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MARTIN

**Center of Excellence for  
Experimental Learning in  
Agricultural Science**

**FY 2025  
Annual Report**

**Department of Agriculture, Geosciences, and Natural Resources**

# Table of Contents

<b>Mission Statement.....</b>	<b>3</b>
<b>Executive Summary.....</b>	<b>4</b>
<b>Faculty/Staff.....</b>	<b>20</b>
<b>Student Information.....</b>	<b>21</b>
<b>Planned Program Activity FY2025 and Response</b>	
<b>Objective 1.....</b>	<b>22</b>
<b>Objective 2.....</b>	<b>22</b>
<b>Objective 3.....</b>	<b>22</b>
<b>Objective 4.....</b>	<b>23</b>
<b>Objective 5.....</b>	<b>24</b>
<b>Objective 6.....</b>	<b>25</b>
<b>Objective 7.....</b>	<b>29</b>
<b>Objective 8.....</b>	<b>30</b>
<b>Objective 9.....</b>	<b>31</b>
<b>Objective 10.....</b>	<b>31</b>
<b>Planned Program Activity FY2026.....</b>	<b>32</b>
<b>Staff of the Center of Excellence.....</b>	<b>34</b>
<b>Organizational Chart.....</b>	<b>35</b>
<b>Contact Information.....</b>	<b>36</b>
<b>Appendix A.....</b>	<b>37</b>

# **Center of Excellence for Experimental Learning in Agricultural Science Mission Statement**

The mission of the Center of Excellence (COE) for Experimental Learning in Agricultural Science is to provide an innovative infrastructure through which existing and new experiential inter-disciplinary studies in production agriculture, the environment, and conservation techniques can take place. The COE in Agricultural Science is designed to create a model for quality teaching across various disciplines, while facilitating and increasing external grant and contract activities, increasing public/ private partnerships, and increasing outreach efforts. Other goals of the COE in Agricultural Science involve collaboration with secondary institutions, expanding livestock, crops, equipment, natural resource areas and other facilities to enhance experiential learning and yielding a major impact on the economy of the State of Tennessee.

## Executive Summary

In accordance with the Center of Excellence (COE) for Experimental Learning in Agricultural Science mission statement, since January 2002, attention has been devoted to establishing a model field laboratory with facilities and resources to support experiential activities and research for students. This model field laboratory is used to promote and meet all goals of the COE mission statement. A major component of the COE is the operation of a teaching and demonstration farm to complement ongoing academic programs in the Department of Agriculture, Geosciences, and Natural Resources (AGN) at the University of Tennessee at Martin (UTM). This endeavor was expanded effective January 1, 2006, when the Department of Agriculture, Geosciences, and Natural Resources assumed operational control of the entire 640 acres and associated buildings formerly operated by the Martin Experiment Station (University of Tennessee Institute of Agriculture). A major objective of this effort is to provide resources dedicated to the establishment of a quality experiential learning and applied research environment for the UTM campus and the citizens of Tennessee. This in turn meets the goals and objectives of the COE for Experimental Learning in Agricultural Science mission statement.

Presently, there are approximately 250 acres of COE property in field crop production with another 250 acres devoted to forage production and pasture for teaching herds/flocks of beef cattle, swine, horses, meat goats, and sheep. In addition, there are six outdoor research ponds (0.1 acre each) and ten indoor research tanks used for fisheries management. The COE also includes an alternative fuels (biofuels) laboratory, a wildlife biology field laboratory, a Tyson poultry facility, a companion animal laboratory, and two Veterinary Health Technology teaching laboratories. As a major thrust of the COE, the UTM Teaching and Demonstration Farm provides resources and facilities for public service activities and research to support public and private stakeholders involved in agricultural and natural resource sciences. Animals and facilities associated with the COE provide resources for training competitive teams for local, regional, and national competitions, as well as involvement in assisting collegiate and high school FFA and 4-H teams preparing for and competing in their respective interscholastic events across the state. This subsequently increases collaboration with secondary institutions and outreach efforts in accordance with the mission statement.

The University of Tennessee at Martin is an ideal location for the COE due to the existence of agricultural entities already in operation. The West Tennessee Agricultural Pavilion (Ned R. McWherter Agricultural Complex) serves as a hub of activity for clients in a variety of ways, ranging from livestock shows to the annual Santa's Village. The Santa's Village event has been in operation for the last 40 years and is a cooperation between the city of Martin and university faculty, staff, and students. The event provides great community outreach and community service through the collection of more than 18,000 canned goods and toy donations for the under-provided in our county. (Figure 1) The COE enables current and future faculty to not only serve the academic needs of current campus-based and online students, but also to expand opportunities for a statewide mixture of students in secondary schools as well as adult stakeholders through continuing-education offerings and events. The COE features applied research and external grant supported projects that complement the undergraduate and graduate teaching missions of the University of Tennessee at Martin.

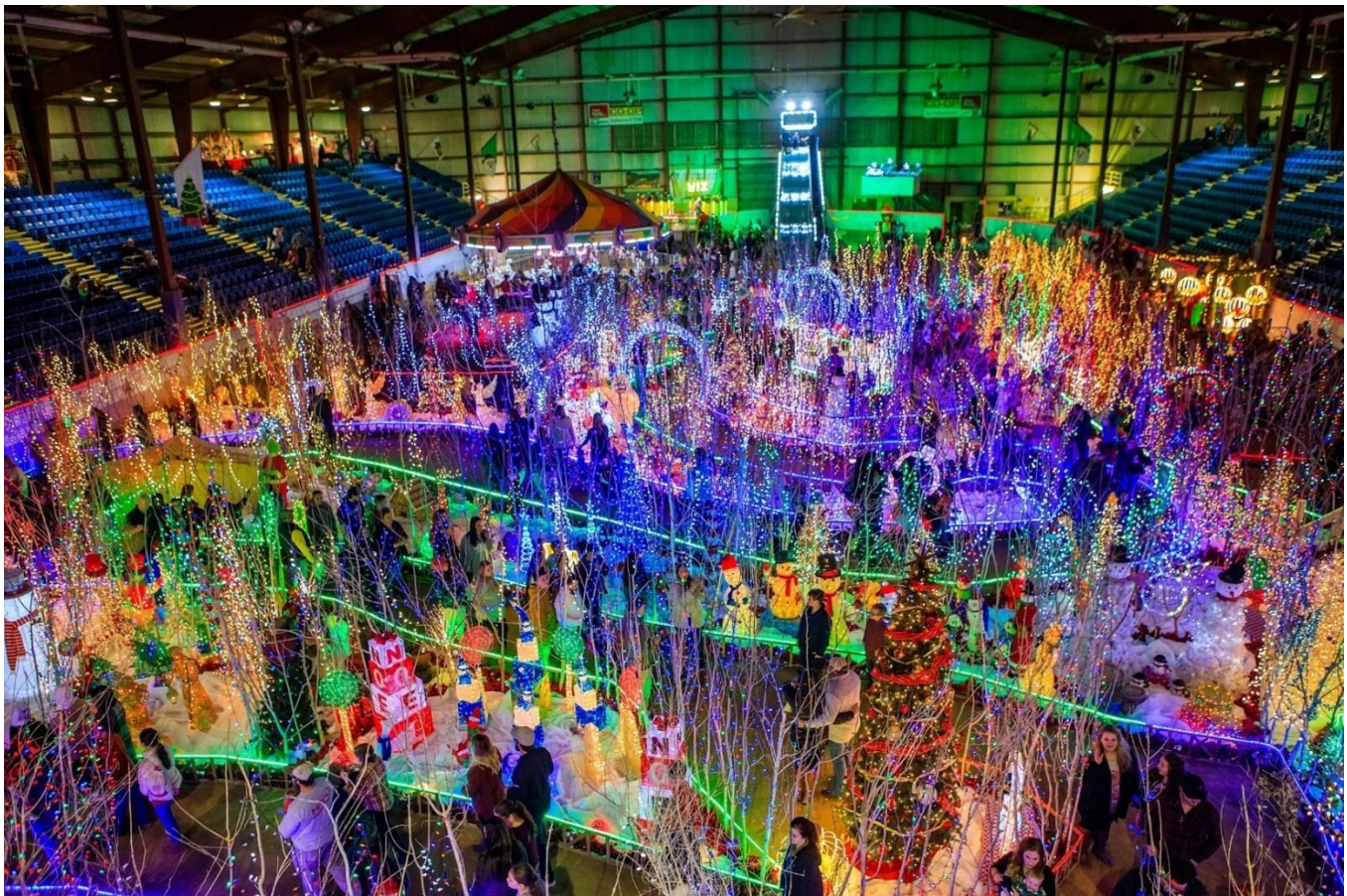


Figure 1. Santa's Village Display at the Ned R. McWherter Agricultural Complex

## Soil, Animal, Food, and Economic (SAFE) Research, Education, and Outreach

Middle Tennessee State University (MTSU), in collaboration with the University of Tennessee at Martin (UTM) and Tennessee Technological University (TTU), seeks funding to investigate the impact of soil management practices on crop, animal and food production and economics, update coursework, and communicate results to agricultural audiences through field day activities, virtual demonstrations, training and professional development opportunities. (Figure 2 and 3)

