



MARTIN

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

**FY 2022
Annual Report**

Department of Agriculture, Geosciences, and Natural Resources

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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 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 200 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 37 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.

During Fall 2020 and Spring 2021, the COVID-19 pandemic prompted the UT System to move most instruction at all campuses to the online environment. Due to CDC guideline, including social distancing parameters, activities such as student travel, travel studies, student club activities, guest speakers, and student club activities were cancelled through June 1, 2021. Additionally, all activities at the Ned McWherter Agricultural Pavilion, including 4-H and FFA events, were cancelled through June 1, 2021. Activities at the Ray and Wilma Smith Livestock Merchandising Facility were cancelled through August 1, 2021, as well.

Activities such as student internships, faculty research, and the Tennessee Governor’s School for the Agricultural Sciences were all significantly impacted by the COVID-19 pandemic. Both in-state and out of state travel was strictly limited for much of Fall 2020, Summer 2020, and Spring 2021 by the UT System. Student internships, in many instances, were delayed or cancelled. Faculty research was difficult to plan and execute due to travel restriction and social distancing requirements. The Tennessee Governor’s School for the Agricultural Sciences was offered virtually for the first time ever due to the COVID-19 pandemic during summer 2020. The Tennessee Governor’s School for the Agricultural Sciences was offered in-person with 3 participants electing to attend virtually for summer 2021. In summary, many activities that impact and support the Center of Excellence here at UT Martin continued to be significantly altered during this fiscal year due to the COVID-19 pandemic and, furthermore, impacted overall COE productivity.



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.

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**, will utilize 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 will be established, and a livestock feed crop (MTSU), vegetable crop (UTM), and forage crop (TTU) will be grown in each plot as a result of the soil quality. The feed crop will then be used for silage to feed livestock, in this case, dairy cattle. Milk from the dairy cows will be used to produce dairy food products. At each step of the food systems, soil, crops, milk, and milk food products will be analyzed for various characteristics. Those characteristics will then be 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 executed, new course development and existing course enhancement will occur, and outreach efforts will target farmers and high school agricultural education teachers through field day activities, seminars, webinars, publications, and professional development activities. This approach will allow 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

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. 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). The University will utilize 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 continued on the site.



Figure 5. Coon Creek Science Center Fossil Dig

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 4) 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, b, c, & d. West Tennessee Animal Disease Diagnostic Laboratory.

The Veterinary Health Technology Option in Animal Science provides students an opportunity to earn a 4-year degree with a major in Agriculture, while meeting all the qualifications established by the American Veterinary Medical Association to sit for the National Licensing Exam for Veterinary Technicians. The Veterinary Health Technology Option 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 2019 and received full accreditation through 2024.

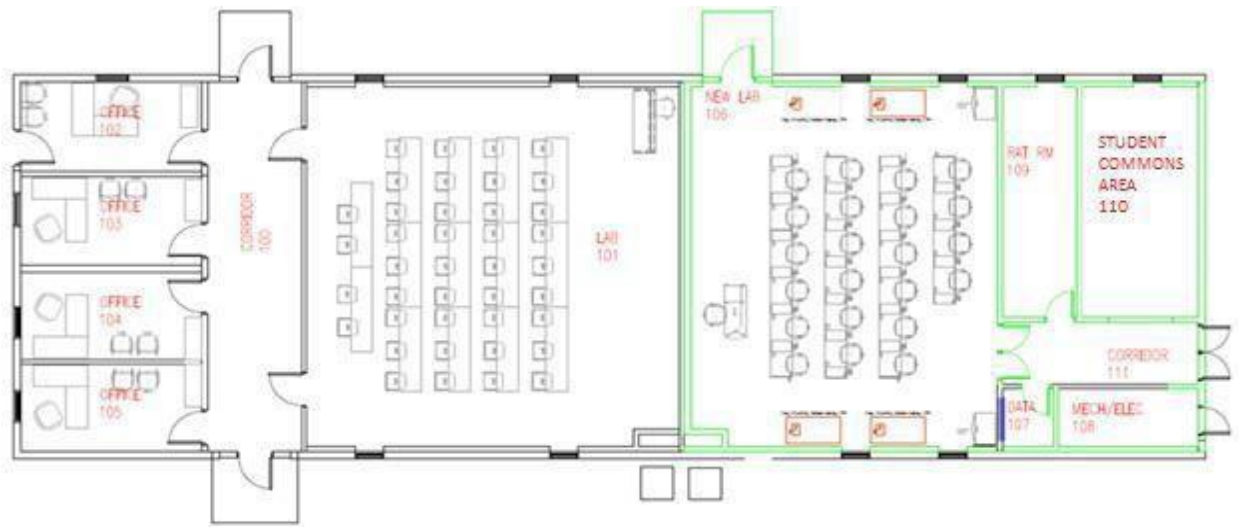


Figure 7. Vet Health Tech Facility Floor Plan

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 3) to the free stall barn. The barn was eventually renamed the Veterinary Health 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 6) and a state-of-the-art laboratory for Veterinary Technology students.

Most recently, Title III grant funds were used for phase IV renovations on the rear section of the Veterinary Health Technology Facility to create a new teaching laboratory (Figure 7) for laboratory animals and a new student commons area for the growing Veterinary Health Technology Program. 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 Health Technology option increased available instruction and research capacity for all Animal Science faculty.

