITIATIVE V: Development and Sustainability

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EAS PARKINSONS PILOT PROJECT

This project will identify best practices and operating procedures while pursuing data reflecting the impact of Equine Assisted Services (EAS) on neuromuscular and biometric outcomes of Parkinson's patients. The goal for this pilot project is to collect quantifiable data on the efficacy of EAS for Parkinson's patients. This is groundbreaking work that has never been done before and will help to prove that EAS is a legitimate form of healing and therapy for Parkinson's patients.

This project includes collaboration across Texas A&M University including: The Department of Kinesiology & Sports Management, The Department of Animal Science, the Department of Large Animal & Clinical Sciences, Courtney Cares Certified Therapeutic Riding Instructor (CTRI) Team, The Institute for Equine Sciences, and Parsons Mounted Cavalry.

On April 17, 2025, eighteen subjects aged 65 to 85 with various severity of Parkinson's Disease were evaluated - nine as controls and nine that rode horses. Both people and horses were affixed with EMG sensors and Heart Variability Monitors to collect the data.

NCHA ARENA FOOTING CHARACTERISTICS STUDY

The reported number one injury in high performance Cutting Horses is suspensory ligament injuries. The National Cutting Horse Association (NCHA) reached out to Texas A&M University to fund a \$25,000 project to advance the understanding of how arena footing conditions change over the course of an event and the factors influencing these changes.

This is collaborative research being conducted for the NCHA by the **AgriLife Research Institute for Equine Sciences, the Department of Animal Science, and the Department of Civil & Environmental Engineering**. The results of this project will directly impact the equestrian sports industry to better promote the performance and safety of horses. The results will have practical implications for improving arena management practices and enhancing the welfare of horses participating in competitive events.

Examining these characteristics will contribute to a greater understanding of current standards and lay the foundation for future investigations specific to the relationship between biomechanics and arena footing.







PREVENTING CATASTROPHIC INJURIES IN HORSES FROM HIGH VELOCITY POLO BALLS

The Institute for Equine Sciences has been invited to assemble a team to evaluate headgear and eye goggle protection prototypes designed for Polo horses. These prototypes aim to deflect and disperse energy from direct impacts, thereby protecting horses from catastrophic injuries.

While products have been manufactured and are currently being test-marketed with a select few collegiate and professional Polo teams, a study model proving the efficacy of these designs has yet to be established. Consequently, both US Polo and the Federation of International Polo have withheld endorsement of this protective gear due to the absence of evidence-based validation.

Texas A&M University possesses the unique resources and expertise required to design a study that can verify the protective effectiveness of these devices through this collaborative research project between the **Department of Aerospace Engineering and College of Veterinary Medicine and Biomedical Sciences.**

POLO ARENA FOOTING STUDY

The Polo Arena Assessment, led by the Institute for Equine Sciences, with partners from **the University of Kentucky, Texas A&M Rec Sports, and the Texas A&M Civil Engineering Department's Center for Renewable Infrastructure** was conducted on behalf of the Texas A&M Polo Club arena with a focus on improving safety and performance for horses and riders.

Key issues identified include insufficient water-holding capacity, inadequate drainage, uneven footing, and suboptimal watering strategies. Recommendations include incorporating a 75% sand and 25% clay/silt mixture to improve stability and performance, installing a French drain system for effective water management, and enhancing the watering system to maintain proper surface moisture. This effort underscores the commitment to equine safety and optimizing the arena for both horses and riders.







Since its inception, the Texas A&M Institute for Equine Sciences has made significant strides in advancing scientific discovery, supporting cross functional teams from various colleges in pursuit of solving the industry's most challenging scientific problems. Each fiscal year, Texas A&M AgriLife Research has funding available within the Institute for Equine Sciences to award eligible faculty to support/promote equine science research topics relative to supporting equine health, wellness, welfare, performance and the over vitality of the Texas, United States, and global equine industry. Below are the research projects that were awarded this funding in 2023, 2024, and 2025.

Immunogenicity of a mRNA vaccine for Rhodococcal Foal Pneumonia

Dr. Noah D. Cohen, Professor of Equine Internal Medicine Department of Large Animal and Clinical Sciences Texas A&M University

<u>Straining for Answers: Target-Enriched Metagenomics to Decipher</u> <u>Strain-Level Streptococcus equi Dynamics in Equine Health</u>

Lee Pinnell, Research Assistant Professor Department of Large Animal and Clinical Sciences – VERO Texas A&M College of Veterinary Medicine & Biomedical Sciences

Paul S. Morley, Professor & Director of Research Department of Large Animal and Clinical Sciences – VERO Texas A&M College of Veterinary Medicine & Biomedical Sciences

Validating a Non-Contact Continuous Cardiopulmonary Monitor in Adult Horses

Jennifer Zoller, Associate Professor and Extension Horse Specialist Department of Animal Science Texas A&M College of Agriculture and Life Sciences