Due to the rapidly increasing human population, sustainable agricultural management practices are difficult to achieve and encourage. This has led to concerns about providing food, feed, and fiber sustainably for the projected 9 billion people by 2050 (Vorosmarty et. al., 2000; Foley, 2014). One way to address this problem is through conservation agriculture and improved soil quality by focusing on soil health and the related effects on animal production, food quality, and economic viability of vertically integrated farming systems. This integrated collaborative project, **Soil, Animal, Food, and Economic (SAFE) Research, Education, and Outreach**, has utilized a systems approach to explore how changes to soil management practices alter food production outcomes, with an emphasis on equipping current producers with resources to better inform on farm decision making practices and providing future producers with access to information through increased utilization of technology and hands-on learning in high school agricultural education programs. To accomplish this, over a three-year period various soil plots have been established, and a livestock feed crop (MTSU), vegetable crop (UTM), and forage crop (TTU) have been grown in each plot because of the soil quality. The feed crop has been used for silage to feed livestock, in this case, dairy cattle. Milk from the dairy cows have been used to produce dairy food products. At each step of the food systems, soil, crops, milk, and milk food products have been analyzed for various characteristics. Those characteristics have been analyzed to determine the economic relationships between soil quality for feed and food production to milk quality and dairy food product quality. As research is being executed, new course development and existing course enhancement has occurred, and outreach efforts have targeted farmers and high school agricultural education teachers through field day activities, seminars, webinars, publications, and professional development activities. This approach allows us to simultaneously support in-practice farmers and educate the next generation of agriculturists so that we can increasing the number of students entering food and agriculture-related science, technology, engineering, and mathematics (Ag-STEM) disciplines.

The following objectives will guide this work:

**Objective 1** - Utilize soil management practices to improve crop and pasture production for enhanced productivity and food quality across different food systems.

**Objective 2** - Establish a food system training center to provide support in the areas production, processing, preservation, safety, and food science education.



Figure 2. Undergraduate experiential learning



Figure 3. Overview of SAFE plot on UTM Teaching and Demonstration Farm

## Coon Creek Science Center

April 2021, The University of Tennessee, on behalf of its Martin campus, had a grand opening to elaborate the acquisition and future use of the Coon Creek Science Center. (Figure 4)



Figure 4. Coon Creek Science Center facilities

The property was obtained from the Pink Palace of Museums for institutional use as a field laboratory for teaching, outreach, and research activities in Geosciences, Natural Resources Management, Astronomy, and Agriculture. The Coon Creek Science Center is one of a dozen most significant fossil sites in North America. The site has yielded over 600 different species of marine creatures, preserved as unaltered fossils. The Pink Palace museum's Coon Creek Science Center collection – includes skull and skeletal remains of a 25ft. Mosasaur – dating from the late Cretaceous, 75 million years ago, (a.k.a. -- the end of the Age of Dinosaurs) (Figure 5). The University utilizes the property to offer enhanced undergraduate and graduate courses; public summer programming; Eco- and Paleo- tourism; and research. STEM teacher training is also performed and will continue at the site.



Figure 5. Coon Creek Science Center Fossil Dig

## West Tennessee Animal Disease Diagnostic Lab

Funding provided by the Tennessee Department of Agriculture and the Tennessee Agriculture Enhancement Program funded the establishment and operation of a West Tennessee Animal Disease Diagnostic Laboratory (Figure 6 a, b, c, & d) that opened on July 1, 2008. This laboratory serves as a satellite of the C.E. Kord Laboratory at the Ellington Agriculture Center in Nashville, Tennessee. Necropsies performed on animals used for food or fiber are performed at no charge to producers and public partners and all other lab services are performed on a fee schedule. The lab increases public and corporate partnerships with outreach efforts, in addition to being a valuable teaching tool. The lab is also used for instruction and demonstration for students and visiting groups that come to campus.



Figure 6 a West Tennessee Animal Disease Diagnostic Laboratory



Figure 6 b & c West Tennessee Animal Disease Diagnostic Laboratory



d. West Tennessee Animal Disease Diagnostic Laboratory Director Dr. Clint Ary

## Veterinary Technology Facility

The Veterinary Technology concentration provides students an opportunity to earn a 4-year degree with a major in Veterinary Science and Technology, while meeting all the qualifications established by the American Veterinary Medical Association to sit for the National Licensing Exam for Veterinary Technicians. The Veterinary Technology concentration received initial accreditation in May 2014 from the American Veterinary Medical Association and the Committee on Veterinary Technician Education and Activities (CVTEA). We had our CVTEA site accreditation visit in February 2024 and received full accreditation through 2029.

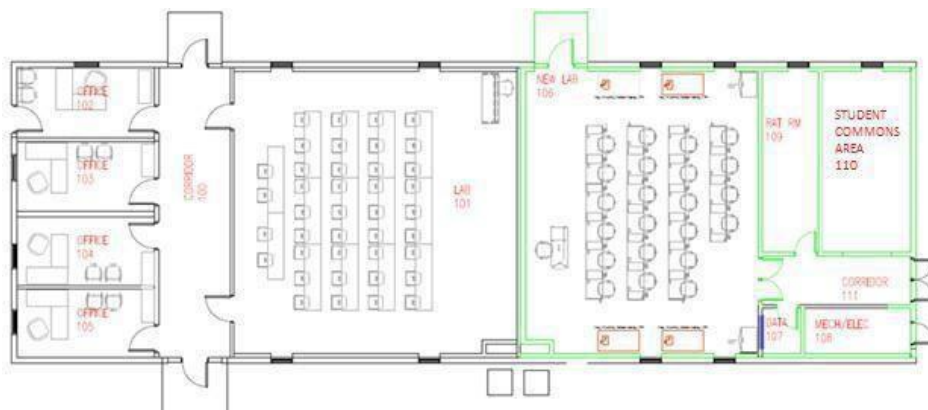


Figure 7. Vet Health Tech Facility Floor Plan

During spring 2015, a free stall barn adjacent to the Veterinary Technology Lab was partially renovated using Title III grant funds, as well as funds secured from a USDA RBEG grant. The Title III grant is providing over \$300,000 over five years and includes a four-phase renovation (Figure 7) to the free stall barn. The barn was eventually renamed the Veterinary Technology Facility. Phase I work totaled approximately \$140,000 and the partial renovation created a new state of the art smart classroom equipped with Clear Touch Panel computing technology. Phase II and III renovations began in 2016 and were completed in the summer of 2018 to provide four office spaces (Figure 8) and a state-of-the-art laboratory for Veterinary Technology students.

Title III grant funds were used for phase IV renovations on the rear section of the Veterinary Technology Facility to create a new teaching laboratory (Figure 9) for laboratory animals and a new student commons area for the growing Veterinary Technology concentration. This project was started during the 2017-2018 academic year and was completed during the 2018-2019 academic year. During the 2019-2020 academic year, this facility growth of the Veterinary Technology concentration increased available instruction and research capacity for all Animal Science faculty.

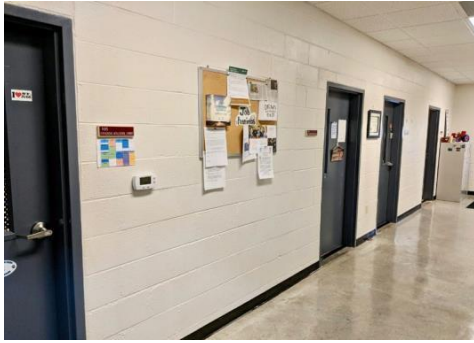


Figure 8. Offices at Vet Health Tech Facility



Figure 9. New Laboratory at Vet Health Tech Facility

Most recently, the CVTEA reaccreditation visit February 2024 indicated that we have outgrown our current Kennel Facility that provides learning space for our ANSC 230 Companion Animal Science class. Subsequently, we have initiated a 3-phase plan to renovate our Veterinary Technology Lab to include a larger, state of the art kennel. This renovation project was initiated in summer 2025 and is scheduled to be completed by fall 2026 in time for fall classes. Additionally, this renovation will include and provide additional lab space and office space. Additional lab space is needed for experiential learning and office space is needed for our growing number of Veterinary Science and Veterinary Technology faculty.

## Cattle Education and Reproduction Laboratory

Another important experiential learning project that has been funded through the UTM Provost's Office, is the design and construction of a new Beef Evaluation Center. The center has been renamed the Cattle Education and Reproduction Laboratory (CERL). CERL will provide experiential learning opportunities for animal science students utilizing and growing the current cow-calf herd. CERL will include a 1,245 ft<sup>2</sup> laboratory and a 250 ft<sup>2</sup> student commons area, (Figure 10) and a large, covered livestock working facility. This laboratory will also increase available interdisciplinary research capacity for all Animal Science faculty. This project was expected to begin in Fall 2018; however, it was delayed due to increased steel prices that carried the project total over budget. Fundraising is underway by Chancellor Freeman and University Advancement and construction is TBD. Fencing is underway by Chancellor Freeman and University research, and pasture in preparation for construction (Figure 11a and 11b).

