

THE UNIVERSITY OF TENNESSEE INSTITUTE OF AGRICULTURE

LAND, LIFE & SCIENCE

FALL/WINTER 2017

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FARM *to* YOUR TABLE

Real. Life. Solutions.™

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THE UNIVERSITY OF TENNESSEE

FALL/WINTER 2017

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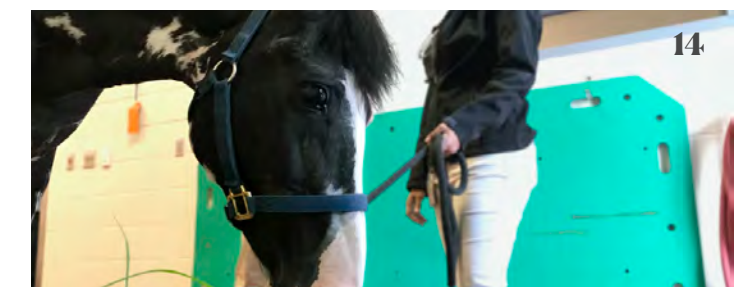
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Food is essential to sustaining life. Through scientific research, UTIA is focused on providing you the safest, tastiest, and most abundant food supply possible.

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The UT Institute of Agriculture provides instruction, research, and public service through the UT College of Agricultural Sciences and Natural Resources; the UT College of Veterinary Medicine; UT AgResearch, including its system of ten AgResearch and Education Centers; and UT Extension with its offices in every county in the state.





THINKING ABOUT DINNER?

We are, too—before it ever gets to the grocery store or a chef’s kitchen. While you’re enjoying a fresh, healthy meal like this one, our experts are out in the fields, in classrooms, and in cities across the state making sure your food is safe, affordable, and nutritious. From farm and field to favorite restaurant or family kitchen, UTIA is providing Real. Life. Solutions. every step of the way.

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Real. Life. Solutions.™



Greetings From Our Chancellor

A WORD FROM TIM CROSS

Thanksgiving is one of my favorite holidays. Before the rush of the season begins, my extended family has a chance to gather with no other agenda than good conversation, a little football, and just some special time together. The day, of course, would not be complete without the preparation and partaking of an abundant, delicious meal. While the turkey takes the center stage at our house, I have to say my favorite dish is spinach maria because I love spinach, cheese, and a little bit of spice.

Our family is blessed to have access to wonderful, plentiful, safe food produced by farmers throughout our state and beyond. We are grateful for the never-ending work producers put into providing this food to our citizens. We are also grateful to the UTIA researchers and specialists who continually look for ways to improve the methods in which we provide and protect our food supply.

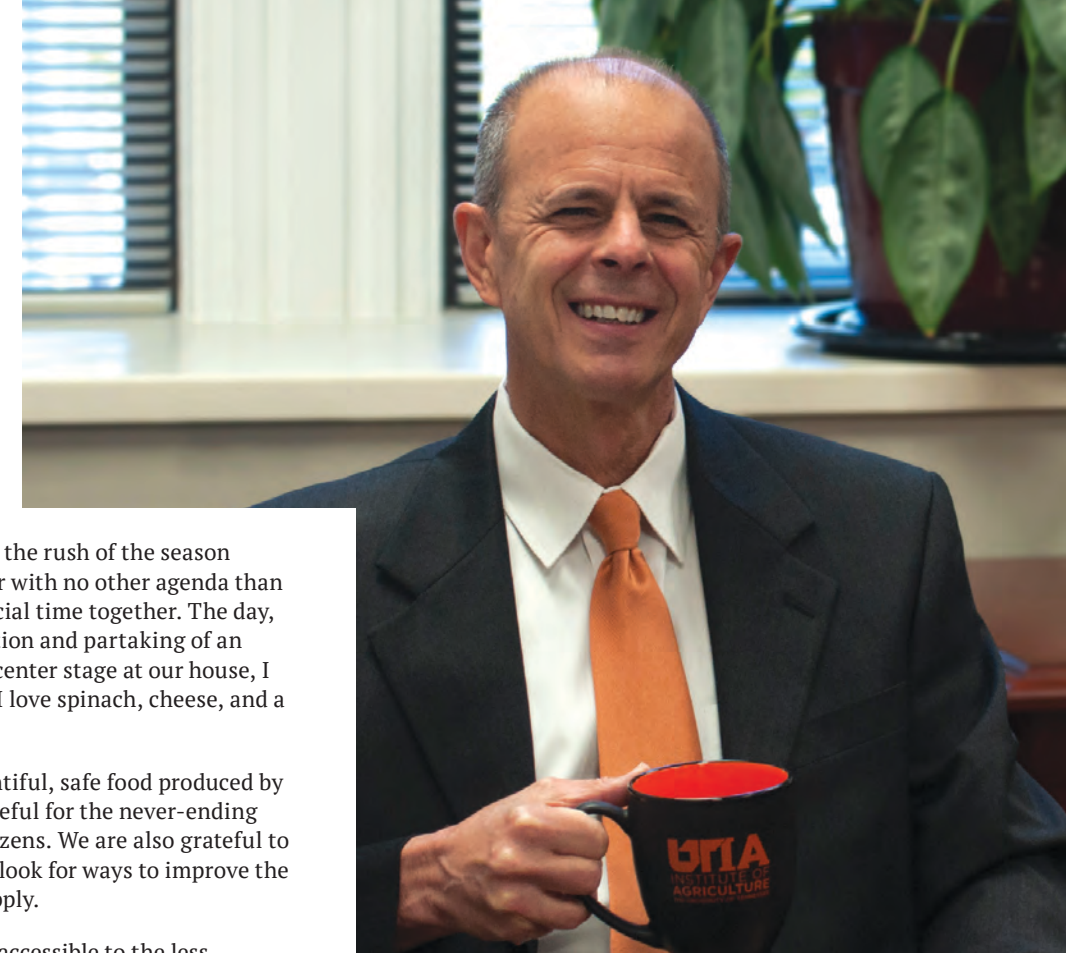
We also know the food many of us enjoy is not always accessible to the less fortunate in our communities. Whether it’s a matter of cost, access, or even quality, providing food to those in need is something we care about. Making good food choices to achieve optimum health is the focus of many of our Extension specialists.

In the classroom, we continue to provide “food for thought” through our undergraduate, graduate, professional, and noncredit programs on campus and across the state. Managing our food supply is a challenge that spans generations. We’re preparing our future leaders in agriculture by staying on top of the latest technologies, developing new solutions, and teaching our students and audiences how to solve problems while providing them with information to improve their lives.

For these and many reasons, we’ve chosen to focus on food’s multi-faceted influence in our daily lives in this issue of *Land, Life & Science*. Not only does it sustain us, food is often the bond that brings us together in friendship and community.

It’s our honor to create Real. Life. Solutions. for you and your community. We’re thankful to have a seat at your table.

TIM L. CROSS
Chancellor



Tim Cross @UTIAChancellor - Oct 5
Wonderful evening in the @utgardens. Good food, good drinks, and good @UTIA friends.



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RESEARCH & LEARNING IN CAMBODIA—AND BEYOND

From efforts in sustainable intensification to agroecological services provided by cave-roosting bats, UTIA researchers have been frequenting the Southeast Asian country of Cambodia. Students and faculty alike are finding opportunities to expand their horizons through UTIA's Office of International Programs. Their involvement is but one example of a growing number of international engagement opportunities that apply Institute expertise and capabilities to contribute solutions to people beyond Tennessee's borders.