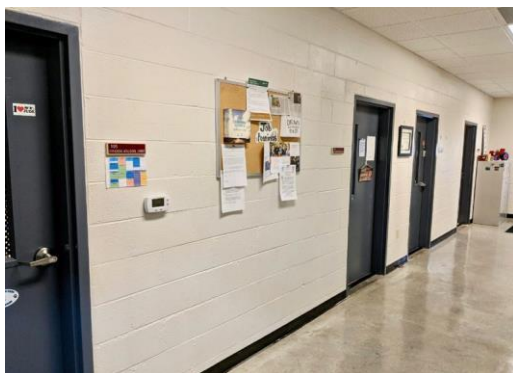


Figure 8. Offices at Vet Health Tech Facility



Figure 9. New Laboratory at Vet Health Tech Facility

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. This center will provide experiential learning opportunities for animal science students utilizing and growing the current cow- calf herd. The Beef Evaluation Center will include a 1,245 ft² laboratory and a 250 ft² student commons area, (Figure 8) 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 Craver and construction is TBD. Fencing was added Spring 2020 for farm production, research, and pasture in preparation for construction (9a and 9b).

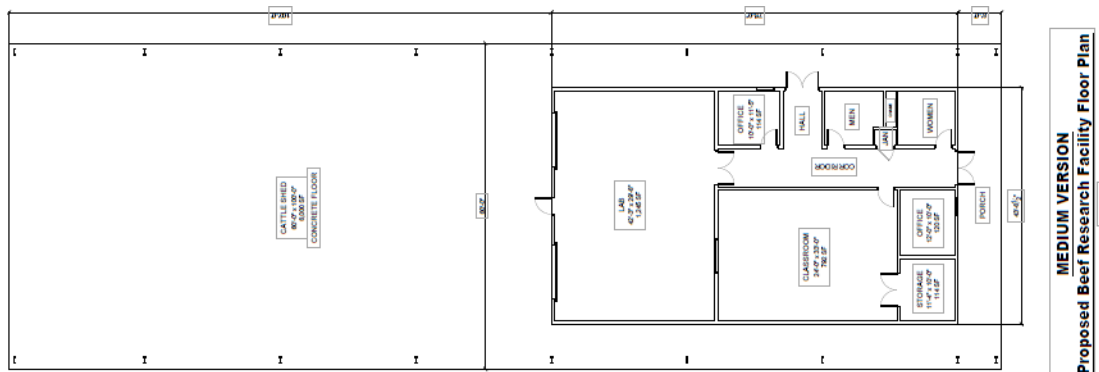


Figure 10. Beef Evaluation Center Floor Plan.



Figure 11a & b. New fencing around future Beef Evaluation Center location.

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 (see Figure 10). 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 continues to be successful and continues to grow.



Figure 12. Student workers completing apiary maintenance.

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 11. 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 2022 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 13. a) 2022 TGSAS Counselors



b.) Class of 2022 with staff and counselors

UT Martin 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 FY2021-2022. Tyson provides the birds, which will be housed in a renovated barn facility on the UT Martin Teaching Farm. The facility officially opened March 1. This facility is used for teaching, research, and career training. (Figure 12)



Figure 14 a, b, & c - New Tyson facility. Below is the ribbon cutting of the new Tyson facility at UTM and a picture of the Tyson facility on campus.



UT Martin receives Wildwood Farm gift

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.

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 15a. Ms. Melanie Taylor Smith (third from left) Wildwood Farm gift signing



Figure 15b. 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. 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 16a: UG research students participating in forage sampling at 35 days after planting



Figure 16b: Forage growth at 85 days after planting

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

Center of Excellence Faculty

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

Center of Excellence Staff

Arant, Carrie	Business Manager	Budgets and Accounting/TGSAS
Bradford, Nathan	Teaching Farm Supervisor	Crop Management
Crockett, Jamie	Senior Farm Equipment Operator	Equipment Operation & Mgt
Jackson, Kim	Administrative Specialist	Student Support & Contracts
Jones, BeLynda	Administrative Specialist	Veterinary Science/TGSAS
Leiter, Kim	Equestrian Coach Farm	Horsemanship
Woods, Tara	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 25.

Planned Program Activity in FY2021-2022

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 2021-22 and maintaining or continuing existing grants and contracts.

Response: During the 18th year of operation, faculty members of the Center of Excellence were successful in acquiring a total of \$1,387,886 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 seven different funding agencies in FY2022. Along with this funding the faculty continued research from grants and contracts established with five 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/departments/agnr/coe.php>

Objective 2: Continue with the planning and design phase of a \$2.5 million Beef Evaluation Center construction project.

Target: Renewed planning and fundraising for a new Beef Evaluation Center to support academics, cow-calf operation, and research and scholarly activity is underway for FY 2022-23. 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 2021 to present. We are currently working with Mrs. Jenna Curtis-Swofford, Associate Vice Chancellor for Development and Planned Giving on this objective. A Beef Cattle Facility Board meeting was held on Friday, November 12, 2021, and just recently on Thursday, August 26, 2022, on the UT Martin campus to continue fundraising discussion and activities.