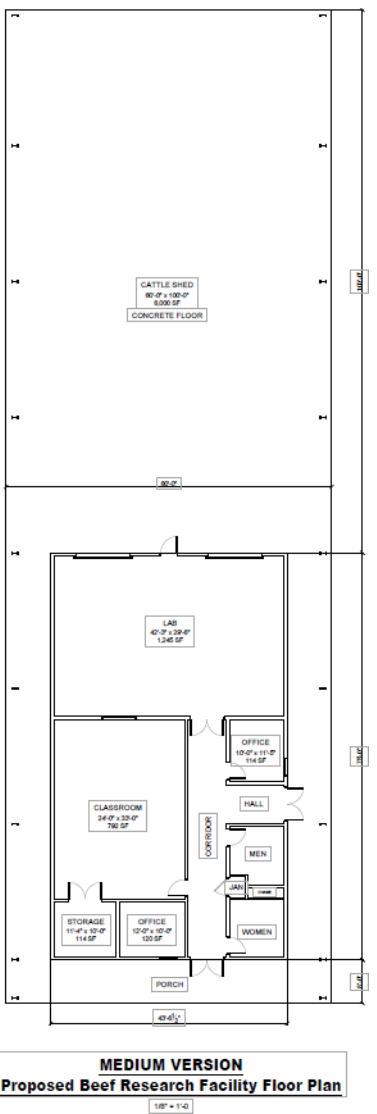


Figure 10. CERL Floor Plan.



Figure 11a & b. New fencing around future CERL location.

In August 2023, planning and programming for this facility resumed with UTM and UTK Office of Capital Projects. Planning and programming for this project was still ongoing during the 2024-2025 AY and is still ongoing during the current 2025-2026 AY.



## Capacity Building Grant for Forage Education Resources

The productivity and nutritive value of cool-season forage species such as tall fescue decreases during hot and dry summer months, which is referred to as the “summer slump”. This typically occurs in the mid-south region including the state of Tennessee. Warm-season annual grass species can provide a useful option for supplemental summer forage in the region. They can be a good option either for grazing or to harvest as baleage for use in winter. Summer annuals are also higher in forage quality and can be more productive than warm-season perennials in a short period time, which qualifies for use as emergency forages during the drought periods. Our research at the University of Tennessee at Martin is investigating the use of drought-tolerant, warm season annual forage species such as: Teff (*Eragrostis tef*); sorghum-sudangrass [*S. bicolor* (L.) x *Sorghum sudanese* (Piper) Stapf; SxSU] and Pearl millet [*Pennisetum glaucum* (L); *PM*], as a potential solution for ‘summer slump’ providing summer forage for livestock producers in the region. The funding for this study was provided by the Capacity Building Grants for Non-Land Grant Colleges of Agriculture Program (NLGCA), United States Department of Agriculture, National Institute of Food and Agriculture (Project No: R054105183).

This study can provide guidelines for the production and management of alternative warm-season forages in the region. This research acquaints livestock producers with potential alternative summer forage species, their management, utilization, and nutritive values in the west Tennessee region. This research also provides an initial foundation for generating greater opportunities for undergraduate students’ involvement in forage-livestock systems research and, initiating and strengthening much needed collaborations and/or affiliations with NGOs (Tennessee Cattlemen’s Association), extensions, companies, public universities, etc. for research, extensions, and student internships.



Figure 13a - Fistulated cows for ruminant research



Figure 13b - Forage field plots



Figure 13c - Undergraduate researchers and Dr. Isaac Lepcha

## UTM Apiary

In 2012, alumni faculty member Dr. Bob Hathcock, with the support of current faculty member Dr. Joseph Mehlhorn and the Northwest Tennessee Beekeepers Association, installed a small 11-hive apiary on the north end of the UTM Teaching and Demonstration Farm. The purpose of this apiary was to provide a vehicle for instruction/outreach regarding best management practices in beekeeping for West Tennessee beekeepers. In 2016, Dr. Hathcock and the Association turned the apiary over to the Department of AGN for future use and upkeep. In 2017, the apiary was upgraded to 25 hives and the Department of AGN began to involve Teaching and Demonstration Farm student workers to complete apiary maintenance (Figure 14a and 14b). This provides a unique hands-on learning experience for these students. The apiary also allowed for cross-collaboration between the Department of AGN and other departments on campus such as faculty and students from the Department of Chemistry.

Beginning September 2017, honey and lip balm from the apiary is being sold in the UTM Bookstore, at UTM football games, and at other public events on the UTM campus. This project continued to be successful and continued to grow through 2020. COVID-19 years, 2021-2022, resulted in an overall reduction in our number of hives and a subsequent reduction in our production.



Figure 14 a and b. Student workers completing apiary maintenance.

Currently, we have 14 active hives in 2025 and have developed a honey extraction facility within one of the old swine facilities on the UTM Teaching and Demonstration Farm. We have one full-time Teaching and Demonstration Farm employee along with 3-4 student workers providing leadership over and carrying out the day-to-day activities at the UTM Apiary. Additionally, we have established a working relationship with the Northwest Tennessee Beekeepers Association. We host their monthly meeting here on the UTM campus and we host their annual Field School which utilizes our UTM apiary.

The Center of Excellence has hosted the Tennessee Governor’s School for the Agricultural Sciences (TGSAS) since 2004. TGSAS provides exceptional agricultural experiential learning opportunity for Tennessee high school rising juniors and seniors. (Figure 15 a & b) The academic program is a 4-week residential program that covers a variety of agriculture and natural resource topics. Students’ complete college courses as well as learn research techniques through group study research projects. A copy of the 2025 TGSAS Annual Report can be found on the Center of Excellence web site: <http://www.utm.edu/departments/agnr/coe.php>

With the tremendous success of the Tennessee Governor’s School for the Agricultural Sciences from a student recruitment standpoint, there was an excellent opportunity to develop an “honors” program specifically for AGN students. With this vision and the help of a dedicated group of AGN faculty, the Agriculture, Geosciences, and Natural Resources Fellows Research Program (AGN-FRP) was born. The program includes an additional 3 hours of course work tailored AGN-FRP to enhance students’ investigative skills and promote undergraduate research. The AGN-FRP provides an opportunity for outstanding AGN students to gain organized experiences in research and scholarship through a mentored relationship with an AGN faculty member. The primary goal of the AGN-FRP is to foster and enhance undergraduate research in a manner that is mutually beneficial for the student and the faculty mentor. The additional training from the FRP program has positioned the students to be successful in advanced academic fields.



Figure 15. a) 2025 TGSAS Counselors

b.) Class of 2025



## UTM Continues Partnership with Tyson Foods Inc.

The University of Tennessee at Martin has continued to partner with Tyson Foods Inc. to add chicken to the list of animals UT Martin students work with during agricultural production courses during 2024-2025 AY. Tyson provides the birds, which are housed in a renovated barn facility on the UT Martin Teaching Farm. The facility officially opened March 1. This facility is currently used for teaching, research, and career training for students desiring to enter the poultry workforce. (Figure 16 a, b, & c)



Figure 16a – Tyson Facility at UTM



Figure 16b – Ribbon cutting of new Tyson Facility at UTM



Figure 16c – The new Tyson Facility at UTM

## UTM Wildwood Farm at Germantown

The University of Tennessee at Martin received the largest single gift in its history when Melanie Smith Taylor and her family announced that Wildwood Farm in Germantown, TN, will be transferred to the university upon her death. The gift will allow UT Martin to increase educational program offerings in veterinary technology and other agricultural disciplines soon. The gift will provide opportunities for UT Martin to collaborate with the University Tennessee Institute of Agriculture. (Figure 17a & b)

The farm includes 350-acres of mixed pasture and mature oak woodlots surrounded by dense residential development. The Big Barn was completed in 1935 and became the hub of equestrian history in the Mid-South. Originally built as one of the top American Saddlebred show stables in the country, Wildwood transformed into setting for many equestrian events.

The gift will make possible educational opportunities in veterinary technology, horsemanship, plant and soil science, environmental management, and natural resources management. Early programming will focus on adding cohort for veterinary technology to complete the core of 200-400 level veterinary technology courses.



Figure 17a. Ms. Melanie Taylor Smith (third from left) Wildwood Farm gift signing



Figure 17b. Aerial view of Wildwood Farm in the heart at Germantown, TN

## Capacity Building Grants for Non-Land-Grant Colleges of Agriculture Program (NLGCA). Establishing a forage nutrition laboratory to strengthen forage-animal science curriculum and expanding outreach in livestock communities.

PI(s): Lepcha, I., Naumann, H.D., Darroch, C., and Ary, C. 2021-2024. (\$300,000)

The productivity and nutritive value of cool-season forage species such as tall fescue decreases during hot and dry summer months, which is referred to as the “summer slump”. This typically occurs in the mid-south region including the state of Tennessee. Warm-season annual grass species can provide a useful option for supplemental summer forage in the region. They can be a good option either for grazing or to harvest as baleage for use in winter. Summer annuals are also higher in forage quality and can be more productive than warm-season perennials in a short period time, which qualifies for use as emergency forages during the drought periods. Our research at the University of Tennessee at Martin is currently investigating the use of drought-tolerant, warm season annual forage species such as: Teff (*Eragrostis tef*); sorghum-sudangrass [*S. bicolor* (L.) x *Sorghum sudanese* (Piper) Stapf; SxSU] and Pearl millet [*Pennisetum glaucum* (L); PM], as a potential solution for ‘summer slump’ providing summer forage for livestock producers in the region. (Figure 16a & b) The funding for this study was provided by the Capacity Building Grants for Non-Land Grant Colleges of Agriculture Program (NLGCA), United States Department of Agriculture, National Institute of Food and Agriculture (Project No: R054105183).