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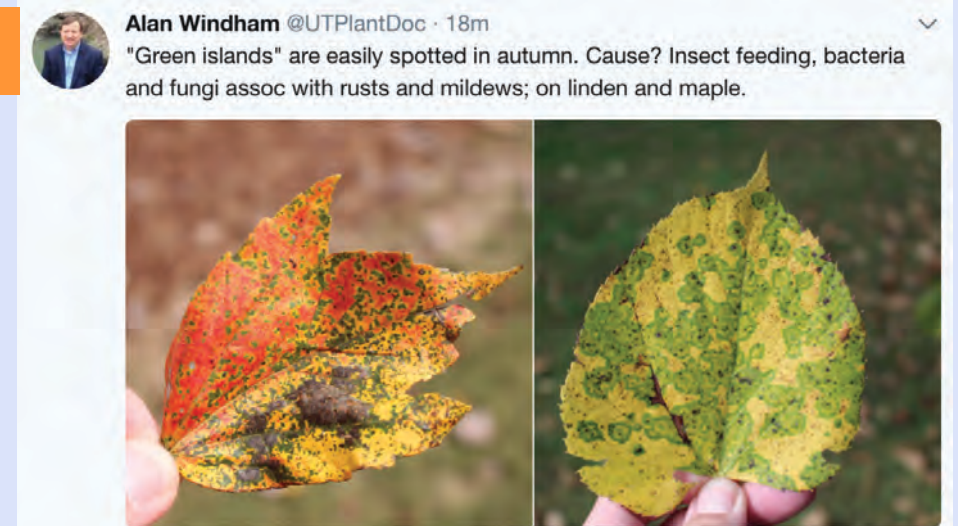
Love trees and want to tap into your inner citizen scientist? Then grab your smartphone and download the new app called TreeSnap. Developed by UTIA data scientist Meg Staton and scientists from three other universities, TreeSnap gives anyone with a smartphone the chance to be involved in protecting trees from pathogens and pests. Simply snap a photo of a tree in your backyard, a park, or a forest, and upload it with the geotag of the location. Then Staton and other forest scientists will access the information.

Data from large groups of trees can help scientists tackle problems specific to a location or species. TreeSnap is user-friendly and can be downloaded for free from Google Play or the Apple App store.

YOU'LL FIND OUR @UTPLANTDOC IN THE TOP 25

A professor in the Department of Entomology and Plant Pathology is the source of a Top 25-rated Twitter feed in hydroponics. Alan Windham, a faculty member with the UT Soil, Plant and Pest Center, tweets from handle @UTPlantDoc. His sometimes lighthearted posts, along with the serious ones, aim to educate a horticultural audience about current issues of ornamentals and plant disease identification and management. The ranking came from *Maximum Yield* magazine, an industry leader of information on controlled-environment gardening for growing professionals around the world.

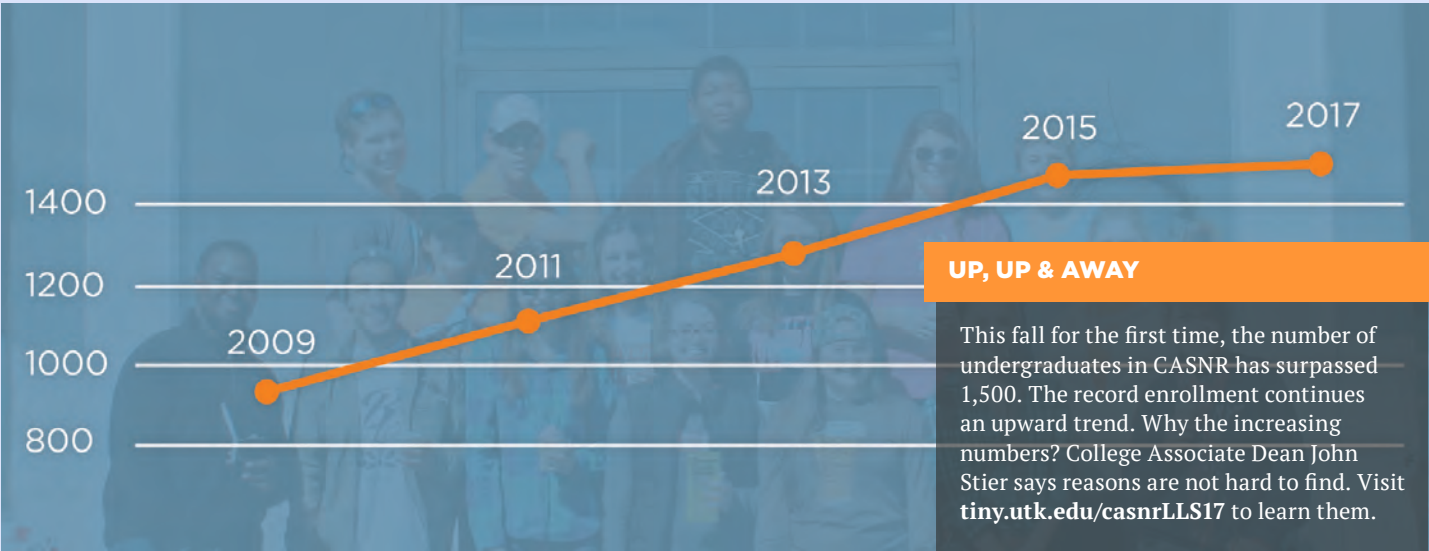
"The recognition is primarily about my tweets about plant disease concepts that apply to many horticultural production systems," says Windham. "Actually, I do little work in hydroponics, but I'm



one of the few using social media to educate about plant disease identification and management to a large, diverse horticultural audience."

The diversity of his 1,523 followers is surprising. Among them are Extension agents; academic colleagues in the

US and Europe; botanical gardens in the US and Australia; regulatory agencies such as EPPO (European Plant Protection Organization); golf course superintendents; arborists; and horticultural vendors.



NATIONAL AWARDS FOR THREE OF UTIA

A US organization committed to increasing diversity, decreasing disparities, and reducing incidents of barriers to minorities has honored three of UTIA's own. Minority Access Inc. presented the elite honors at its National Role Models Conference this fall. Faculty members William (Willie) Hart and Michael (Mike) Smith were two of five individuals celebrated as Faculty Mentor Role Models. CASNR alumna Jerri Marr was one of five women and men chosen as Alumni Role Models.

A TENNESSEE 4-H STANDOUT

Tennessee 4-H Development Program's recently retired leader, Steve Sutton, became only the seventh Tennessee 4-H member inducted into the National 4-H Hall of Fame. The honor commemorates his forty years of service as a UT Extension 4-H agent and leader. Sutton accepted the award on behalf of his "loving family, excellent mentors, dedicated coworkers, and caring volunteers." Sutton was a founder of the Junior High Academic Conference, cofounder of 4-H Electric Camp, and provided leadership for 4-H Congress and 4-H Roundup. He also previously led a 4-H delegation to Japan. According to UTIA Chancellor Tim Cross, "He's literally devoted his entire life to 4-H . . . Steve's blood has always run green. And he's committed to making the best better."



AG DAY HONOREES

This year's Ag Day celebration was a success. In addition to the general festivities, which included face painting, holding newborn chicks, and a cricket spitting competition, several honors were given out by Chancellor Tim Cross (left). Charles Wharton (second from left) and his late wife, Julie, were given the Institute's Meritorious Service Award; Mike Robinson (second from right) was named Tennessee's

Farmer of the Year; and Dr. Wesley Lyons (right), a recent graduate of the UT College of Veterinary Medicine, received the Institute's Horizon Award.

Ag Day guest of honor, USDA Secretary of Agriculture Sonny Perdue (center), helped present the awards. Read more about Secretary Perdue's visit to our campus on page 26.

RIVER STUDY THAT EMPOWERS A REGION

Four students in the landscape architecture program earned a top national award for their publication, *HydroLIT, Southeast Tennessee Water Quality Playbook*. Lindsey Bradley, Erica Phannamvong, Kyra Wu, and Sarah Newton, advised by associate professor Brad Collett, were honored with the Award of Excellence, the American Society of Landscape Architects' highest award. The students developed the book to empower the region to protect national resources. A result of a fourteen-month teaching and research project that began in 2015, *HydroLIT* features a regional water quality improvement plan with adaptable, scalable strategies for the range of landscapes throughout the river's Southeastern US flow. Competition jurors referred to *HydroLIT* as "a truly substantive publication by students" and chose the publication from almost 300 entries as the recipient of the only Award of Excellence.