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
Bayer CropScience	Syngenta
Beck's Hybrids	Nutrien Ag
Helena Chemical	Winfield Solutions
Weakley County Farmers Co-Op	Southern FS
Corteva Agrisciences	

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. Nate Rottero – Beck’s
2. Wes Rodgers and Garrett Montgomery – Bayer
3. Brennan Booker – Agri-Soil Consulting
4. Consolidated Grain and Barge
5. Trevor Teague, Nathan Brown – LI Smith
6. Barron Crawford, Manager Tennessee National Wildlife Refuge Complex, US Fish and Wildlife Service
7. Monte Belew, Commissioner, Tennessee Fish and Wildlife Commission
8. Mike Butler, Executive Director, Tennessee Wildlife Federation
9. Alex Tamboli, West Tennessee Farm Bill Biologist, Quail Forever
10. Damon Hollis, West Tennessee Forester, TN Wildlife Resources Agency
11. Rob Lewis, Wildlife Manager, TN Wildlife Resources Agency
12. Daniel Istvanko, Wildlife Biologist, TN Wildlife Resources Agency
13. Jessica Morris, Fisheries Biologist, Kentucky Department of Fish and Wildlife Resources
14. Brett Dunlap, State Director, USDA APHIS Wildlife Services
15. Erin Allen LVT from Auburn, Dr. Jennifer Taintor DVM – Equine Management Demonstrations
16. Leslie Wereszczak, LVMT, VTS, University of Tennessee at Knoxville in ECC
17. Carson Letot, Penn State University, Fall 2021 (Virtual)
18. Tori Marshall, UT Extension, Spring 2022 (On campus)
19. Doug Tindall – University of Missouri College of Veterinary Medicine
20. Maryann Gomez Ross University College of Veterinary Medicine
21. Kevin Walters Mississippi State College of Veterinary Medicine
22. Jason Reeves, Research Horticulturalist, Landscaping Plants for Shade, UT Extension
23. Kevin Whitten, Lawncare Operator, Golf Course Management, Fifty Shades of Green
24. Dr. Heather Kelly, Extension/Research Plant Pathologist and IPM Coordinator, UT Extension/UTIA (as part of the Soybean Disease Field Day)
25. Dr. Alan Windham, Professor of Plant Pathology, UT Extension/UTIA
26. Jay Yeargin, Farmer, Yeargin Farms
27. John Watkins, head of grounds at Discovery Park of America
28. Celeste Scott, Horticulture Extension Agent, UT Extension
29. Dr. Heather Kelly, Extension/Research Plant Pathologist and IPM Coordinator, UT Extension/UTIA (as part of the Soybean Disease Field Day)
30. Jessica Nichols, Ultra-sonographer, Baptist Memorial Group-The Woman’s Clinic
31. David Haggard, Regional Interpreter, Tennessee State Park
32. Colton Gardner, 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 2021-22 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
ANSC 110	Introduction Animal Science
ANSC 210	Introduction Horse Science
ANSC 230	Exotic & Companion Animal Management
ANSC 260	Behavior Farm & Companion Animal
ANSC 270	Animal Welfare and Ethics
GEOL 110	Introduction Physical Geology
GEOL 120	Environmental Geology
PLSC 110	Introduction Plant & Soil Science

In addition to the dual credit courses, many courses were offered for online delivery as well. All Agriculture Business courses are now offered online, in addition to numerous courses in all programs in agriculture and natural resources within the AGN department. New courses are being developed and added online yearly by COE faculty.

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, 112* COMM 250*	Mathematics (6 hrs): MATH 140* MATH 240*	Social Science (6 hrs): POSC 200, 202 PSYC 101 SOC 201, 202
Fine Arts (3 hrs): ARTH 211 MUS 111, 112 THEA 110, 111	Physical Systems (3 hrs): GEOS 110/101 GEOS 130/130L*	
Humanities (9 hrs): HIST 111, 112 HIST 201, 202 PHIL 110, 112		

CONCENTRATION-SPECIFIC

Agribusiness or Farm & Ranch Mgt. (6 hrs): PLSC 110 ANSC 210 AGEC 110 AGEC 250 AGEC 271	Animal & Vet Science (6 hrs): AGEC 110 ANSC 110 ANSC 230 ANSC 260	Plant Science (6 hrs): MATH 140* NRM 101 NRM 102 MATH 140* PSYC 101 SOC 201, 202
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Courses in ITALICS can also be used for multiple concentrations. (Example: AGECE 110 can be used in the Animal & Vet Science, Agribusiness, 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 250*- 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 230- American Political Institutions and Policy
HIST 111- 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

AGECE 110- Introduction to Agricultural Business	ANSC 270- Animal Welfare and Ethics
AGEC 250- Introduction to Agricultural Sales	MATH 140*- College Algebra and Elementary Functions
AGEC 271- 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 250*-C or higher in ENGL 111.
GEOS 130/130L*-GEOS 110/110L or any 2 semesters of university-level lab science.
MATH 140*-Two units of high school algebra and a 25 ACT Math score.
MATH 210*-MATH 130/130L or 140L or 170L or 185L or 211L 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