This study can potentially be a useful initiative to provide guidelines for the production and management of alternative warm-season forages in the region. This research will acquaint livestock producers with potential alternative summer forage species, their management, utilization, and nutritive values in the west Tennessee region. Besides, this will also provide an initial foundation for generating greater opportunities for UG students’ involvement in forage-livestock systems research and, initiating and strengthening much needed collaborations and/or affiliations with NGOs (Tennessee Cattlemen’s Association), extensions, companies, public universities, etc. for research, extensions, and student internships.



Figure 18a: UG research students participating in forage sampling at 35 days after planting



Figure 18b: Forage growth at 85 days after planting

# Faculty and Staff of Center of Excellence for Experimental Learning in Agricultural Science

## Center of Excellence Faculty

<b>Name</b>	<b>Title</b>	<b>Area of Expertise</b>
Ary, Clint	Associate Professor	Veterinary Science
Bird, Will	Associate Professor	Agricultural Education
Castleman, Alex	Lab Instructor	Veterinary Technology
Chesnut, Matt	Lab Instructor	Veterinary Technology
Cole, John	Associate Professor	Agricultural Engineering
Darroch, Barbara	Professor	Plant and Soil Science
Lepcha, Isaac	Lecturer	Plant and Soil Science
Mehlhorn, Joey	Director/Professor	TGSAS
Mehlhorn, Sandy	Professor	Agricultural Engineering
Moore, Amber	Assistant Professor	Veterinary Science
Morphis, Zach	Lab Instructor	Veterinary Technology
Pelren, Eric	Professor	Wildlife Biology
Roberts, Jason	Professor	Veterinary/Animal Science
Smartt, Philip	Professor	Natural Resources Management
Tewari, Rachna	Professor	Agricultural Economics
Totten, Wes*	*Director/Professor	Plant and Soil Science
Waldon, Amanda	Lab Instructor	Veterinary Technology
Walker, Danny	Professor	Veterinary Science
Watson, Diana	Associate Professor	Animal/Veterinary Science
Wolters, Bethany	Associate Professor	Plant & Soil Science

## Center of Excellence Staff

Smithson, Callie	Business Manager	Budgets and Accounting/TGSAS
Forsythe, Zach	Teaching Farm Supervisor	Crop Management
Crockett, Jamie	Senior Farm Equipment Operator	Equipment Operation & Mgt Student
Bell, Kiersten	Administrative Associate	Support & Contracts/TGSAS
Jones, BeLynda	Administrative Associate	Veterinary Science & Technology
Leiter, Kim	Equestrian Coach	Horsemanship
Woods, Tara	Farm Research Associate	Animal Care and Support

## **Student Information**

The Center of Excellence for Experimental Learning in Agricultural Science works closely with the Department of Agriculture, Geosciences, and Natural Resources to meet all student needs and the COE mission statement. The department has a current enrollment of approximately 1,270 students with areas of interest in Agricultural Business, Agricultural Science, Animal Science, Plant and Soil Science, Agricultural Engineering Technology, Geosciences, Wildlife Biology, Park Administration, Environmental Management, and Soil and Water Conservation. To see specific student awards and internships see Objective 8 on page 30.

## Planned Program Activity in FY2024-2025

Activities of the Center for each general objective will include, but are not limited to:

**Objective 1:** Submit external grants seeking to support the Center of Excellence and its activities consistent with the mission and objectives of the Center of Excellence.

**Target:** Efforts will be directed at adding \$100,000 in new grants and contracts during FY 2024-25 and maintaining or continuing existing grants and contracts.

**Response:** During the 23rd year of operation, faculty members of the Center of Excellence were successful in acquiring a total of \$3,513,651.64 in active grants (Appendix A). The continued success in acquiring external funding is due primarily to faculty appointments in the Department of Agriculture, Geosciences, and Natural Resources. The faculty identified potential funding sources and subsequently prepared grants and contracts from five different funding agencies in FY2025. Along with this funding the faculty continued research from grants and contracts established with six different funding agencies in prior fiscal years. A full report of all grants funded can be found on the Center of Excellence web site. <https://www.utm.edu/offices-and-services/center-of-excellence/>

**Objective 2:** Continue with the planning and design phase of a \$2.5 million Cattle Education and Reproduction Laboratory construction project.

**Target:** Renewed planning and fundraising for a new Cattle Education and Reproduction Laboratory to support academics, cow-calf operation, and research and scholarly activity has been underway for FY 2024-25. This facility will be comprised of a 40-seat state of the art classroom and student commons area. This laboratory will aid in student instruction but will also provide needed research space for undergraduate, graduate, and faculty research projects in all areas of animal science. The beginning of this project remains TBD.

**Response:** Activity with this objective has increased significantly beginning Fall 2024 to present. We are currently working with Mrs. Jenna Curtis-Swofford, Associate Vice Chancellor for Development and Planned Giving on this objective. Cattle Education and Reproduction Laboratory fundraising discussion and activities were ongoing for FY 2024-2025.

**Objective 3:** Partner with agronomic companies desiring demonstration areas for seed and chemical applications on a cost-sharing basis.

**Target:** Continue field operations for the 200-acres of crops currently in production emphasizing variety trials and demonstration plots for alternative crops. Complete a systematic review of all agricultural production areas of the COE and amend where necessary to ensure optimum productivity (pH, fertilization, organic matter, etc.). Identify new partnerships for field trials and alternative crops to enhance area agricultural enterprises. Continue to offer producer-oriented field day programs in cooperation with area equipment dealers, chemical companies, and/or seed companies.

Response:

Agrigold	Tyson Poultry Barn
BASF	Syngenta
Beck's Hybrids	Nutrien Ag
Helena Chemical	Greenpoint Ag
Weakley County Farmers Co-Op	Southern FS

Objective 4: Generate timely, state-of-the-art information on key topics related to food, agriculture, and the environment with special attention to emerging issues that may have long-term implications for production of agricultural commodities while protecting natural resources in Tennessee.

Target: Seek to sponsor at least 30 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

**Response:**

- 1) Richard Hague, Ross Veterinary School
- 2) Leslie Wereszczak; University of Tennessee College of Veterinary Medicine (Virtual)
- 3) Seth Krantz, DVM, Tosh Farms
- 4) Dr. Heather Kelly, Extension/Research Plant Pathologist and IPM Coordinator, UT Extension/UTIA (as part of the Soybean Disease Field Day and as a speaker in the classroom)
- 5) Dr. Tyson Raper, Extension/Research Cotton Agronomist, UT Extension/UTIA, and others (as part of Cotton Tour).
- 6) Dr. Larry Steckel, Extension/Research Weed Scientist, UT Extension/UTIA
- 7) Mr. Don Carter, Tobacco farmer
- 8) Mr. Jay Yeargin, Yeargin Farms
- 9) Dr. Jake McNeal, Extension/Research Corn and Soybean Agronomist, UT Extension/UTIA
- 10) Dr. Mark Gadlage, Corteva Agriscience
- 11) Leslie Wereszczak, LVMT, VTS (ECC), UTCVM Emergency & Critical Care director –CPR training
- 12) Kaitlyn Bray, LVMT, nurse manager at VEG ER
- 13) Erin Allen, LVMT, Auburn University
- 14) Hope Richardson, NRCS, Wetland Soils for SOIL 321
- 15) Brad Buttrey, Livestock Producer
- 16) Dr. Mark Gadlage, Corteva
- 17) Ryan Winchester, NRCS, Field classification of soils in Jackson, TN
- 18) Ryan Winchester, Weakly County NRCS office, Soil Judging Workshops
- 19) Nutrifafa Adotey, Assistant Professor UT Knoxville West TN AgResearch and Education Center, Diagnosing Nutrient Deficiency for Corn, Cotton and Soybean
- 20) Mr. Todd Hampton, Edward Jones
- 21) Damon Hollis, Forester, TWRA
- 22) Brad Thompson, City Manager of Martin
- 23) Denver Melton, Tyson
- 24) Brad Williams, Corteva
- 25) Scott Mason, Fire Prevention and Training Officer, US Forest Service
- 26) Rudy Aguilar, Belize Botanic Gardens
- 27) Nate Rottero, Becks
- 28) Jody Watson, ACI Distributors
- 29) Ben White, Greenpoint Ag
- 30) Gordon Counts, USDA NRCS
- 31) Russ Finney, Case IH
- 32) Charles Carter, Case IH
- 33) Rob Barrett, Director of Interpretation – Tennessee State Parks

- 34) Laura Franklin, Director of Special Projects, Tennessee State Parks
- 35) Jeremy Roberts, Park Ranger, Tennessee State Parks

Objective 5: Communicate the objectives of the COE and related action programs to raise public awareness of the importance of the agricultural sciences and natural resources to the economic wellbeing of Tennessee and the surrounding areas.

Target: Continue to utilize technology to enhance education for on-campus and off-campus students. Endeavor to offer at least one new program promoting agriculture and natural resources in Tennessee. Maintain and enhance course offerings for dual enrollment programs with high school students in Tennessee. Offer at least ten department courses for online delivery.

Response: The following courses were taught for high school dual enrollment credit in the 2024-25 academic year and below is the current flier that was distributed to the high schools.