BOOMING FIELD DAYS

As the lifeblood connection between AgResearch and the communities served by Extension, our annual field days provide Real. Life. Solutions. to Tennesseans in search of knowledge in turf management, organic farming, beef, farming and gardening, cotton, fruit and vegetable growing, and much more. Attendance at eleven field days and four special events in 2017 was impressive, including a record-breaking 900-plus at the Fall Gardeners’ Festival in Crossville. This is an 18 percent increase from 2016. Overall, more than 9,000 Tennesseans attended field days this year, an upward trend that reflects growing awareness of the programs and research the Institute offers to the state’s citizens.

TENNESSEE EXTENSION MASTER GARDENERS TAKE HOME THREE INTERNATIONAL AWARDS

Search for Excellence is the recognition program of UT Extension’s Tennessee Master Gardener volunteer work throughout the US, Canada, and South Korea. All Tennessee Extension Master Gardener volunteer projects are significant to their communities, but only a very few receive Search for Excellence honors, and seldom does a state have three winners in a single year. So, congratulations are in order for our three team winners!

In the category of Demonstration Gardens, Cumberland County Tennessee Extension Master Gardeners won first place for the UT Gardens, Crossville, also known as the Plateau Discovery Garden.



Our other two Tennessee programs won in the workshop category. Knox County took home second place for its speakers bureau, and a third place recognition went to a beginner and newcomer gardening series by Hamilton County.



DICAMBA USE IN ROW CROPS

After one season of use, the new formulations of dicamba (Xtendimax, Engenia, and Fexapan) appear to be very effective weed control tools. Unfortunately, stewarding this technology has proven challenging. In 2017, more than 2.5 million acres of crops in seventeen states exhibited symptoms that pointed strongly to off-target movement of dicamba.

For 2018 the Environmental Protection Agency is taking steps to reduce damage to

non-target crops from dicamba. Beginning next year, all dicamba products designed to be sprayed “over the top” of tolerant crops will be classified as restricted use, meaning only certified applicators with special training (or those under their supervision) can purchase and apply them.

Other requirements include limiting applications to when wind speeds are below ten miles per hour, as well as limiting times during the day when applications can be made. Producers

will be required to keep specific records regarding the use of these products, and more emphasis will be given to sensitive crop locations.

UTIA will continue to research these products and work with the Tennessee Department of Agriculture to train producers on proper use. Now more than ever, the unbiased research and education provided by public universities is needed to navigate this complex issue.



4-H'ERS GAIN VALUABLE EXPERIENCE

Students on a judging team learn a subject in-depth and, while they’re at it, they also develop problem-solving, decision-making, and communication skills, not to mention teamwork. Whether the topic is citizenship or soils, it is exciting to see them flourish.

In 2017, Josh Griffith and two other members of Knox County’s wildlife team won first in the nation in wildlife judging, with Josh placing first individually. “I’ve learned to be dedicated to studying and

more disciplined in using my time. The whole management part of judging teaches you to do critical thinking,” he says.

“Judging has a huge impact on me. I make new friends through every competition. I learn new things every day through this,” says Summer Beeler, a 4-H livestock judge. “It is my favorite thing to do outside of being in the show ring.”

Summer and her team have judged cattle in Georgia and North Carolina on their way to regional competitions and have placed high at the state level.

“Livestock judging has brought me out of my shell. When I began, I was absolutely terrified to speak in front of anyone. It has helped me, so that now I can talk in front of crowds,” she says. “I encourage kids to join 4-H and find the right fit for them.”

Samantha Roberts, a 4-H and FFA member from McMinn County, is one of many students who gain valuable skills participating in livestock showing and judging.

TENNESSEE STARS AT AG SUNBELT EXPO

Tennessee was in the spotlight at the 2017 Sunbelt Agricultural Expo, known as North America’s premier farm show. As the spotlight state, Tennessee used a pavilion to show its diverse farming roots and educate people about dimensions of the Volunteer State. Also at the Expo, Tennessee’s Farmer of the Year Mike Robinson, of Sugartree Farms near Belvidere, was honored, and competed for the Southeastern Farmer of the Year award sponsored by Swisher Sweets. Read more about Robinson receiving the Farmer of the Year Award at Ag Day on page 8.



A HEALTHIER TENNESSEE

Across the state, UT Extension experts are helping Tennesseans take control of their health in a variety of ways. From 4-H clubs to community gardens, Extension programs are making an impact.

A WEALTH OF INFORMATION

"It's opened my eyes to see that agriculture is a huge deal."

Those are Kimberly Dobbins's words as she tells of how she and her family have benefited from UT Extension and others have through her. Dobbins, of Memphis, pictured here with her family, adds "We've started a 4-H Club and launched a community garden in our neighborhood. I have also presented a canning workshop on strawberries for youth at a church. Extension has just a wealth of information for people who don't even know about UT."

BE MORE

Michael Norfolk had a surprise when he helped launch a community garden in the park he directs in the town of Ripley, Tennessee. Through helping tend the garden and enjoying its produce, he found himself forty pounds lighter. Norfolk says he feels better and has a spring in his step.

He's also healthier. He is one of thousands of community members in four West Tennessee counties whose lives have been touched by an initiative called Be More.

Launched by UT Extension's Department of Family and Consumer Sciences, Be More focuses on turning around high rates of obesity and the diseases it causes by empowering community-based organizations to become leaders of change. Through resources from Be More, civic groups guide residents in Lake, Lauderdale, Haywood, and Humphreys Counties to make small changes like adding modest physical activity and making more informed food choices. Together these actions can add up to big improvements in quality of life. The program was funded with a grant of more than \$3 million and marks the first time ever that the Centers for Disease Control and Prevention (CDC) has worked directly with an Extension unit.

GRAZING ON A SPORTS TURF SOLUTION

Lush fields are nothing new to UTIA turfgrass researchers and educators. They also aren't new to horses. Add in veterinary care, and a surprise intersection of the three is cause for celebration, especially for a horse named Cisco.

The Tennessee Walking Horse came to the University of Tennessee Veterinary Medical Center with a case of colic. For a horse, that bellyache can progress to a life-threatening condition that may require surgery and a recovery period. And that's where turfgrass comes in.

"After colic surgery—forages have a lot of moisture in them—which is always good," says Dr. Karen McCormick, a clinical assistant professor in Large Animal Clinical Sciences at the veterinary college. "We can mimic that by wetting their hay or a complete feed, but grass has a lot of moisture, is easy on their GI tract, and horses love it. It's a nice way to start them back on food following surgery."

However, providing the animals with grass isn't always an option, especially in winter months or the dead of summer. Unless, of course, your fellow faculty members are experts in turfgrass.

At the East Tennessee AgResearch and Education Center and other areas of campus, a handful of faculty from the Department of Plant Sciences have built an internationally recognized Turfgrass Science and Management program that combines the study of grasses, soils, water, and pests. Among its work, the team's research improves the safety of athletic fields and leads to better grasses with fewer weeds.

John Sorochan, distinguished professor in the Department of Plant Sciences, explores techniques for growing sod. He's had an interest in the area since undergraduate days at Michigan State University, where he assisted now CASNR Associate Dean John Stier in keeping the Pontiac Silverdome's fields green for the 1994 FIFA World Cup. The Silverdome was the first indoor stadium used in a World Cup soccer competition.

"Our charge was to come up with a portable turfgrass system where we could grow grass outside, transport it inside, then keep it alive long enough to host four World Cup soccer games," says Sorochan. "It was a huge success and is what kick-started my goal to become a turfgrass researcher."

Dr. David Anderson, professor and head of the veterinary college's Large Animal Clinical Sciences Department, took notice of Sorochan's research.

"I learned about the work that Dr. Sorochan was doing with new grass

sod techniques for growing grass, and I thought that it would be a great idea if we could grow grass for our hospitalized patients," he says. "When I mentioned it to Dr. McCormick she said she had the same idea swimming around in her head and got excited about it."

Anderson called Sorochan to discuss the idea. Sorochan then spoke with Gary Bates, director of UT's Beef and Forage Center, who met with McCormick to iron out the details. Pallets arrived at UTCVM this summer.

"It's funny how history repeats itself. Using the same technology from the World Cup, we were able to establish grasses in modules that can easily be transported inside to the horses," says Sorochan.