1. **Eric Pelren** and 7 students attended the Southeastern Association of Fish and Wildlife Agencies Annual Conference in Virginia
2. **Eric Pelren** and 21 students attended the Southeastern Wildlife Student Conclave in NC
3. **Jason Roberts, Danny Walker, Clint Ary, Amber Moore, Diana Watson, Amanda Waldon, Matt Chesnut, Zach Morphis, Kelly Garner** and 18 students Music City Veterinary Conference in Murfreesboro
4. **Jason Roberts, Matt Chesnut, Zach Morphis, Kelly Garner and BeLynda Jones** attended AVTE Conference in St. Louis, MO
5. **Jason Roberts** attended the Emerald Cost Veterinary Conference in Florida
6. **Clint Ary**, NACTA (North American Colleges and Teachers of Agriculture) 2022 Conference (virtual)
7. **Barb Darroch** and 15 students in PLSC 322, Soybean Disease Field Day, Milan Research and Education Center, Milan, TN. Attended online.
8. **Barb and Craig Darroch**, Tennessee Soybean Promotion Board Annual Meeting, Nashville, TN.
9. **Barb Darroch, Rachna Tewari**, Henrietta Giles and 6 students, Agroecosystems Field School, hosted by Arkansas State University. Students and faculty toured multiple farms and facilities throughout east Arkansas, Southeast Missouri, and west Tennessee during this one-week field school.
10. **Philip Smartt** attended National Interpreters Workshop, Nov. 29- Dec. 2, 2022

Publications

1. †Barnes, E., **Rachna Tewari, Joey Mehlhorn** and **Anthony Delmond**. Preserving water quality in the U.S mid-south: producer perceptions and willingness to adopt alternative agricultural practices. Southern Agricultural Economics Association Meetings. New Orleans, LA. February 2022
2. †Sterrett, T., **Rachna Tewari, Joey Mehlhorn** and **Isaac Lepcha**. Soil carbon markets as a means to mitigate greenhouse gas emissions: perceptions of agricultural producers in the U.S mid-south. Southern Agricultural Economics Association Meetings. New Orleans, LA. February 2022
3. †Wright, M., **Rachna Tewari, and Joey Mehlhorn**. Researching Cattle Auction Bids with Climate Data: A Study from Cattle Production Areas in the U.S mid-south region. Southern Agricultural Economics Association Meetings. New Orleans, LA. February 2022
4. †Sterrett, T., **Rachna Tewari, Joey Mehlhorn** and **Isaac Lepcha**. Mid-south agricultural producers' perception and knowledge on the soil carbon market to potentially mitigate greenhouse gas emissions. Tennessee Academy of Sciences Annual Meeting, Cookeville, TN, November 2021

5. +Hopmann, L., A. Bittel, and **Rachna Tewari**. Integrating environmental and sustainability issues in the German-English Speaking Classroom. Tennessee Academy of Sciences Annual Meeting, Cookeville, TN, November 2021
6. +Gafford., A., **Rachna Tewari, and Joey Mehlhorn**. A comparative study of carbon emissions through conventional and no-till management practices in West Tennessee. Tennessee Academy of Sciences Annual Meeting, Cookeville, TN, November 2021
7. +Wright., M., **Rachna Tewari, and Joey Mehlhorn**. A comparison study of cattle auction bids with climate data for the states of Tennessee and Kentucky. Tennessee Academy of Sciences Annual Meeting, Cookeville, TN, November 2021
8. **Rachna Tewari, R. Brown, J. Clark, S. Howry, K. Lacy, J. Sterns, and K. Kiesel**. Report and updated proposal from TLC curriculum innovation/accreditation award working group. Presented at the Teaching, Learning and Communication Business Meeting, The Agricultural & Applied Economics Association's 2021 Annual Meeting, Austin, Texas, August 2021
9. **Rachna Tewari, Ross Pruitt, Joey Mehlhorn, Jessica Garcia, Anthony Delmond, M. Santiago, and D. Kaminski**. Balancing the scales: a dialogue between agribusiness faculty teaching in parallel online and on-campus programs. Teaching Panel: 2021 Virtual Canadian Agricultural Economics Society Annual Meetings. June 2021
10. Whitt, Elizabeth, **Danny Walker, Diana Watson, Jason Roberts, Joey Mehlhorn**. "Perceptions of Successful Veterinary School Applicants: Assessment Data to Improve Student Success. Macrothink Institute Journal of Agricultural Studies, 2021, Vol. 9, No. 4 pp. 62-71
11. **Joey Mehlhorn, Will Bird, Philip Smartt, Sandy Mehlhorn, and Jason Roberts**. "Creating dynamic summer experiences in agriculture: reflections from governor's school". *Experiential Learning Leadership Institute Conference*, Selected Poster Presentation April 12, 2022 (P)
12. Kiersten Bell, **Diana Watson, Ross Pruitt, Jason Roberts** . Comparison of Costs Associated with Timed Versus Heat Detection Synchronization in Cattle Tennessee Academy of Science Abstract Fall 2022. University of Tennessee at Martin, Martin, Tennessee. (P)
13. **Joey Mehlhorn, Philip Smartt, Diana Watson, Clint Ary, Will Bird, Jason Roberts, and Sandy Mehlhorn**. "Transitioning Governor's School to an Online Environment: Mistakes Made and Lessons Learned." *NACTA Journal*, vol. 65(suppl. 1), 2021, p.41
14. **John T. Cole**, Street, Blake, C. (2022). Acoustic and Strength Characterization of Particleboard and Micronized Rubber Powder Composites. *Forest Products Journal*, 27(1), 2022, p. 37-43.
15. **John T. Cole**, (2022). Mechanical Properties of Concrete Biocomposites consisting of Southern Pine Chips and Micronized Rubber Powder. *Journal of the ASABE*, 65(2), 2022, p. 437-451.