AGEC 110	Introduction to Agricultural Business
AGEC 250	Introduction Agricultural Sales
AGET 110	Introduction to Agriculture Engineering Technology
ANSC 110	Introduction Animal Science
ANSC 210	Introduction Horse Science
ANSC 230	Companion Animal Management
ANSC 260	Behavior Farm & Companion Animal
ANSC 270	Animal Welfare and Ethics
GEOS 110	Geoscience in Everyday Life
PLSC 110	Introduction Plant & Soil Science

In addition to the dual credit and online course, the AGN Department along with Regional Centers and Online Studies have developed articulation agreements for 1+3 programs with various TCATs in West Tennessee in FY2024/AY2023-2024. Additional articulation agreements with other regional TCATs are in development. Also, new courses are being developed and added online yearly.

## AGRICULTURE PATHWAY FOR DUAL ENROLLMENT STUDENTS

Dual enrollment students are encouraged to satisfy general education requirements **prior** to taking agriculture-specific concentration courses.  
Students can earn up to 30 hours which could allow them to graduate college in three years.

**GENERAL EDUCATION**

English (9 hrs): ENGL 111, 118* COMM 230*	Mathematics (6 hrs): MATH 140* MATH 210*	Social Science (6 hrs): POSC 210, 220 PSYC 101 SOC 201, 202
Fine Arts (3 hrs): ART 110 ARTH 211 MUS 111, 112 THEA 110, 111	Physical Systems (8 hrs): GEOS 110/110L GEOS 209/209L*	
Humanities (9 hrs): HIST 121, 122 HIST 201, 202 PHIL 201, 202		

**CONCENTRATION-SPECIFIC**

<b>Agriculture or Farm &amp; Ranch Mgt. (6 hrs):</b> PLSC 110 ANSC 110 AGRC 110 AGBC 260 AGDC 271	<b>Animal &amp; Vet Science (6 hrs):</b> AGVC 110 ANSC 110 ANSC 230 ANSC 260	<b>Plant Science (6 hrs):</b> PLSC 210 MATH 240* NRM 101 NRM 102 MATH 140* ESYS 101 SOC 201, 202
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Courses in *ITALICS* can also be used for multiple concentrations. (Example: AGVC 110 can be used in the Animal & Vet Science, Agriculture, and Farm & Ranch Management concentration.)

**FOR MORE INFORMATION, CONTACT:**

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### COURSE TITLES

Courses from the front page are listed below with their full class title.

**GENERAL EDUCATION**

ART 110- Understanding Visual Art	MATH 210*- Elementary Statistics and Probability
ARTH 211- The History of Art	MUS 111*- Masterpieces of Music
COMM 230*- Public Speaking	MUS 112*- Music in Our Time
ENGL 111- English Composition	PHIL 110- Adventure of Ideas: Historical
ENGL 112*- English Composition	PHIL 120- Adventure of Ideas: Contemporary
GEOS 110/110L- Geoscience in Everyday Life	POSC 210- American Government and Politics
GEOS 130/130L*- Global Change and Earth History	POSC 220- American Political Institutions and Policy
HIST 121- Development of World Civilization I	PSYC 101- Introduction to Psychology
HIST 122- Development of World Civilization II	SOC 201- General Sociology
HIST 201- History of the United States I	SOC 202- Social Problems
HIST 202- History of the United States II	THEA 110- Understanding Theatre
MATH 140*- College Algebra and Elementary Functions	THEA 111- Understanding Theatre

**CONCENTRATION**

AGVC 110- Introduction to Agricultural Business	ANSC 270- Animal Welfare and Ethics
AGVC 210- Introduction to Agricultural Sales	MATH 140*- College Algebra and Elementary Functions
AGRC 210- Farm Management	NRM 101- Wildlife, Conservation and Environmental Issues
ANSC 110- Introduction to Animal Science	PLSC 110- Introductory Plant and Soil Science
ANSC 210- Introduction to Horse Science	PSYC 101- Introduction to Psychology
ANSC 230- Exotic and Companion Animal Management	SOC 201- General Sociology
ANSC 260- Behavior of Farm and Companion Animals	SOC 202- Social Problems

\*Prerequisites:  
ENGL 112- C or higher in ENGL 111.  
COMM 230- C or higher in ENGL 111.  
GEOS 130/204- GEOS 110/110L or any 2 semesters of university-level lab science.  
MATH 140\*- Two units of high school algebra and a 20 ACT Math score.  
MATH 210\*- MATH 100-110, or 140, or 170, or 185, or 251 or a 24 ACT Math score.

**UT MARTIN**

Objective 6: Provide a forum for dialogue, debate, information sharing, and consensus building among policymakers, researchers, and leaders in non-governmental organizations, the private sector, and media through seminars, workshops, conferences, service learning, and publications.

Target: Plan and present at least 8 seminars/workshops on current topics of interest to animal and crop producers, as well as programs in natural resource management.

### Response:

#### Conferences/Workshops

- a) Tennessee Academy of Science – Amber Moore, Clint Ary and several students
- b) Music City Veterinary Conference – Danny Walker, Amber Moore, Clint Ary, Cindy Schmidt, Zach Morphis, Alex Castleman, Mallory Edwards, Matt Chesnut, BeLynda Jones and several students including VET 480 and club officers.
- c) Soybean Disease Field Day, Milan Research and Education Center, Milan, TN. Attended by Barb Darroch and students in PLSC 322.
- d) Cotton Tour, West Tennessee Ag Research and Education Center, Jackson, TN. Attended by Barb Darroch and students in PLSC 433.
- e) AVTE annual meeting Houston, TX – attendees Alex Castleman, Zach Morphis, and Matt Chesnut
- f) Students of Agronomy, Soils and Environmental Sciences and Soil Science Society of America Annual Conference, San Antonio, TX, November 2024. Four students and one faculty attended (Wolters, B.)
- g) MANRRS 39<sup>th</sup> Annual Training Conference and Career Expo in Memphis, TN March 2025. Seven students and three faculty (Wolters, Winters, Mehlhorn) attended.
- h) Tennessee Academy of Science annual meeting - attendees Clint Ary and Brooke Trundle
- i) Music City Veterinary Conference- attendee Clint Ary
- j) ELLI Conference- attendee Clint Ary
- k) Forage Info Day at UTM- speaker and attendee Clint Ary
- l) Tewari, R., M. Miller Foster, E. Sanchez, D. Foster, I. Lepcha, E. Pelren, B. Wolters, S. Dunagan, and J. Mehlhorn. Embedded courses as collaborative pedagogical tools: fostering sustainability and global engagement in higher education. Selected presentation at the 9th International Academic Conference on Education. University of Zurich, Switzerland. July 4-6, 2025.
- m) Sobek, B., R. Tewari, and B. Wolters. Evaluating Smallholder farm owners' perspectives at a regional conference. Tennessee Academy of Sciences Annual Meeting, Lincoln Memorial University, November 2025. Third place winner in the student oral competition.

- n) Howell, C., and R. Tewari. Changes in irrigated farms by Market Value of Agricultural Products: Evidence from the Southeastern U.S., University of Tennessee at Martin. Oral presentation. Annual UT Martin-Murray State University Sigma Xi Joint Research Symposium. March 2025.
- o) Tewari, R., I. Lepcha, D. Foster, M. Miller Foster., E. Pelren., E. Sanchez., B. Wolters., S. Dunagan., J. Mehlhorn., and W. Bird. Empowering Small Farmers and Agriculture Students: FSAS (Farmers' School for Agricultural Sustainability) and Global Experiential Learning Programs. Education and Extension Poster II, ASA, CSSA, SSSA International Annual Meeting, November 13, 2024.
- p) Sobek, B., R. Tewari, B. Wolters and I. Lepcha. Evaluating Smallholder farm owners' perspectives at a regional conference. Poster presented at the Annual UT Martin-Murray State University Sigma Xi Joint Research Symposium. March 2025.
- q) Ellarose Strasser, Tennessee Academy of Science
- r) Dr. Philip Smartt, Southeastern State Parks Programs Seminar

### Presentations:

Zelenski, A.\*., B. Darroch, B. Wolters, and I. Lepcha. 2024. Are biostimulants nothing more than BS? Effects of biostimulants on soil health and soybean growth. 2024 International Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. San Antonio, TX, November 9 to 13, 2024. \*Student authors/presenters.

Clint Ary, Brittany Cole, **Jason Roberts**. Taking the (ag) business our of vet science: why vet science students are not minoring in ag business. SAEA annual meeting, Irving Texas. February 1-4 2025.

Brendan O'Bryan, **Jason Roberts**, Brittany Cole. All Costs (and Creatures) Great and Small: Price Sensitivity and Livestock Production. SAEA annual meeting, Irving Texas. February 1-4 2025.

Joey Melhorn, Brittany Cole, **Jason Roberts**. Out of the Lab and Into the Classroom: Enhanced Student Learning through Animal Interaction. Selected as a poster for Tennessee Academy of Science Annual Meeting November 23, 2024 Lincoln Memorial University.

Karle Meggs, Diana Watson, **Jason Roberts**, Amber Moore. Resolution of an indolent corneal ulcer in an equine athlete. Selected as a poster for Tennessee Academy of Science Annual Meeting November 23, 2024 Lincoln Memorial University. (P)

Brendan O'Bryan, **Jason Roberts**, Brittany Cole, Clint Ary. All Costs (and Creatures) Great and Small: Price Sensitivity and Livestock Production. Selected as oral presentation for Tennessee Academy of Science Annual Meeting November 23, 2024 Lincoln Memorial University.