Cisco was the first to try out the new grass, which serves as a meal supplement. "It was awesome to be able to graze a horse in our building. Grazing is so important for their mental well-being, as well as recovery of their intestinal motility," says McCormick. "Being able to have a pallet of grass, being able to walk a horse up to it so they can actually graze it—it is so good for them."

And thanks to a group of researchers working together, more pallets are on their way to help patients like Cisco recover.

"It was a classic case of bringing ideas, expertise, and resources together," says Anderson. ■

FARM *to* YOUR TABLE

THE SCIENCE BEHIND YOUR FOOD

**If you found
yourself with
an empty seat
at the table this
Thanksgiving, who
would you invite?
We have someone
in mind. We'd like
to suggest an
American farmer.**

Who better to express appreciation for in this season of thankfulness? These men and women provide the US with a safe, affordable, and abundant food supply. Food that unites us. Food that makes this special holiday possible. Food that brings our families together, meals we share with friends, and the memories of our lives. It is farmers who take the most basic elements—soil, water, and air—and turn them into the foundation that makes these possible.

For farmers and producers to do what they do, feeding millions of people, there has to be research. From scientists in labs through evaluations in the field, UT AgResearch is engaged in all aspects of food as it develops new knowledge and discoveries.

Yet research accomplishes little if it occurs in a vacuum. Its value depends on information dissemination. UT Extension agents and specialists expertly deliver on this need through the science-based information they provide the farming community and to everyone central to food production, distribution, and preparation, whether large industries, home canners, or gardeners.

Ensuring next-generation producers is always important. Students in the UT College of Agricultural Sciences and Natural Resources (CASNR) gain understanding of food production and supply in all the College's academic disciplines. The UT College of Veterinary Medicine prepares its students to be the large-animal veterinarians and medical professionals who will help producers raise animals that thrive, the first step of food safety.

In these ways, the four units of the University of Tennessee Institute of Agriculture (UTIA)—AgResearch, Extension, and our two Colleges—are

integral to food production. In fact, it's a common thread running through these programs. So, in the spirit of the season, we reflect upon their contributions and perspectives, ones that offer plenty of reasons to give thanks.

AN ERA OF EXTRAORDINARY CHANGE, YET TIMELESS, TOO

Our food landscape is changing dramatically. Amazon's partnership with Whole Foods? Drones delivering food in urban areas? UTIA agricultural economist Chris Clark calls it the "Wild West" in terms of how it may affect us. What about our newfound luxury of shopping for groceries online and picking them up curbside or even having them delivered to our front door? These are signals that the food industry—the last sector to embrace the internet—is transforming, often in unimaginable ways, to better serve our lifestyles and preferences.

As we experience change, so do large-scale producers of crops and livestock. Precision agriculture technologies using unmanned aerial vehicles measure crop nutrient sufficiency, map agricultural drainage tile, and monitor potential pest infestations. Sensors indicate early change in cattle health and readiness to breed. Advanced greenhouses adjust temperature, light, and moisture as needed. In animal science, genomics is radically advancing livestock traits. In plant science, genomics and conventional breeding are increasing a plant's ability to survive drought and yield optimal qualities for nutrition.

Side by side with large-scale operations is a vibrant economy of small-scale production that meets consumer demand for local and fresh produce. At farmers markets, through on-farm direct sales, and at farm-to-table restaurants, new income streams are enhancing sustainability and creating





“Gardening practices may change and new cultivars are always coming to market, but the connection between people and fresh food is timeless.”

-NATALIE BUMGARNER

jobs, all the way to chefs and servers. People are also exponentially increasing the number of backyard gardens.

These trends are clear to Natalie Bumgarner, residential and consumer horticulture specialist and coordinator of the Tennessee Extension Master Gardener program. Yet Bumgarner sees constants, too. “Gardening practices may change and new cultivars are always coming to market,” she notes, “but the connection between people and fresh food is timeless.”

UTIA'S MANY SCIENCES OF FOOD

The traditional focus in CASNR's Department of Food Science has been on food safety and food quality. Today its members also study food functionality. Department head Mark Morgan says that includes bioactivity of foods and their impacts on our bodies and health. The goal, says Morgan, is to control or prevent chronic diseases, including the current public health crisis of obesity and diabetes, with a diet including functional foods.

On the horizon is 3D printing in the field of novel foods that fit the culinary needs of the military. Also, clean meat products. This includes investigation of cultured meat, which is essentially meat production without animals. “Test tube meat,” Morgan clarifies. “Who will eat cultured meats? These are issues our graduates will have to consider.”

The push in today's livestock industry is for sustainability. What that term encompasses may surprise you. “When we say sustainable, we mean we want the animal industry to be economically profitable so that the people who make a living in the beef industry experience profit, not loss,” says Neal Schrick, head of the Department of Animal Science. “We want to be socially responsible, so consumers can trust the product's quality and safety, and see the critical roles participants play in their communities. Also, that we're responsible as an industry for the care of the animals and the land.”

In dairy production, the UT-led Southeast Quality Milk Initiative continues its work to improve the viability and profitability of dairies in nine states. Another bright

spot is the hiring of a 100 percent Extension specialist for dairy, a position made possible with assistance from the Tennessee Dairy Producers Association.

Regarding poultry, Schrick says, “Ten years from now, I'd be absolutely amazed if poultry is not the number one industry in Tennessee. It's growing and the potential is there.” He adds a producer could have two to three chicken houses and use the rest of the land for cattle. “That's why Tennessee can be a great beef and poultry partnership state.”

Much of the work in the Department of Agricultural and Resource Economics can be said to be food related. Examples include consumer willingness to pay premiums for value-added foods to assessments of the viability of urban food hubs, which bundle small amounts of produce from multiple vendors into commercially useful bigger lots.

“Based on the dynamic nature of the food chain and how it connects to economics, this semester our department launched a new food-related concentration for undergraduates,” says department head Delton Gerloff. “This will prepare them for careers in food industry management. Already, we're seeing strong interest in it.”

CLEAR CONNECTIONS

Understanding how the Department of Plant Sciences connects with food is easy. Higher yielding food crops with optimized nutrition. Research on ways technology can increase the health benefits of hydroponic fruits and vegetables. Explorations of how production of some foods in California could also occur near

East Coast urban areas to offer fresher produce and smaller carbon footprints.

In the Department of Entomology and Plant Pathology, head DeWayne Shoemaker works with unit experts on plant protection and health using beneficial insects, especially pollinators. Then there are the bad bugs. “The largest crop losses are generally driven by insects or arthropods, and we're always faced with battling resistance.”

The Department of Biosystems Engineering and Soil Science is home to precision technology development and applications. Also, deep understanding of how environmental qualities support food production. Soil science professor Neal Eash says the Northern Hemisphere, and the US specifically, is incredibly blessed with soil resource that has high intrinsic fertility, is resilient, and resists erosion if managed with the no-till practices developed and promoted by UT Extension and AgResearch. Says Eash, “When matched with good hybrids and varieties—some of which have been bred and developed right here in good ole Tennessee—our soils can be as productive as any on the planet.”

Fishing is a popular sport and source of food, however the Department of Forestry, Wildlife and Fisheries is tackling issues of other wildlife as food. Research assistant professor Adam Willcox, who is also coordinator for study abroad and the College's international agriculture and natural resources minor, shares some insights.

“We are working on zoonotic disease crossover and food safety from wildlife to people in Uganda. We'll likely expand this *(story continued on page 22)*

THE MOONSHOT OF 2050

Scott Senseman, head of the Department of Plant Sciences, says the need to feed the predicted 9 to 12 billion people the earth will hold in 2050 is strikingly similar to John F. Kennedy's charge to America to reach the moon by the end of the decade.

“No one knew how to do it. They were able to, but the number of people and amount of resources needed were just incredible,” he says. “So it is with our food supply. I equate what we need to feed 9 to 12 billion people by 2050 using technology that does not even exist yet, as a similar challenge. We have to remind ourselves that we can do it.”

 Learn more about home gardening at UTIA's AgCast, a collection of podcasts about our Institute!