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. Austin Morphis, Tennessee Wildlife Resources Agency
2. Matthew Joseph Staten, US Fish and Wildlife Service
3. Audrey Grimes, KY Department of Fish and Wildlife Resources
4. Cade Milligan, Tennessee Wildlife Resources Agency
5. Sam Stewart, US Army Corps of Engineers
6. Travis Privette, National Park Service
7. Meghan Dodd, TN State Parks
8. Clay Dixon, Tennessee Wildlife Resources Agency
9. Zachary Yeary, KY Department of Fish and Wildlife Resources
10. Ethan Pendergrass, TWRA
11. Jacob Anderson, US Fish and Wildlife Service
12. Nathan Rorie, TWRA
13. Rebecca Rangel, Kentucky Department of Fish and Wildlife Resources
14. Piper Huggins, US Fish and Wildlife Service
15. Skylar Lowery, TWRA
16. Amber Ingleburger, Kentucky Department of Fish and Wildlife Resources
17. Ryan Baker, US Fish and Wildlife Service
18. Conner Murley, US Fish and Wildlife Service
19. Colten Watkins, TWRA
20. Adalia Hewell, US Fish and Wildlife Service
21. Claire Weber, US Fish and Wildlife Service
22. Josh Brewer, TWRA
23. Austin Stepp US Fish and Wildlife Service
24. Michael Davis – UT College of Veterinary Medicine, Knoxville, TN
25. Maiah Case – UT College of Veterinary Medicine, Knoxville, TN
26. Zaria Marshall – UT College of Veterinary Medicine, Knoxville, TN
27. Lysie McMullen – Auburn Vet School, Auburn, AL
28. Brennan Brown – Auburn Vet School, Auburn, AL
29. Anna Morrison – Nashville Veterinary Specialist, Nashville, TN
30. Madison Finn – Clarksville, TN
31. Emily Mitchell – Jackson, TN
32. Madison Crocker – Jackson, TN
33. Audrie Washburn – Huntingdon, TN
34. Kelly Shook – Huntingdon, TN
35. Grace Fisher – Jackson, TN
36. Sarah Alford – Franklin, TN
37. Sydnee Runions – Florence, AL
38. Amy Williams – Auburn Vet School, Auburn, AL
39. Sarah Bratton – Collierville Animal Clinic, Collierville, TN
40. Katie Harston – Collierville Animal Clinic, Collierville, TN
41. Anna Manns – Memphis Veterinary Specialist, Memphis, TN
42. Dakota Long – Memphis Veterinary Specialist, Memphis, TN
43. Shelby Halliday – Memphis Veterinary Specialist, Knoxville, TN
44. Grace Hicks – UT College of Veterinary Medicine, Knoxville, TN
45. Grace Finch – UT College of Veterinary Medicine
46. Alex Hess – Huntingdon Animal Clinic, Huntingdon, TN
47. Callie Tester – Mountain Empire, Johnson City, TN
48. Malinda Riddick – Hooks, Martin, TN

49. Kaitlyn Jamerson – Village Vet. Group- Knoxville
50. Jerry Todd – Dresden
51. Kacey Picard – Jackson
52. Brittany Clemmons – Nashville Veterinary Specialist
53. Hannah Hopkins – Camden
54. Jeanette Stirman – Waverly
55. Carly Barker – Jackson
56. Maddy Smith – Angus Association Talon Internship
57. Jamie McGaugh – Omni PGA Frisco, Frisco, Texas
58. Ryan Sams – The Cliffs Golf Community, Greenville, SC
59. Hunter Macalady – West Tennessee Ag Research and Education Center, Jackson, TN
60. Amanda Blazek – West Tennessee Research and Education Center, University of Tennessee Extension
61. Nathan Brown – Greenway Ag Equipment
62. Kody Byrd – West Tennessee Research and Education Center, University of Tennessee Extension
63. Wyatt Choate – Nutrien Ag Solutions
64. Zachary Dickinson – Greenpoint Ag, Covington
65. John David Kersey – Barnes Farms
66. Barclay Kendall – West Tennessee Research and Education Center, University of Tennessee Extension
67. Logan Johnston – Nutrien Ag Solutions
68. Sara Lewis – Natural Resources Conservation Service
69. Nate Montgomery – West Tennessee Research and Education Center, University of Tennessee Extension
70. Derek Record – Helena Agri-Enterprises
71. Erin Welch – BASF, Dyersburg
72. Maron Williams – Triple A Farms
73. Tyler Wilson – Myrick’s Lawncare and Landscaping
74. Kelsey Max, Bayer
75. Heath Lowry, NRCS and Dr. John Cole
76. Emily Berry, Nathan Bedford Forrest State Park
77. Beau Kelly, City of Martin Parks and Recreation Dept.
78. Ethan Moore, Natchez Trace State Park
79. Emmitt Prince, Shiloh National Battlefield and Cemetery
80. Mariah Rinehart, Reelfoot State Park
81. Jeremy Roberts, Parker Lawns
82. Eric Rosenthal, South Cumberland State Park
83. Brittany Weber, Reelfoot State Park
84. Lily Yates, Ft. Pillow State Park
85. Kelsea Koonce, Tennessee Farm Bureau
86. Libby Rushton, Tennessee Farm Bureau