Ella Joyce Poston, Halle Ann Casey, Georgia Harvell, **Amber Moore**, Diana Watson – “Tracking Potential Correlations Between Calving Times and Feeding Times.” Student Poster Presentation, 2025 Experiential Learning Leadership Institute, April 2025

Rachel Werner, Stephanie Jones, Diana Watson, **Amber Moore** “Evaluating In-Person Versus Video Instruction of Animal Husbandry Skills.” Student Poster Presentation, 2025 Experiential Learning Leadership Institute, April 2025

Ben Therrell, Craig Darroch, Keith Dooley and **Amber Moore** – “Cultivating Change in Growing Nations.” Student Poster Presentation, 2025 Experiential Learning Leadership Institute, April 2025

Charley Crawford and **Amber Moore** – “Salmonella strikes: The case of a two-year-old mare with diarrhea.” Student Poster Presentation, Tennessee Academy of Science, Fall 2024

Makayla Stewart and **Amber Moore** – “Does Size Matter? Ratio of brain size to body size and its impact on intelligence.” Student Poster Presentation, Tennessee Academy of Science, Fall 2024

Kenzie Stockton and **Amber Moore** – “Fatal Foliage: The Danger of perilla Mint for Cattle.” Student Poster Presentation, Tennessee Academy of Science, Fall 2024

Caitlyn Henry and **Amber Moore** – “The influence of animal photos on adoptability.” Student Poster Presentation, Tennessee Academy of Science, Fall 2024

Autumn Martin & **Amber Moore** – “Flea-ing the Scene: A history of flea and tick preventions.” Student Poster Presentation, Tennessee Academy of Science, Fall 2024

Taking the (Ag) Business Out of Vet Science: Why Vet Science Students Are Not Minor in Ag Business. **Clint Ary**, Brittany Cole, and Jason Roberts. Selected as a poster presentation for ELLI Conference April 3, 2025  
Discovery Park of America, Union City, TN.

Taking the (Ag) Business Out of Vet Science: Why Vet Science Students Are Not Minor in Ag Business. **Clint Ary**, Brittany Cole, and Jason Roberts. Selected as a poster presentation for Southern Agricultural Economics Association, February 4, 2025. Irving, TX.

The spread of heartworms and the rise of resistance: How did these occur and how concerned should we be? **Clint Ary** and Brooke Trundle. Selected as a poster presentation for Tennessee Academy of Science Annual Meeting, November 23, 2024. Lincoln Memorial University, Harrogate, TN.

Taking the (Ag) Business Out of Vet Science: Why Vet Science Students Are Not Minor in Ag Business. **Clint Ary**, Brittany Cole, and Jason Roberts. Selected as a poster presentation for Tennessee Academy of Science Annual Meeting, November 23, 2024. Lincoln Memorial University, Harrogate, TN.

All Costs (and Creatures) Great and Small: Price Sensitivity and Livestock Production. Brendan O’Bryan, Jason Roberts, Brittany Cole, and Clint Ary. Selected as a poster presentation for Tennessee Academy of Science Annual Meeting, November 23, 2024. Lincoln Memorial University, Harrogate, TN.

#### Tennessee Academy of Sciences poster presentations November 2024:

Case study of a refractive atopic pododermatitis and mast cell tumor malignancy. Bethany Mayers\*, Diana Watson, Donna Morris University of Tennessee at Martin, Martin, Tennessee

Developing models for learning comparative anatomy Autumn Brock\*, Jack Grubaugh, Diana Watson

Preserving the Critical Habitats of Dolphins Julie Peoples\*, Diana Watson University of Tennessee at Martin, Martin, Tennessee

Resolution of An Indolent Corneal Ulcer in An Equine Athlete Karle Meggs\*, Savannah Metheny, Amber Moore, Jason Roberts and Diana Watson University of Tennessee- Martin, Martin, TN

Cystitis in a Pot-bellied Pig Katherine Landen\*, Savannah Metheny, Amber Moore, Diana Watson, and Zach Morphis University of Tennessee- Martin, Martin, TN

Assessing the Break Down of Different Alfalfa Cubes for Horses Madison Maupin, Stephanie Jones, and Diana Watson University of Tennessee- Martin, Martin, TN

Evaluating causes of mastitis in Jersey dairy cattle Paige Abruzzese\*, Stephanie Jones, Diana Watson University of Tennessee at Martin, Martin, Tennessee

Making the case for the value of bloodwork in animals Peyton Wallace\*, Diana Watson, Sandy Mehlhorn

#### Experiential Learning and Leadership Institute annual conference poster presentations April 2025:

Theileriosis: an emerging threat in the state of Tennessee Lilly Mosley\*, Diana Watson

Tracking potential correlations between calving times and feeding times. Ella Joyce Poston\*, Halle Ann Casey\*, Georgia Harvell\*, Amber Moore, Diana Watson University of Tennessee at Martin, Martin, Tennessee

Exploring the use of Artificial Intelligence in Veterinary Medicine Charley Crawford\*, Diana Watson

Experiencing Animal Agriculture on a Royal Level Taylor Burke\*, Diana Watson

Gaining Experience in Wildlife Disease Surveillance Mackenzie Stockton\*, Diana Watson

Evaluating Conformation at Equine Breeding Inspections Autumn Brock\*, Diana Watson

Mission Objective: Vet School Hannah Meier, Diana Watson, Sandy Mehlhorn University of Tennessee at Martin

Evaluating in person versus video instruction of animal husbandry skills Rachel Werner\*, Stephanie Jones, Diana Watson, Amber Moore

Insights on Impact of Community Service on Student Development and Future Careers Scarlett Cook, Sandy Mehlhorn, and Diana Watson

Through the eyes of a horse, experimental identification of blind spots and education via virtual reality. Maggie Malone, Anna Green, Jason Roberts, Saman Sargolzaei. Selected as a poster presentation for Tennessee Academy of Science annual meeting November 18, 2022, Tennessee State University.

Learning Through Leadership: Planning a National Convention  
Alissa Carter, Laura Myhan, Diana Watson, Sandy Mehlhorn and Ross Pruitt.

### **Publications**

1. **Amber Moore** & Amanda Waldon (2024). A Kool Aid for Pharmacology Solutions and Dilutions. Journal of the association of Veterinary Technician Educators. Summer 2024 edition. Page 6.
2. **Wolters, B.**, Angel, H., & **Lepcha, I.** (2023). Student perception and performance with self-guided learning in soil science laboratory courses. *Natural Sciences Education*, 52, e20120. <https://doi.org/10.1002/nse2.20120>.
3. Davis, R., R. Tewari, **A. Delmond, I. Lepcha and J. Mehlhorn**. Using the DSSAT (Decision Support System for Agrotechnology Transfer) crop growth model to simulate corn yields in Tennessee. American Society of Agronomy Meetings, Baltimore, MD, November 2022.
4. Braden, I., S. Green, **B. Darroch, \*R. Tewari**, H. Giles, B. Rougeau, and K. Costello. Enhancing the Undergraduate Student Experience: Chronicles from an Agroecosystems Field Course. Soils Science Society of America Education Section. Baltimore, MD, November 2022.
5. Huddell, A.M., Thapa, R., Marcillo, G.S. et al. U.S. cereal rye winter cover crop growth database. *Sci Data* 11, 200 (2024). <https://doi.org/10.1038/s41597-024-02996-9>.
6. Sobek, B.\*+, R. Tewari, B. Wolters and I. Lepcha. 2024. Evaluating smallholder farm owners' perspectives at a regional conference. Tennessee Academy of Sciences Annual Meeting, Lincoln Memorial University, Nov 23, 2024. Poster.
7. Zelenski, A\*+, Darroch, B. A., **Wolters, B.**, & Lepcha, I. 2024. Are Biostimulants Nothing More Than BS?; Effects of Biostimulants on Soil Health and Soybean Growth. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. Nov 10-13, 2024. Oral presentation. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/157352>
8. Corson, E.\*+, Delmond, A., **Wolters, B.**, & Scott, A. 2024. Will Future Climates Kill Soybeans? Using DSSAT to Model the Effects of Climate Change on Soybean Growth in West, TN. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. Nov 10-13, 2024. Oral Presentation. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/160601>
9. Tewari, R., Lepcha, I., **Wolters, B.\***, Foster, D., Foster, M. M., Sanchez, E., Mehlhorn, J., Dunagan, S., Pelren, E., Bird, W., & Gabel, T. 2024. Empowering Small Farmers and Agriculture Students: FSAS (Farmers' School for Agricultural Sustainability) and Global

Experiential Learning Programs. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. Nov 10-13, 2024. Poster.