Rebecca Legere, Assistant Professor of Equine Internal Medicine Department of Large Animal and Clinical Sciences Texas A&M College of Veterinary Medicine and Biomedical Sciences

Chelsie Huseman, Associate Professor and Extension Horse Specialist Department of Animal Science Texas A&M College of Agriculture and Life Sciences

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Disrupting the Circadian Clock: Impacts on Equine Metabolic Health and Disease

Dr. Erica Macon, Assistant Professor of Equine Science Department of Animal Science Texas A&M University

Dr. Yatta Linhares-Boakari, Assistant Professor of Food Animal Theriogenology Department of Large Animal and Clinical Sciences Texas A&M University

<u>Identifying novel biomarkers predictive of fatigue to reduce injury in</u> <u>exercising</u>

Dr. Sarah H. White-Springer Department of Animal Science Texas A&M University

Examining Dopamine Regulation of Insulin Secretion in Equine Health and Disease

Dr. Erica Macon, Assistant Professor of Equine Science Department of Animal Science Texas A&M University

Dr. Yatta Linhares-Boakari, Assistant Professor of Food Animal Theriogenology Department of Large Animal and Clinical Sciences Texas A&M University

<u>The effect of flow cytometry-based sex sorting on the proteome of</u> <u>stallion sperm, as determined by data-independent acquisition mass</u> <u>spectrometry (DIA-MS)</u>

Dr. Camilo Hernández-Avilés, Assistant Professor of Equine Theriogenology Department of Large Animal and Clinical Sciences | Equine Fertility Laboratory Texas A&M University

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Dr. Charles Love, Professor of Equine Theriogenology Department of Large Animal and Clinical Sciences | Equine Fertility Laboratory Texas A&M University

Dr. Luisa Ramírez-Agámez, Research Assistant Professor of Equine Theriogenology Department of Large Animal and Clinical Sciences | Equine Fertility Laboratory Texas A&M University

Impact of collegiate rodeo bronc riding practice and competition on rider and horse salivary cortisol, alpha amylase, and cardiovascular parameters

Jennifer Zoller, Associate Professor and Extension Horse Specialist Department of Animal Science Texas A&M College of Agriculture and Life Sciences

Dr. Lisa Colvin, Clinical Associate Professor Department of Kinesiology and Sports Management Texas A&M University

Paige Linne, Lecturer and Ranch Horse Team Coach Department of Animal Science Texas A&M University

Evaluating Strangles Vaccine Candidates Using a Mouse Model

Dr. Noah D. Cohen, Professor of Equine Internal Medicine Department of Large Animal and Clinical Sciences Texas A&M University

Dr. Angela I. Bordin, Assistant Professor of Immunology & Infectious Disease Department of Large Animal and Clinical Sciences Texas A&M University

Dr. Michael F. Criscitiello, Professor Department of Large Animal and Clinical Sciences Texas A&M University

Effects of biophosphate administration on synovial metabolome of juvenile horses challenged with intra-articular lipopolysaccharide

Dr. Thomas H. Welsh, Regents Professor, Texas A&M AgriLife Research Faculty Fellow, Physiology of Reproduction Department of Animal Science Texas A&M University

Dr. Chris Kerth, Associate Professor of Meat Science Department of Animal Science Texas A&M University

Complement in Rhodococcal Infections

Dr. Angela I. Bordin, Assistant Professor of Immunology & Infectious Disease Department of Large Animal and Clinical Sciences Texas A&M Univeristy

Dr. Noah D. Cohen, Professor of Equine Internal Medicine Department of Large Animal and Clinical Sciences Texas A&M University

<u>Comparison of the gene expression profile of in vitro-produced equine</u> <u>embryos after Intracytoplasmic Sperm injection (ICSI) using</u> <u>cryopreserved non-sorted or sex-sorted sperm</u>

Dr. Charles Love, Professor of Equine Theriogenology Department of Large Animal and Clinical Sciences | Equine Fertility Laboratory Texas A&M University

Dr. Luisa Ramírez-Agámez, Research Assistant Professor of Equine Theriogenology Department of Large Animal and Clinical Sciences | Equine Fertility Laboratory Texas A&M University

Dr. Camilo Hernández-Avilés, Assistant Professor of Equine Theriogenology Department of Large Animal and Clinical Sciences | Equine Fertility Laboratory Texas A&M University