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:

- The UT Martin Student Chapter of The Wildlife Society competed in the Southeastern Wildlife Student Conclave, finished third in the Quiz Bowl Competition.
- State FFA Vet Science CDE. **Amanda Waldon** helped plan and assisted in hosting the event. Judges from our department: **Zach Morphis, Dr. Amber Moore.**
- Southern Agricultural Economics Association (SAEA) Quiz Bowl, New Orleans, LA. February 2022
- Kiersten Bell Tennessee Academy of Science
- Zach Forsythe Tennessee Academy of Science
- Sara Lewis and Walker Weir participated in the SASES Research Poster competition at the 2021 International Annual Meetings of ASA, CSSA, and SSSA. Salt Lake City, UT.
- Amanda Blazek, participated in the SASES Internship Poster competition at the 2021 International Annual Meetings of ASA, CSSA, and SSSA Salt Lake City, UT.
- 4-H Roundup – Companion Animal and Poultry, **Clint Ary**, judge competition
- Tamara Sterrett (Southern Agricultural Economics Association meetings; Tennessee Academy of Science; Canadian Agricultural Economics Association Meetings)
- Anna Gafford (Southern Agricultural Economics Association meetings; Tennessee Academy of Science; Canadian Agricultural Economics Association Meetings)
- Montana Wright (Southern Agricultural Economics Association meetings; Tennessee Academy of Science; Canadian Agricultural Economics Association Meetings)
- Erin Barnes (Southern Agricultural Economics Association meetings and Canadian Agricultural Economics Association Meetings)
- Maggie Drake (Southern Agricultural Economics Association meetings)
- Kendall Shelton Tennessee Academy of Science

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.

Response:

The Department of Agriculture, Geosciences, and Natural Resources hosted the 2022 Tennessee Governor’s School for the Agricultural Sciences (TGSAS) on campus from May 28 – June 24, 2022. The program consisted of 35 scholars from across the state of Tennessee. Scholars completed three hours of college coursework. Courses taught included AGECE 110: Introduction to Agricultural Business or NRM 100: Introduction to Natural Resource Management. Scholars also participated in research activities through Group Study Projects (GSP). The GSP’s covered precision agriculture and veterinary medicine. All GSP’s covered the scientific method and focused on experimental research activities.

The TGSAS leadership team starting meeting early in the spring 2022 semester to start planning with hopes that we would be back on campus and running a normal program. We were very excited to have everything back in person and travel opened back up. 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
- Discovery Park, Union City, TN
- Green Plains Tour (Ethanol Plant), Obion Co, TN
- Sweetwater Valley Farms, Philadelphia, TN
- UTK Veterinary School Tour, Knoxville, TN
- UTK Neyland Stadium Tour, Knoxville, TN
- Tennessee State Capitol Tour, Nashville, TN
- Middle TN AgResearch and Education Center- Fishing, Nashville, TN
- TN Farm Bureau Headquarters, Columbia, TN
- TN Dept of Ag Tour (Diagnostic Lab) Memphis, TN
- Memphis Agri-Center Tour, Memphis, TN
- Bayer Plant Research Lab, Memphis, TN
- Wildwood Farms, Germantown, TN
- Reelfoot Lake Tour, Lake Co, 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: Due to lingering COVID-19 cases, speakers and programming at Coon Creek Science Center did not occur at expected/usual capacity for FY 2021-2022. Large gatherings were limited at CCSS during FY 2021-2022. Small groups of 4 or less, led by Dr. Michael Gibson as part of UTM Geology classes, continued to be the majority of activity during this time at CCSS. Activity increased significantly in August 2022 of the 2022-2023 FY. Several large groups are slated for research and educational visits during the month, which is very positive.

Planned Program Activity in FY2022-2023

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 2022-23 and maintaining or continuing existing grants and contracts.

Objective 2: Continue with the planning and design phase of a \$2.5 million Beef Evaluation Center construction project.

Target: Renewed planning and fundraising for a new Beef Evaluation Center to support academics, cow-calf operation, and research and scholarly activity is underway for FY 2022-23. 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.

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 25 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 ten 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 10 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 15 speakers/programs that will be directed at enhancing knowledge of emerging issues in the agricultural sciences to include natural resources.