<https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/156727>

10. Haymaker, J. R.\*, Reiter, M. S., **Wolters, B.**, Mason, J., Stewart, R., & Balkcom, K. 2024. Assessing Long-Term Impacts of Cover Crops and No-Tillage on Soil Organic Matter in Virginia's Coastal Plain. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX. Nov 10-13, 2024. Oral presentation. <https://scisoc.confex.com/scisoc/2024am/meetingapp.cgi/Paper/157805>
11. Davis, R., A. Delmond, R. Tewari, I. Lepcha, J. Mehlhorn, and G. Carmon. Exploring the DSSAT Crop Growth Model to Simulate Management Scenarios for Corn Production in West Tennessee. Journal of the Tennessee Academy of Science. Accepted April 2025.
12. Mandapalli, J., R. Tewari, and I. Lepcha. Predicting School Safety Using Machine Learning: Insights from Chicago Public Schools. Journal of Contemporary Research in Education and English Language Teaching. Accepted July 2025.
13. Tewari, R., N. Zuo, M. Bampasidou, A. Delmond, L. Hu, T. McCarty, J. Mehlhorn, S. Parrott, J. Penn, R. Pruitt, and C. Schroeter (2024). Innovate to Lead: Curriculum Innovations to Meet Students' Needs in Applied Agricultural Economics and Agribusiness Programs. Applied Economics Teaching Resources. Vol 6.
14. Brown, R., J. Clark and R. Tewari (2024). We Need to Talk About Curriculum Innovation. Applied Economics Teaching Resources. 6 (1).
15. Tewari, R., N. Zuo, J. Mehlhorn, and M. Bampasidou (2024). Learning by the Hour: Student perceptions on single-credit-hour agribusiness and agricultural economics courses. Journal of Agribusiness. 40 (1) 83-97 (Spring 2022). Journal publication year set back; chronologically published Fall 2024.
16. Kandanoool, D., R. Tewari, S. Green, and J. Massey (2024). Evaluating Economic Costs and Benefits of Winter Cover Crop Adoption in Arkansas Furrow-Irrigated Rice – Soybean Rotation. Journal of Agribusiness. 40 (1) 17-45 (Spring 2022). Journal publication year set back; chronologically published Fall 2024.

Objective 7: Provide enhanced laboratory facilities and resources to support experiential learning.

Target: Expand experiential learning experience for students with at least one international travel course and offer at least 40 opportunities for internship participation. Identify opportunities for international study or internships.

Response:

- |                       |                                     |
|-----------------------|-------------------------------------|
| 1. Monika Anderson    | Stewart Co Veterinary Clinic        |
| 2. Hanna Becvis       | TN Equine                           |
| 3. Hanna Billings     | Memphis Veterinary Specialist       |
| 4. Shyanne East       | UTCVM, Knoxville                    |
| 5. Clare Foppiano     | McGehee Clinic                      |
| 6. Lainey Goodson     | Memphis Veterinary Specialist       |
| 7. Katie Green        | BluePearl                           |
| 8. Maddie Hatch       | Animal Care Veterinary Hospital     |
| 9. Nicole Hawks-Young | BluePearl                           |
| 10. Annika Jolley     | West TN Diagnostic Lab              |
| 11. Kelly Lizzo       | Auburn Veterinarian School          |
| 12. Skylar McDonald   | BluePearl                           |
| 13. Kyra Miller       | Auburn Veterinarian School          |
| 14. Ella Joyce Poston | Auburn Veterinarian School          |
| 15. Alex Webber       | Nashville Veterinary Specialist     |
| 16. Chloe Yants       | Auburn Veterinarian School          |
| 17. Emma York         | Dyer Co Animal Hospital             |
| 18. Valerie Phipps    | Northwest TN Animal Clinic, Dresden |

19. Karlee Wood	Milan Animal Clinic
20. Kiara Wynn	Nashville Veterinary Specialist
21. AllieGray Anderson	Auburn Veterinarian School
22. Bionica Barnes	Memphis Veterinary Specialist
23. Kylie Brown	Auburn Veterinarian School
24. Ashlyn Carter	Nashville Veterinary Specialist – Clarksville
25. Kaitlyn Drafall	Memphis Veterinary Specialist
26. Harley Estrada	Nashville Veterinary Specialist
27. Molly Frederickson	Iowa State
28. Hailey Haviland	Reelfoot Animal Hospital
29. Ben Hayes	KORD
30. Jennabeth Hicks	Memphis Veterinary Specialist
31. Natali King	Ward Animal Clinic South Fulton
32. Addison Mathis	NVS Clarksville/Nashville
33. Avery McIllwain	Rood and Riddle Equine Hospital
34. Rizpah Melton	Mayfield Animal Clinic
35. Emily Palafox	Lone Oak Animal Hospital
36. Emma Rain	Nashville Veterinary Specialist
37. Madison Shelton	BluePearl, PA
38. Blakelee Taylor	Auburn Veterinarian School
39. Makayla Teague	Memphis Veterinary Specialist
40. Olivia Yates	Auburn Veterinarian School
41. Erika Yelvington	Animal Hospital at Reems Creek
42. Benjamin Close	Mid-Cumberland Soils, LLC
43. Taylor Haskins	Weakley County Farmers Co-Op
44. Rudy Sleigh	University of Kentucky
45. Ayden Boylan	Ecology Intern at RES
46. Logan Turner	Turner Scouting Company
47. Cotton Scout	Turner Scouting Company
48. Parker Harrison	Pathways Intern at NRCS
49. Zachary Yeary	Pathways Intern at NRCS
50. Sam Baker	Weakley County Farmers Coop
51. Macon Barrow	Kenner Rudolph Engineering & Surveying
52. Houston Batey	Civil Infrastructure Associates LLC
53. Tucker Boulton	J.R. Simplot Company
54. Noah Cody	Parker’s Crop Management
55. Will Crabtree	Turner Grain Company
56. Dylan Dewald	The Pictsweet Company
57. Braden Duncan	National Center for Alluvial Aquifer Research, Mississippi State
58. Barclay Kendall	Surveying Services Incorporated
59. Victoria Partain	Ag Centre
60. Alayna Walther	Blackberry Pond Farms
61. Pacen Adams	New Johnsonville State Park
62. Corbett Callahan	Nathan Bedford Forrest State Park
63. Alexis Nicole Carter	Harpeth River State Park
64. Coen Justice	Camp Hannon Adventure Camp
65. Christian Rhodes	Fort Pillow State Historic Park

Objective 8: Support local, regional, and national competitions.

Target: Continue to host or participate in a minimum of 10 local, regional, and/or national competitions by UT Martin students and faculty.

**Response:**

1. TAS Poster presentation contest: Autumn Martin, Caitlyn Henry, Kenzie Stockton, Makayla Stewart, Charley Crawford
2. Four students participated in the National Weeds Contest in Blacksburg, VA., August 2024.
3. Allison Zelenski participated in the SASES oral research presentation competition and Sam Laws participated in the SASES Internship poster competition at the 2024 International Annual Meetings of ASA, CSSA, and SSSA. San Antonio, TX, November 2024. Four students, including those listed above, also competed in other contests there, including quiz bowl and the pedology contest.
4. Five students participated in the Crops Contest at the NACTA (North American Colleges and Teachers of Agriculture) Judging Conference in Canyon, TX, April 2025.
5. Four students participated in the Horticulture Contest at the NACTA (North American Colleges and Teachers of Agriculture) Judging Conference in Canyon, TX, April 2025.
6. Southeastern Region Soil Judging Contest, Lexington, KY, October 2025. 10 students and 1 faculty attended. Team placed 7<sup>th</sup>
7. MANRRS National Quiz Bowl competition, 4 students participated
8. NACTA Soil Judging Contest, Canyon, TX. 6 students and 1 faculty attended.
9. Sobek, B., R. Tewari, and B. Wolters. Evaluating Smallholder farm owners' perspectives at a regional conference. Tennessee Academy of Sciences Annual Meeting, Lincoln Memorial University, November 2025. Third-place winner in the student oral competition

Objective 9: Provide enhanced resources to assist in the operation of the Tennessee Governor's School for Agricultural Sciences.

Target: Continue to seek new experiential learning opportunities for the Tennessee Governor's School for the Agricultural Sciences.

**Response:**

The Department of Agriculture, Geosciences, and Natural Resources hosted the 2025 Tennessee Governor's School for the Agricultural Sciences (TGSAS) on campus from June 1 – June 27, 2025. The program consisted of 29 scholars from across the state of Tennessee. Scholars completed three hours of college coursework. Courses taught included AGEC 110: Introduction to Agricultural Business or NRM 101: Wildlife, Conservation, and Environmental Issues. Scholars also participated in research activities through a variety of Group Study Projects (GSP). The GSP's covered precision agriculture, agriculture engineering technology, animal science, and veterinary medicine. The TGSAS leadership team started meeting early in the spring 2025 semester to start planning for the upcoming year. Our TGSAS counselors did an outstanding job with our scholars again this year.

These included field trips to the following: • Tyson Tour, Union City, TN • Yeargin Farm Tour, Greenfield, TN • Tosh Farm Tour, Dresden, TN • Tennessee State Capitol Tour, Nashville, TN • Middle TN AgResearch and Education Center, Nashville, TN • TN Farm Bureau Headquarters, Columbia, TN • Greenwater Fish Farm, Milan, TN

Objective 10: Provide local and regional experiential learning opportunities at the Coon Creek Science Center.

Target: Seek to sponsor at least 30 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

Response: Activity continued to increase significantly in August 2024 of the 2024-2025 FY. Several large groups are slated for research and educational visits during the month, which continues to be very positive.

## Planned Program Activity in FY2025-2026

Activities of the Center of Excellence for each general objective will include, but are not limited to:

Objective 1: Submit external grants seeking to support the Center of Excellence and its activities consistent with the mission and objectives of the Center of Excellence.

Target: Efforts will be directed at adding \$100,000 in new grants and contracts during FY 2025-26 and maintaining or continuing existing grants and contracts.

Objective 2: Continue with the planning and design phase of a \$2.5 million Cattle Education and Reproduction Laboratory (CERL) construction project.