COURTNEY GRIMSHAW EQUINE ASSISTED SERVICES INITIATIVE II









- **SUMMER 2024:** *Courtney Cares Equine Therapeutic Program* was renamed the *Courtney Grimshaw Equine Assisted Services Initiative* and became housed under Texas A&M AgriLife Research as a part of the Institute for Equine Sciences.
- **FALL 2024:** Signed a two-year contract for administrative & teaching support for BIMS 380: Equine Assisted Activities and Therapies, through August 2026.
- FALL 2024: Secured annual equine service agreement with Parson's Mounted Cavalry.
- **JANUARY 2025:** Secured two years of operating funding totaling \$225,000 annually.
- **JANUARY 2025:** Established a **\$5 Million** endowment short-term goal for basic programming support.
- **JANUARY 2025:** Established a **\$10 Million** endowment long-term goal to support program growth, faculty, and staff.
- **SPRING 2025:** Hosted two donor events featuring "Where the Horses Heal the Soul" documentary that raised awareness for the program, and grossed **\$2.25 million** in donations and pledges.
- **APRIL 2025:** Hosted a pilot project study for a crossfunctional research program across multiple Texas A&M University departments and college's to build upon National Institutes of Health (NIH) grant application.

STUDENT AND STAKEHOLDER EDUCATION & TRAINING

- **FALL 2024:** Facilitated the Ranch Horse Program in conjunction with the Beef Cattle Short Course.
- **FALL 2024:** Assisted with the implementation of the Certified Horsemanship Association International Conference.
- SPRING 2025: Facilitated the Equine Prepared Speech Contest and the Equine IQ Contest at the Fort Worth Stock Show and Rodeo; and the San Antonio Horse Skillathon Contest at the San Antonio Stock Show and Rodeo. In the 9th consecutive year of these contests, there have been a total of 2,150 4-H and FFA contestants from across the state of Texas that have competed.
 - A number of former participants have pursued higher education at Texas A&M University, demonstrating the contests' role in fostering youth engagement.
- SPRING 2025: Created and facilitated the San Angelo Equine Skillathon Contest at the San Angelo Stock Show & Rodeo. In its inaugural year, there were 90 4-H & FFA contestants from across the state of Texas that competed.
- **ONGOING:** Facilitating "Equine Day" with the AgriLife Extension's ONE HERD Symposium. An educational engagement opportunity for Ag-Teachers across the country.
- **ONGOING:** Establishing collaborative relationships with National Youth Cutting Horse Association, American Paint Horse Association: Youth Division, Brazos County Livestock Show & Rodeo, AgriLife Extension's Veterinary Science Certificate Program, Fort Worth Stock Show and Rodeo, San Antonio Stock Show and Rodeo, San Angelo Stock Show and Rodeo for youth engagement opportunities and current Texas A&M student experiential learning development.







COMMUNICATIONS & OUTREACH

INITIATIVE IV

- SPRING/SUMMER 2024: Established a presence on Instagram and X platforms + continued to grow the Institute's existing Facebook presence; increased our social media following by 300% since February 2024.
- FALL 2024: Collaborated with AgriLife Marketing & Communications to establish a brand package to communicate the Institute's identity across digital & print.
- FALL 2024 + SPRING 2025: Coordinated two photoshoots with a contracted photographer to create a photo library for the Institute + AgriLife Marketing & Communications teams to use for promotion of equine programs.
- SPRING 2025: Launched a comprehensive website for the Institute that houses all things equine across Texas A&M University with 7,000 website visitors in the past 30 days.
- **SPRING 2025:** Coordinated two video-shoot days with a contracted videographer to tell the story of the Institute + the upcoming cross-functional equine assisted services research project.
- **ONGOING:** Continuing to celebrate equine faculty, staff and students across departments and college's through social media + AgriLife Today.
- ONGOING: Continuing to collaborate with AgriLife Marketing & Communications + Vet Med Marketing & Communications to increase awareness of Texas A&M's impact on the equine industry.







DEVELOPMENT & SUSTAINABILITY

- **FALL 2024:** Established a strong relationship with the Texas A&M Foundation team to help facilitate donor relationships and gift acquisition.
- **FALL 2024:** Acquired a planned gift from Pence Estate for a portion of the ranch to go to the Institute for Equine Sciences.
- SPRING 2025: Raised \$2.5 million + an additional \$1 million endowment gift pending to go toward the Courtney Grimshaw Equine Assisted Services Initiative endowment goals.
- **SPRING 2024-SPRING 2025:** Raised **\$130,000** in operational funding for the Institute for Equine Sciences.
- **SPRING 2025:** Acquired a planned gift from the Grimshaw Estate to go to the Courtney Grimshaw Equine Assisted Services Initiative (in progress).
- **ONGOING:** Multiple gift agreements are under contract negotiations with premier level Texas A&M donors for operational funding for the Institute for Equine Sciences + Courtney Grimshaw Equine Assisted Services Initiative.
- **ONGOING:** Evaluating potential partnerships across Texas A&M AgriLife Institutes for collaborative grant writing strategies.







ALL THINGS HORSES ACROSS TEXAS & BEYOND

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