THE SENSORY LAB

Have you wondered why that green bean casserole topped with French fried onions is a perennial favorite? Sensory scientist Curtis Luckett has the answer. Taste tests have found foods that are almost universally pleasing combine different textures. Crunchy then creamy like the casserole. Doughy then cheesy like pizza. And how to resist the appeal of frozen then silky-smooth ice cream?

As director of the UT Sensory Lab, Luckett knows about food appeal. The lab is a component of the Department of Food Science. There, often every weekday,

volunteer panelists sample foods and rate their qualities in carefully orchestrated research designs. Food companies contract with the lab to conduct product evaluations. Panelists' answers become statistical data that companies can use to determine the palatability of potential food introductions or to know whether a change in processing equipment will also change the appeal of food it produces. Although clients and outcomes of the panelists' work are confidential, we promise you that many of the products UTIA has evaluated are in your grocer's aisles and cold cases.



In 2016, FCS delivered educational programs to 44,000 families eligible for food assistance and reached more than 900,000 through media health fairs and other types of contacts.

to Central America and Asia in the near future. Another dimension is how bats provide ecosystem services of pest control and pollination to our crop systems.”

MEETING PEOPLE WHERE THEY ARE

UT Extension extensively educates Tennesseans about food-related issues. Much of it occurs by state, regional, and county specialists; agents; and program assistants in the UT Extension Department of Family and Consumer Sciences (FCS). Its personnel help families learn to plan and prepare meals, budget, and ensure food safety. In 2016, FCS delivered educational programs to 44,000 families eligible for food assistance and reached more than 900,000 through media, health fairs, and other types of contacts.

Extension’s Center for Profitable Agriculture is an important partner to farmers and entrepreneurs across Tennessee. The Center’s training, one-on-one consultations, and resources assist producers in selecting the right value-added options for their operations. These include direct sales of beef and farm-produced consumer products made from the producer’s crops. This Center, which is a joint venture with the Tennessee Farm Bureau Federation, creates opportunities for Tennesseans and strengthens agricultural economies.

In the Department of 4-H Youth Development/Agricultural Leadership, Education and Communications (ALEC), 4-H’s commitment to food education is impressive. In 2016 alone, 85,000 4-H members learned about producing animals for food consumption or growing plants and vegetables. More than 47,000 young people took part in food and nutrition projects.

ALEC graduates earn BS and MS degrees to teach about the importance of agriculture—including high-quality food production and consumption—in public schools, as agriculture or 4-H Extension agents, or agricultural communicators. These individuals help Tennessee citizens understand how food is produced, processed, and consumed in a safe and healthy manner. Yet despite their efforts



and those of others, gaps of knowledge continue to exist. In fact, some are widening.

OVERCOMING MISINFORMATION ABOUT FOOD

Where does chocolate milk come from? If you answered brown cows, you're not alone. Seven percent of participants in a survey of 1,000 Americans conducted by the Innovation Center of US Dairy thought that bovines of a mocha hue are the source of America's favorite sweet dairy beverage. On the internet this fall a message circulated that claimed farmers spray wheat to make it turn golden. Another that absolutely appalled Animal Science department head Neal Schrick showed a photo of a hen with chicks underfoot. Its comment: One of these chicks looks like it is not getting enough milk. Was the post simply a joke? It's hard to tell and it really doesn't matter. When messages go viral in a matter of seconds, a joke to some becomes believable to many.

To combat misinformation, scientists and Extension professionals urge consumers and producers alike to follow the science concerning agriculture and not necessarily what's in the popular press or on social media. The problem is that many people don't know the science. Even when they do, it's sometimes doubted.

How to bridge this communication and credibility gap? David White muses about this often. The associate dean and associate director of AgResearch says people at universities need to communicate differently.

"We're accustomed to publishing and presenting findings at scientific conferences, but that's not the same as walking down to Market Square in Knoxville to stop and talk to people about agriculture and what we're doing at UTIA," White says. "It's how we communicate with the public in a trustful way. That's the role of a university, to walk that line and be the optics, to be the place where issues are discussed. We need more dialogue."

That's the purpose of TN MagicMoments. The statewide campaign helps people outside of agriculture have a greater



understanding and appreciation of where their food comes from. Whether engaging the public to help them understand agriculture, or advancing the technologies of their fields, the next-generation leaders we graduate, along with our diverse clientele, have problems to solve and contributions to make.

Just as with UTIA, the issues they address concerning food are complex and interconnected. One thing is certain, though. Their impacts will be simple: better food benefits for all. And for that, we can be thankful. ■

ACTION ON FOOD SAFETY & SECURITY

Next time you enjoy a burger or nachos at a concert or sporting event, you can thank the work of a central and high-profile unit that connects to human food challenges. The Center for Agriculture and Food Security and Preparedness (CAFSP) in the UT College of Veterinary Medicine is a focal point for national and international initiatives to promote safer food production and processing and protect agriculture and the food supply from terrorist threats.

Since its inception, CAFSP has conducted more than 250 classroom-based courses with nearly 7,500 domestic and global participants from over 1,700 communities. More than 16,000 participants have taken the Center's web-based courses.

THE ORIGINAL FOODIES

You may not take the time to look at the nutrition label on your food. Or the ingredients. Or possibly the expiration date.

But we do.

In the UT Department of Food Science, we're creating advances that help keep your food safe. Our UTIA experts are helping to bring healthier, better tasting foods to your table. The benefits of vitamins, natural antimicrobials, antioxidants? We're already researching them. All while teaching the next generation of students who will provide Real. Life. Solutions. in food and health for years to come.



Learn more about UT's Department of Food Science at foodscience.tennessee.edu

USDA SECRETARY MAKES HISTORIC VISIT TO AG DAY

For the first time ever, a United States Department of Agriculture Secretary came to Knoxville to celebrate Ag Day. Sonny Perdue and his staff experienced the excitement and fun of the thirty-fifth annual Ag Day celebration. And they were not disappointed.

Secretary Perdue enjoyed the opportunity to learn more about the University of Tennessee Institute of Agriculture and key partnerships during a luncheon with Chancellor Tim Cross, Tennessee Department of Agriculture Commissioner Jai Templeton, and Tennessee Farm Bureau President Jeff Aiken, along with other key partners. He then addressed the hundreds of alumni and friends gathered to enjoy the Ag Day exhibits and to honor this year's award winners.

A tour of the UTIA campus followed, including the Food Science Sensory Lab, the College of Veterinary Medicine, the UT Gardens, and central greenhouse. Perdue, a veterinarian, repeatedly remarked how impressed he was with the breadth of offerings UTIA faculty and staff provide to students and the public.

Of course, Perdue, a lifelong Georgia Bulldog fan, walked away with an additional smile on his face as he watched his team take command of the field in Neyland Stadium during the Tennessee vs. Georgia football game. ■

PICTURED: Secretary Perdue visiting with Sue Hamilton in the UT Gardens, just one part of his tour around the UTIA campus.



EXTENSION CORED:

WALLAND ENGINEER TAKES OVER AS UT'S DEAN OF EXTENSION

By Marcus Fitzsimmons

Below is an excerpt of an article that appeared in Maryville's The Daily Times on August 1, 2017, commemorating Robert Burns's first day on the job as the new dean of Extension.

This morning, Robert Burns will climb into his car and head down Alcoa Highway on the familiar route he's followed for the past seven years. He'll make the mad merge to the right on the Buck Karnes Bridge to exit onto Neyland Drive, then complete the short hop over to the University of Tennessee Institute of Agriculture campus.

The last leg of the trip features a slight change of direction for the engineer whose Blount County roots run six generations and more than two centuries deep: Burns will have to remember to turn right, rather than left, after he walks in the side entrance to venerable old Morgan Hall and starts his first day as the dean for UT Extension at the University's Institute of Agriculture.

The move across the first floor hall will take a little time as Burns transitions into the job previously held by Tim Cross—who was named chancellor of the Institute in January. Burns will be losing some open wall space as well, so not all of his framed farm memorabilia will successfully make the move when the new dean relocates from the Tennessee River side of the building.