Target: Renewed planning and fundraising for CERL to support academics, cow-calf operation, and research and scholarly activity is underway for FY 2025-26. This facility will be comprised of a 50-seat state of the art classroom and student commons area. This laboratory will aid in student instruction but will also provide needed research space for undergraduate, graduate, and faculty research projects in all areas of animal science. The beginning of this project remains TBD.

Objective 3: Partner with agronomic companies desiring demonstration areas for seed and chemical applications on a cost-sharing basis.

Target: Continue field operations for the 200-acres of crops currently in production emphasizing variety trials and demonstration plots for alternative crops. Complete a systematic review of all agricultural production areas of the COE and amend where necessary to ensure optimum productivity (pH, fertilization, organic matter, etc.). Identify new partnerships for field trials and alternative crops to enhance area agricultural enterprises. Continue to offer producer-oriented field day programs in cooperation with area equipment dealers, chemical companies, and/or seed companies.

Objective 4: Generate timely, state-of-the-art information on key topics related to food, agriculture, and the environment with special attention to emerging issues that may have long-term implications for production of agricultural commodities while protecting natural resources in Tennessee.

Target: Seek to sponsor at least 15 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

Objective 5: Communicate the objectives of the COE and related action programs to raise public awareness of the importance of the agricultural sciences and natural resources to the economic well-being of Tennessee and the surrounding areas.

Target: Continue to utilize technology to enhance education for on-campus and off-campus students. Endeavor to offer at least one new program promoting agriculture and natural resources in Tennessee. Maintain and enhance course offerings for dual enrollment programs with high school students in Tennessee. Offer at least 10 department courses for online delivery.

Objective 6: Provide a forum for dialogue, debate, information sharing, and consensus building among policymakers, researchers, and leaders in non-governmental organizations, the private sector, and media through seminars, workshops, conferences, service learning, and publications.

Target: Plan and present at least 8 seminars/workshops on current topics of interest to animal and crop producers, as well as programs in natural resource management.

Objective 7: Provide enhanced laboratory facilities and resources to support experiential learning.

Target: Expand experiential learning experience for students with at least one international travel course and offer at least 40 opportunities for internship participation. Identify opportunities for international study or internships.

Objective 8: Support local, regional, and national competitions.

Target: Continue to host or participate in a minimum of 8 local, regional, and/or national competitions by UT Martin students and faculty.

Objective 9: Provide enhanced resources to assist in the operation of the Tennessee Governor's School for the Agricultural Sciences.

Target: Continue to seek new experiential learning opportunities for the Tennessee Governor's School for the Agricultural Sciences.

Objective 10: Provide local and regional experiential learning opportunities at the Coon Creek Science Center.

Target: Seek to sponsor at least 10 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

## **Staffing of the Center of Excellence for Experimental Learning in Agricultural Science**

The staffing strategy for the COE focuses on bringing a diversity of talent to the Center of Excellence to better meet the goals and objectives of the Center of Excellence. This is accomplished by offering staffing appointments ranging from 25 percent to 50 percent to faculty and staff of the Department of Agriculture, Geosciences, and Natural Resources. Staffing includes the Director (25 percent appointment) and Business Manager (25 percent appointment) and faculty who are selected through a proposal process (25 percent appointments and one cooperating faculty member with no formal assigned appointment) and the Director of the Tennessee Governor's School for the Agricultural Sciences. Three support staff members are also assigned to the COE. Staffing assignments (with COE appointment percent) include:

### **Administration:**

Dr. Wes Totten	Director (25%)
Dr. Jason Roberts	Assistant Director (25%)
Mrs. Callie Smithson	Business Manager (25%)

### **2024-25 RFP Faculty:**

Dr. Clint Ary	Animal Diagnostic Lab (25%)
Dr. Philip Smartt	Park Administration/IT Support/TGSAS (25%)

### **Staff:**

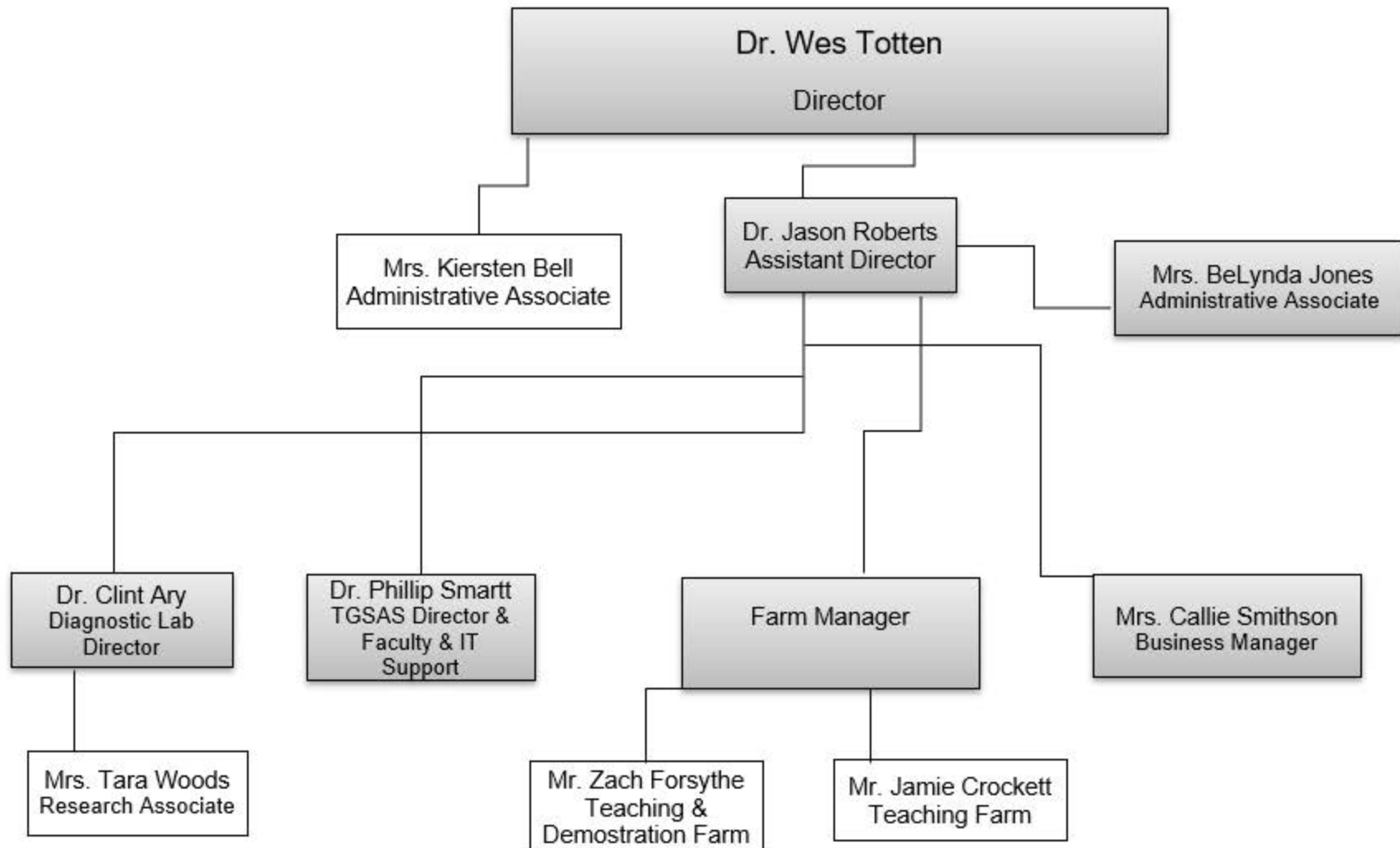
Mr. Zach Forsythe	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mr. Jamie Crockett	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mrs. Tara Woods	Research Associate/Diagnostic Laboratory (100%)

A complete Faculty/Staff listing is on page 10.

An organizational staffing chart is included.

# Center of Excellence for Experimental Learning in Agricultural Science

## Organizational Staffing



## Contact Information



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## Appendix A

### Summary of Contract, Grant and Unrestricted Gift Activity

#### Summary of Contract, Grant and Unrestricted Gift Activity

Ary, Clint. Funding for the operation of West Tennessee Animal Disease Diagnostic Laboratory. State of Tennessee, Department of Agriculture \$2,500,000 (Funded)

Bird, William. "Soil, Animal, Food, and Economic (SAFE) Research, Education, and Outreach" United States Department of Agriculture, National Institute of Food and Agriculture. \$173,597.64 (Funded)

Darroch, Barbara. "Bio stimulants in Soybean Production – 2025". Tennessee Soybean Promotion Board \$25,600 (Funded)

Grubaugh, Jack. "TN 2025 Pest Detection Survey UT Martin." United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$22,000 (Funded)

Grubaugh, Jack. "TN 2025 Asian Defoliator Survey." United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$12,500 (Funded)

Smartt, Philip. "Tennessee Governor's School for Agricultural Sciences" State of Tennessee, Department of Education \$146,000 (Funded)

Tewari, Rachna. "Empowering Small Farmers & Agriculture Students." United States Department of Agriculture, National Institute of Food and Agriculture. \$299,932 (Funded)

Winters, Todd. "Kenya Global Exchange-Inno8Africa" United States Department of Agriculture, National Institute of Food and Agriculture \$334,022 (Funded)