Schedule 7

CENTERS OF EXCELLENCE ACTUAL, PROPOSED, AND REQUESTED BUDGET

Institution:

University of Tennessee at Martin

Center:

Experimental Learning in Agricultural Scier

	FY 2021-22 Actual			FY 2022-23 Proposed			FY 2023-24 Requested		
	Matching	Appopr.	Total	Matching	Appopr.	Total	Matching	Appopr.	Total
Expenditures									
Salaries (Exclude Longevity from Salaries and report separately)									
Faculty	\$63,612	\$48,000	\$111,612		\$47,000	\$47,000		\$49,000	\$49,000
Other Professional	\$24,382	\$66,000	\$90,382		\$58,000	\$58,000		\$60,000	\$60,000
Clerical/ Supporting	\$48,338	\$22,000	\$70,338	\$12,000	\$30,000	\$42,000	\$13,000	\$32,000	\$45,000
Assistantships	\$121,231	\$12,000	\$133,231	\$60,802	\$14,000	\$74,802	\$62,000	\$15,000	\$77,000
Total Salaries	\$257,564	\$148,000	\$405,564	\$72,802	\$149,000	\$221,802	\$75,000	\$156,000	\$231,000
Longevity (Excluded from Salaries)	\$4,257		\$4,257				\$5,000		
Fringe Benefits	\$37,674	\$80,000	\$117,674	\$9,000	\$84,000	\$93,000	\$10,500	\$88,000	\$98,500
Total Personnel	\$299,495	\$228,000	\$527,495	\$81,802	\$233,000	\$314,802	\$90,500	\$244,000	\$329,500
Non-Personnel									
Travel	\$4,688	\$15,000	\$19,688	\$5,500	\$10,000	\$15,500	\$6,000	\$11,000	\$17,000
Software			\$0			\$0			\$0
Books & Journals			\$0			\$0			\$0
Other Supplies	\$247,148	\$67,224	\$314,372	\$176,292	\$73,435	\$249,727	\$176,624	\$75,757	\$252,381
Equipment	\$76,792		\$76,792	\$15,000		\$15,000	\$17,500		\$17,500
Maintenance	\$12,400		\$12,400	\$10,000		\$10,000	\$11,000		\$11,000
Scholarships	\$4,550		\$4,550			\$0	\$5,000		\$5,000
Consultants	\$95,439		\$95,439	\$30,000		\$30,000	\$32,000		\$32,000
Renovation			\$0			\$0			\$0
Other (Specify):			\$0			\$0			\$0
Utilities and Fuel	\$19,393	\$5,600	\$24,993	\$10,000	\$10,000	\$20,000	\$11,000	\$12,000	\$23,000
Rental and Insurance	\$11,163		\$11,163	\$12,000		\$12,000	\$13,000		\$13,000
			\$0			\$0			\$0
Total Non-Personnel	\$471,573	\$87,824	\$559,397	\$258,792	\$93,435	\$352,227	\$272,124	\$98,757	\$370,881
GRAND TOTAL	\$771,067	\$315,824	\$1,086,891	\$340,594	\$326,435	\$667,029	\$362,624	\$342,757	\$700,381
Revenue									
New State Appropriation		\$315,824	\$315,824		\$326,435	\$326,435		\$342,757	\$342,757
Carryover State Appropriation	\$0		\$0			\$0			\$0
New Matching Funds	\$771,067		\$771,067	\$340,594		\$340,594	\$357,624		\$357,624
Carryover from Previous Matching Funds			\$0			\$0			\$0
Total Revenue	\$771,067	\$315,824	\$1,086,891	\$340,594	\$326,435	\$667,029	\$357,624	\$342,757	\$700,381

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 a 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%)
Mrs. Carrie Arant	Business Manager (25%)

2021-22 RFP Faculty:

Dr. Clint Ary	Animal Diagnostic Lab (25%)
Dr. Philip Smartt	Park and Recreation and Forestry (25%)

Staff:

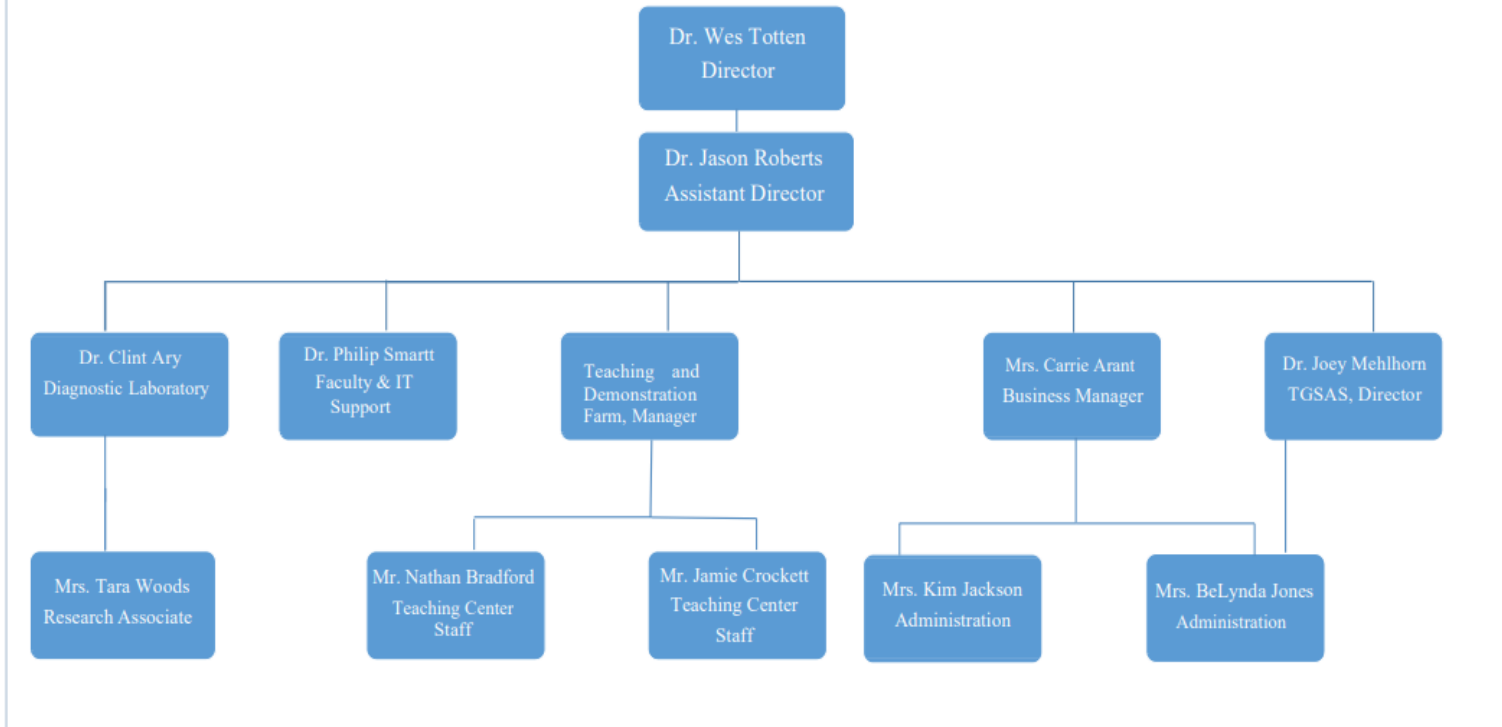
Mr. Nathan Bradford	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mr. Jamie Crockett	Teaching and Demonstration Farm/Ag Pavilion (100%)
Mrs. Tara Woods	Research Associate/Diagnostic Laboratory (100%)

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



Dr. Wes Totten
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Professor, Plant and Soil Science
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Appendix A

Summary of Contract, Grant and Unrestricted Gift Activity

Ary, Clint. Funding for operation of West Tennessee Animal Disease Diagnostic Laboratory. State of Tennessee, Department of Agriculture \$105,000 (Funded)

Bird, William and Bethany Wolters. "Soil, Animal, Food, and Economic (SAFE) Research, Education and Outreach." United States Department of Agriculture, National Institute of Food and Agriculture. \$160,048 (Funded)

Cole, John. "Tennessee corn through the lens of virtual reality, building now for immediate future." Tennessee Corn Promotion Board \$23,842 (Funded)

Darroch, Barbara. "Effect of poultry litter on soybean nodulation and yield - 2021." Tennessee Soybean Promotion Board \$15,700 (Funded)

Darroch, Barbara. "Effect of poultry litter on soybean nodulation and yield - 2022." Tennessee Soybean Promotion Board \$16,020 (Funded)

Darroch, Barbara. "Capacity Building for Enhanced Research and Experiential Education: Resilient Cropping Systems for the Upper Mid-South." United States Department of Agriculture, National Institute of Food and Agriculture \$148,589 (Funded)

Darroch, Craig. "Use of soybean residue as an alternative litter material in broiler houses - 2021." Tennessee Soybean Promotion Board \$5,000 (Funded)

Darroch, Craig. "Use of soybean residue as an alternative litter material in broiler houses - 2022." Tennessee Soybean Promotion Board \$9,075 (Funded)

Delmond, Anthony. "Alternative Market Opportunities for Tennessee-Grown Corn Products." Tennessee Corn Promotion Board \$19,900 (Funded)

Gale, Paula. "Quantitative Tools for developing Ecological Sites in the Southeastern U.S." United States Department of Agriculture, Natural Resources Conservation Service \$37,736 (Funded)

Grubaugh, Jack and Barb Darroch. "TN FY22 PD Survey UT Martin." United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$22,000 (Funded)

Grubaugh, Jack and Barb Darroch. "TN FY21 PD Survey UT Martin." United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$22,000 (Funded)

Grubaugh, Jack. "TN FY22 Asian Defoliator Survey 1S.1286." United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$15,000 (Funded)

Grubaugh, Jack. "TN FY21 Asian Defoliator Survey 1S.1286." United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine \$5,000 (Funded)

Lepcha, Isaac. "Establishing a forage nutrition laboratory to strengthen forage-animal science curriculum and expanding research and outreaching livestock communities." United States Department of Agriculture, National Institute of Food and Agriculture. (\$299,947 (Funded)

Mehlhorn, Joseph. "Tennessee Governor's School for Agricultural Sciences" State of Tennessee, Department of Education \$156,000 (Funded)

Mehlhorn, Sandy. "Cover Crop and Increased Infiltration Rates' Effect on Yields." Tennessee Corn Promotion Board \$11,541 (Funded)

Pruitt, J. Ross. "Finding Specialty Niche Markets for Farmers Using Social Aspects of Food." United States Department of Agriculture, National Institute of Food and Agriculture \$299,988 (Funded)

Tewari, Rachna. "Using DSSAT (Decision Support System for Agotechnology Transfer) crop model to simulate corn yields in TN." Tennessee Corn Promotion Board \$15,500 (Funded)