The dean's office carries the feel of UT Extension: The walls are thick and the tall windows face windward with the benefit of tall shade trees—essential in days before air conditioning. The 2-inch wood slat floors are original to Morgan Hall's opening in 1921, a mere seven years after the Smith-Lever Act established the Extension Service. The setting is appropriate for an engineer with an agriculture heritage, an appreciation for history and the Extension Service at his core—from his days as a gangly fourth-grade 4-H'er, to the new heights of administering the service's multiple programs and employees.

What it won't have is that view in his old office where—if you stand just right—the peak of Chilhowee Mountain is recognizable in the far distance from the window, next to which is a sign recognizing Burns's family farm, which has operated in the Walland foothills below the mountain for over 200 years.

“My dad grew up in the west end of Miller's Cove, there's six generations of the family buried in the cove,” Burns told *The Daily Times*. “My mom's side is from what we call the Gap in the Mountain, it's the downriver side of Chilhowee Mountain. The family's been here a long time.”

SUMMERS IN BLOUNT

Burns was raised in Winchester, but spent his summers in Blount County on his grandparents' farm where the smell of burley tobacco mixed with the tang of a beef cattle operation.

When he enrolled as an undergrad at UT to work on the first of three degrees, Burns moved to the family farm and the Extension Service was a constant part of his education, the county agents its professors.

“I joined the 4-H program in Franklin County, and Mr. Dewayne Trail was my 4-H agent there,” Burns said. “Growing up and working on the farm when it was time for college, everything worked as it should. I needed a place to live while going to college and my grandparents, Buck and Blanche Davis, their health was beginning to fail and they needed someone to help run the farm. They both passed away while I was in school and I had to lean on the help of some good neighbors to help get things done as well as the advice of Ed Deer, who was the ag agent in Blount County for many years.”

Burns and his wife settled down in the Hubbard community before moving to Greenback, where they added two sons to the family as Burns spent nine years as a specialist on the Extension program at UT. The family moved to Iowa when Burns took a position on the faculty at Iowa State.

Even with a heritage steeped in agriculture and a knack for the mechanical side of the farm, there aren't many young boys who look into a setting sun and say, “I'm going to grow up to be the dean of the Extension service”—and Burns was no exception.

CHANGE IN DIRECTION

His dream for becoming an engineer took a fateful turn during orientation at UT, as the mechanical engineer became an agricultural engineer.

“The first thing at orientation a representative from each department in engineering did a presentation. The head of the agricultural engineering department, Roland Mote, came and talked,” Burns recalled. “I had no notion there was such a thing. I already had the mechanical box checked on my form. I'd grown up with our calf-cattle operation and raising burley tobacco, and when I figured out you could put those two things together I went and switched into the ag engineering program.”

That bachelor's degree was followed by a master's degree in environmental engineering and then a PhD in civil engineering. A term as a water-quality specialist for UT followed, then there was a stint as a USDA national conservation engineer and the position in Iowa before Burns had to put that engineering-trained brain to work out his own problem on his career engine.



Photo by John Wilson, UT-TSU Extension, Blount County

“While I was at Iowa State, the assistant dean job opened here in Knoxville. The next day the same job opened in Iowa,” Burns said. “I applied both places, interviewed both places, and then took the position here. It was the right decision for me. It was good to get back and work with the Extension staff in Tennessee again.”

A SHIFTING LANDSCAPE

As dean, Burns steps to the head of a service that has maintained its mission to improve the quality of life through education, while the demands and definition of that quality have shifted radically. The last thirty years have seen a decrease in the family farm, both through the suburbanization of once rural areas as farms were divided into neighborhood developments, and as other families left farming and sold to neighbors or ag corporations. The result: Many remaining farm families have larger operations than ever before. The recent trends that have popularized local organic farms and a resurgence of the backyard garden have placed a diverse demand on the staff and the programs they offer.

“The people we serve and how we serve them has changed. . . . As technology increases, and farms get larger, agriculture gets more complex. Our county agents and specialists today have to know a much broader range of things and know them with depth behind them,” said Burns. “I believe it's important that we give our folks the training and development opportunities so they can stay current on technology and Extension can remain relevant.

“On the other side when we look at urbanization, many agents will tell you that home horticulture questions make up the largest volume of calls they receive. We work hard to serve that segment well,” Burns said. UT Extension has also introduced new programs

to answer the needs that have developed from the return of the backyard farmer and the do-it-yourselfers.

HARD ROW TO HOE

With ninety-five county offices across the state, 4-H camps and research facilities spread across the length of the state, the management challenge for introducing answers is daunting.

Facing that challenge, Burns shows the tendencies that in another setting would have made for an engineer who not only got high marks in the office, but could walk into the fabrication shop to check on the tools, call everyone on the crew by first name, be able to explain why something needed to be built this way, and also take a suggestion for a different way to approach a problem.

“I've always enjoyed working with county agents, it was always the best part of the job for me when I was a specialist,” Burns said. “I work with agents across the state. In the role as agricultural and natural resources program leader, I worked mainly with the agricultural agents, but I'm excited because in the role of dean I'll get to work not just with the ag agents but also the family consumer science agents and 4-H agents.

“It's the favorite part of my job to get out and see the people who really do the work. The real work in Extension isn't done in the dean's office, it's done by our specialists and the agents.” ■

Marcus Fitzsimmons, UT Knoxville ('97), is a night editor at The Daily Times in Maryville, Tennessee. Visit thedailytimes.com to read the unabridged version of his story.



IN PROFILE:

RENATA NAVE OAKES

From Brazil to Ohio and most recently Middle Tennessee, Renata Nave Oakes's research of forage systems has brought her to many new places. Based at the Middle Tennessee AgResearch and Education Center, she's now working to improve the quality and sustainability of food fed to livestock and help local producers find new solutions.



You grew up in Brazil, which, of course, is an agricultural powerhouse. Was farming a big part of your childhood?

I have absolutely no farming background. My family members were all city dwellers, and they didn't even know what agronomy was! However, the most prestigious agricultural university in Brazil (University of São Paulo) was located in my hometown. As a child, I had always enjoyed visiting the ag campus with my family to walk and look at plants and animals. Those experiences later played a role in my decision to explore agriculture as a career, and once I started college I couldn't imagine doing anything else.

Since joining UTIA in 2013, what's been your top priority?

My ultimate goal is to find ways for our livestock producers to remain viable in this industry. I think minimizing feeding and extending grazing is a way to do that. I'm also very passionate about the integration of crop and livestock production.

What do you think people would find most surprising about your line of work?

When I first tell someone I do forage research, most people have no idea what

that means, but it is a fascinating area. Forages play a crucial role in the human food chain, and they are involved in every single sector of agriculture. Forages are very connected to crop production, soil quality, water quality, genetics, and animal science. I feel it's what ties everything together.

You mention crop and livestock integration. There's a perception that food produced for livestock competes with food produced for human consumption. What does your research show?

I actually think it's completely the opposite. I think livestock and crop production can and should go hand in hand, especially in Tennessee where most farms are considered small-scale and limited in space. For example, after harvesting a corn crop, a producer could turn cattle into the field to harvest the corn residue. You're using the same space for two different practices. At the same time you're increasing sustainability.

Increasing sustainability is a focal point of your research. What does that look like?

The ultimate goal is to extend the grazing season. Producers need to be aware of the long-term consequences of their practices.

Rather than continue to do what past generations have done, producers should consider incorporating research. Here in Tennessee we can produce a lot of quality forages—cool-season grasses, warm-season grasses, legumes. There are many ways to extend the grazing season.

Interest in grass-fed beef and pork is growing. Does a grass-fed program have some sustainability advantages?

Yes, without a doubt. I'm a firm believer that we can produce grass-fed beef year-round. It's a fact that consumers are becoming more aware of what they're buying. They want to find ways to be healthier. Even though there are a lot of misconceptions about what is healthy, producers cannot run away from these consumer standards any longer. They are going to have to find common ground. So, absolutely I would say a grass-fed program provides sustainability advantages, not just from a production standpoint, but from a marketing perspective, as well. ■

 You can hear the full conversation with Renata at UTIA's AgCast, a collection of podcasts about our Institute. soundcloud.com/user-414026272.

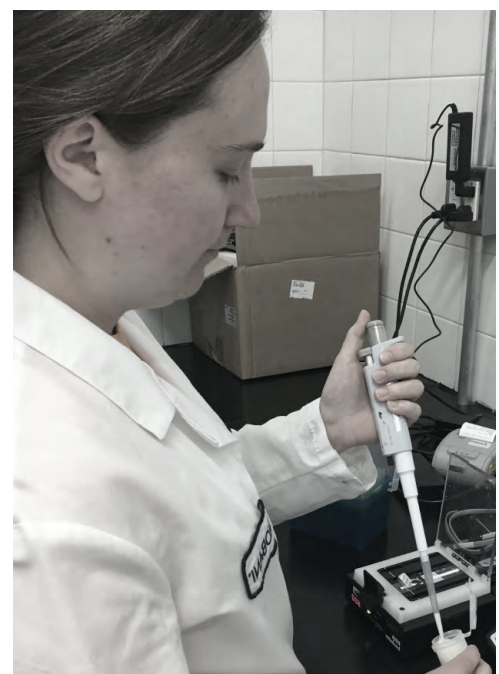
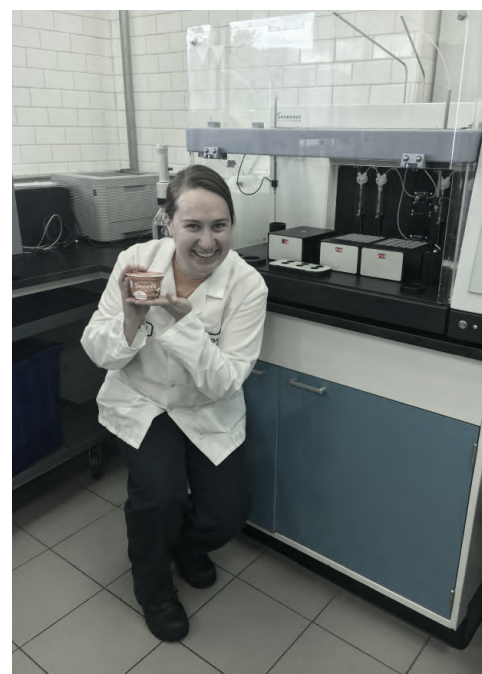
FROM ANTEATERS TO ZEBRAS & EVERYTHING IN BETWEEN

Prenatal care for pregnant gorillas. Surgery for 400-hundred pound tigers. It's all in a day's work at the UT College of Veterinary Medicine's Avian, Exotic and Zoological Medicine Hospital, where we pair our expertise with some of the best equipment and diagnostic laboratories in the world. From tiny to towering to every size in between, we're providing Real. Life. Solutions. to our thousands of clients, and to them that means the world.



GREAT GRADS

*What do a New York yogurt technician and an East Tennessee business owner have in common?
Both are graduates of the UT College of Agricultural Sciences and Natural Resources!*



Learn more about the Avian, Exotic and Zoological Medicine Hospital at tiny.utk.edu/vetmedAEZ

For more information about CVM, visit vetmed.tennessee.edu



FOOD SCIENCE GRAD TASTES HER WAY TO SUCCESS AT CHOBANI

What is it like to work at the company that popularized Greek yogurt and is now the top-selling brand? Ask Kendall Cressman (BS food science '14), and she'll tell you that tasting yogurt is one perk of the job. Even better is she believes in the product she tests daily because it meets Chobani's standards for quality. "I feel comfortable eating it because it is all natural and has no preservatives or additives," she says.

Cressman has worked as a quality control technician at Chobani's lab in New Berlin, New York, for three years. There she examines every part of the process of making yogurt. She verifies that the product is handled properly and specifications are met.

Her time with Chobani has deepened Cressman's interest in the dairy industry. "My favorite foods are cheese and ice cream, so I was drawn to the dairy industry after graduation," she says. Growing up in the suburbs of Nashville, Cressman didn't

plan to work in a rural part of the country but has found the setting makes her work at Chobani even more enjoyable. Her fondness for cows helps, too. "I love being in nature," she says. "I like seeing cows on my way to work and the peaceful scenery."

As a student, Cressman had a difficult time identifying a major that interested her. When the time came to decide, she looked through the long list of majors UT offers to see if something stood out. Food science caught her eye. "I like science and math, I like food, and I like working with things," she says. She reached out to now-retired food science professor John Mount, who gave her more information about the major and encouraged her to take a few classes. After that she was hooked.

Cressman was active in the Department of Food Science, serving as president of the Food Science Club and working as an assistant in the food science lab. Between her sophomore and junior years, she travelled to Spain to learn how another country views and regulates food quality. These experiences fueled her interest in food science and helped her land the position at Chobani shortly after graduation.

In the future, Cressman says she would like to work in research and development at Chobani. "I want to learn that side of food processing. That department works a lot more specifically with food, while quality, the side I'm on now, is a broader department and works with production. In research and development, I would get to work with new product as well, which is always exciting for me."

Cressman says the opportunities outside of class when she was a student at UT benefited her as much as her formal education. "Getting to know my professors, being involved in the Food Science Club, and networking with hundreds of companies at Institute of Food Technologists' events helped prepare me for a successful career in food science."

A WELL-ROUNDED DEGREE

Kirk Huddleston (agricultural business '78) proves that a degree from the UT College of Agricultural Sciences and Natural Resources can lead to a career never imagined.

"It is just a well-rounded degree whether you are going to go into ag or not," Huddleston says.



Huddleston is the owner of Rocky Hill Storage in Knoxville with fellow UT alum Paul Harrison (agricultural business '83, law '86). He has a strong business background and a history of political action. In 2011, Governor Bill Haslam named Huddleston one of nine regional economic development directors, where he served as the primary point-of-contact for Tennessee companies seeking state assistance with expansion or with accessing governmental services. He has served four times as a delegate or alternate delegate to the Republican National Convention.

"People ask what are you going to do with an ag degree," Huddleston says. He then cites UT President Joe DiPietro and former UT Knoxville Chancellor Jimmy Cheek, who earned an undergraduate degree in an agriculture-related field. "Well, why don't you ask them what you can't do with an ag degree."

The owner of Rocky Hill Storage doesn't have dirt under his fingernails anymore, but his roots are firmly planted on his family's cattle and tobacco farm. During his UT days, working that tobacco field

paid the tuition bill, rent, and books. However, Huddleston went to college knowing returning to the farm life was not for him.

"Farming is so capital intensive; it was a tough decision," Huddleston says. "I ultimately chose not to pursue it."

It was in the tobacco fields that Huddleston learned the value of hard work, but it was the tight-knit agriculture community that led to his business career. Alpha Gamma Rho, an agriculture-related fraternity, introduced him to his first job, his wife, and even his business partner. Huddleston began his career at what is now known as Farm Credit. He later worked at Farm Bureau before leaving the ag business for Blaine Construction.

There, as director of corporate and community development, Huddleston used his relationship-building skills to partner the Corporation with Fortune 500 companies, as well as Oak Ridge National Laboratory, UT, Scripps Networks, Denso, and others.

Huddleston credits his ag business degree for laying the foundation for a wide range

of skills and career options. He has served on the Metro Knoxville Airport Authority and currently serves on the Tennessee Aeronautics Commission.

"You don't have to farm," Huddleston says. "There are all kinds of opportunities."

Still, Huddleston seeks to hire interns with agriculture backgrounds for his storage unit business. He appreciates their work ethic and engrained sense for problem-solving.

"It's one big family," he says. "You don't have to start all over getting to know a person because you feel that you can relate to a lot of things if he or she was raised on a farm."

And if you wondered, UT is also a big family for Huddleston. He and his wife Joanne (communications '80) have two sons Andrew (economics '10) and Matthew (computer science '15). ■

CELEBRATING A HISTORIC YEAR FOR PHILANTHROPY & ADVANCING UTIA

William Luke, a senior environmental and soil science major at the UT College of Agricultural Sciences and Natural Resources (CASNR), knew from a young age his blood runs orange.

“I automatically knew it was the right ‘fit’ for me,” Luke says. “The small campus feel in the middle of a beautiful bustling city along the Tennessee River truly makes it a great place I can call home.”

However, it was the generosity of donors to student scholarships that helped Luke experience all four years in the Volunteer State and has given him the freedom to embrace his college years.

“Receiving a CASNR scholarship has allowed me to fully participate in my college experience,” Luke says. “I am a member of the UTIA Soil Judging Team. It has enabled me to travel across the Southeast and Midwest.”

Luke is among more than 700 UT Institute of Agriculture students who are benefiting directly from donor giving through student scholarships. Nearly \$1.5 million donor dollars directly support students this year in CASNR and the UT College of Veterinary Medicine. That’s 36 percent of students directly supported by donor dollars.

“This has been a historic year in terms of private donations,” says Keith Barber, vice chancellor of institutional advancement. “During fiscal year 2017, our alumni and friends invested more than \$21 million into our mission of research, teaching, and outreach, all throughout the Institute. This positions us to award even more scholarships and enhance our research and outreach like never before.”

Student scholarship is one of the easiest areas of donor giving to see direct impact. It also represents the largest percentage of endowments by both number and total dollars invested.

In addition to traditional scholarship, donors may also support the total student learning experience. Marston Jones is in his final year at the UT College of Veterinary Medicine. During the summer before his third year he participated in the Anesthesia Crew, an advanced placement and leadership training opportunity supported directly by donor dollars.

“I am grateful to the donors who support the College’s endeavors, including the summer Anesthesia Crew,” Jones says. “Such opportunities afford us the opportunity to become better veterinarians in the communities we will eventually serve.”

Many of the gifts to the Institute are in the form of endowments, where only a portion of the interest earned supports the program area selected by the donor. Currently, the Institute has 340 endowments with a market value of over \$70 million.

However, not all gifts are made by individuals. Corporate and foundation giving accounts for \$2.3 million in fiscal year 2017 giving.

Student scholarship is an easy area of donor giving to see direct impact. It also represents the largest percentage of endowments by both number and total dollars invested.

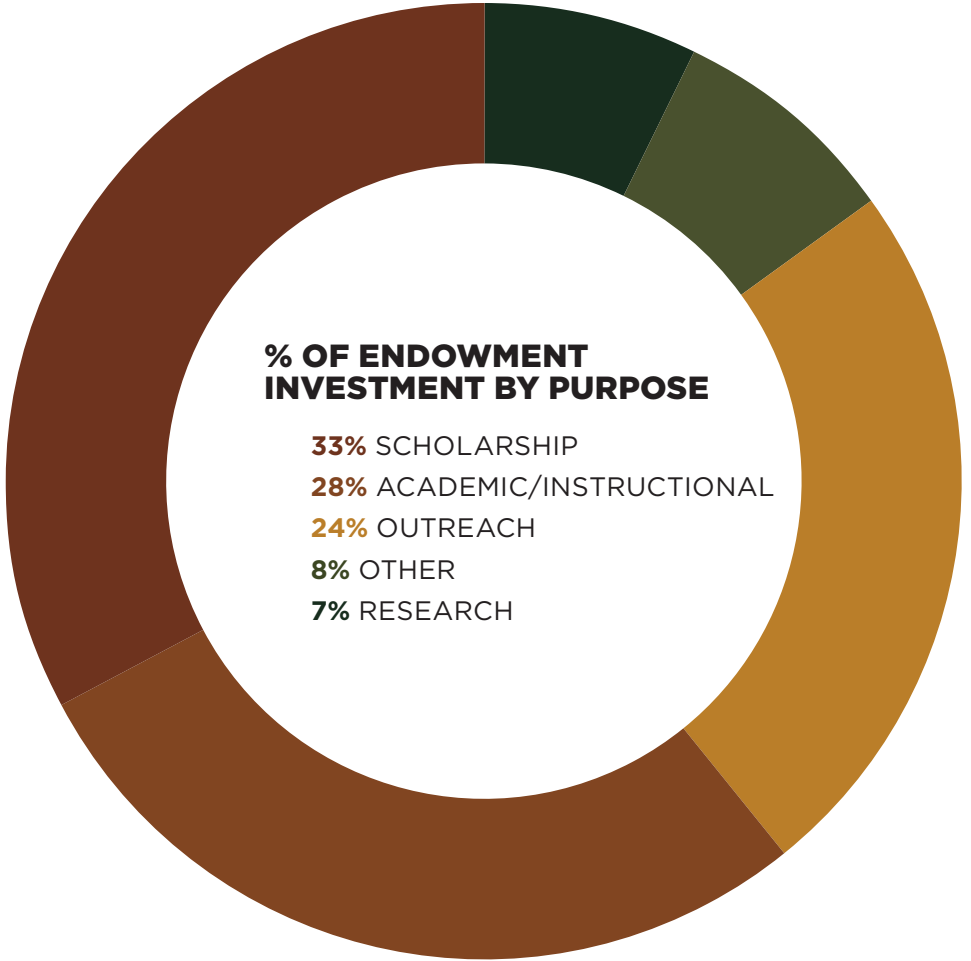
“Corporate giving allows companies to invest in programs that benefit the disciplines in which they are most interested,” says Barber.

For example, this past fiscal year the SunTrust Foundation invested \$75,000 to grow the Extension On My Own financial literacy program in Tennessee.

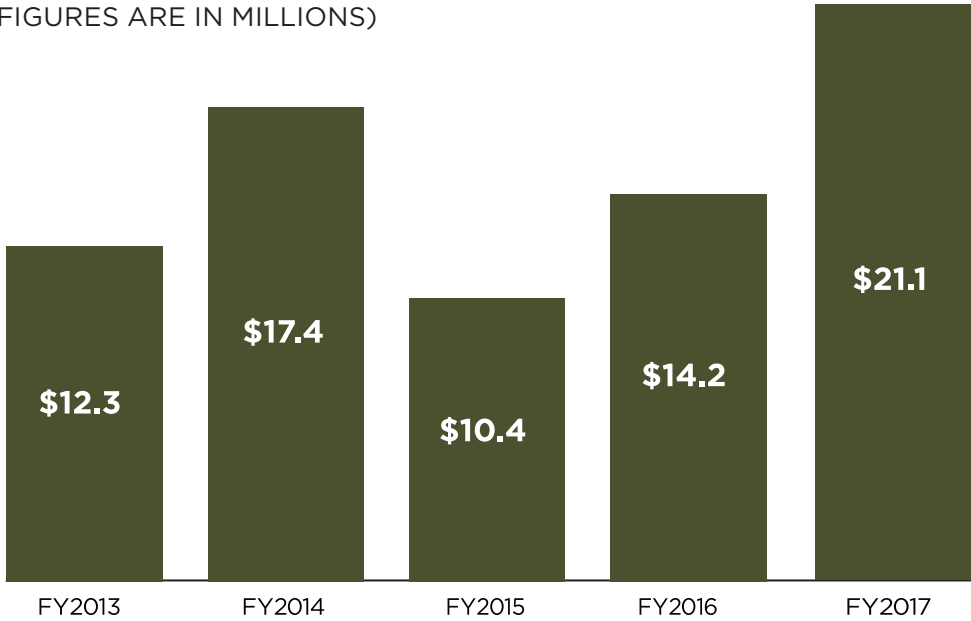
UT Extension and its Department of Family and Consumer Sciences that runs the program have been dedicated to supplementing financial literacy in Tennessee schools for more than a decade. Their simulation-based program currently reaches more than 30,000 middle school and high school-age youth in 250 to 300 schools. The SunTrust support is increasing that reach.

“While there are ever-growing demands on the university system,” says Barber, “private individual and corporate donations are necessary to continue providing better and more effective real-life solutions. We are a land-grant university, and we want to do everything in our power to serve the people of Tennessee, the nation, and the world. The generosity of our friends and alumni are continuing to make that commitment a reality.”

For more information on how you can support the continued work of the UT Institute of Agriculture, visit AdvanceUTIA.com.



DOLLARS RAISED TO SUPPORT UTIA
(FIGURES ARE IN MILLIONS)



354

UT FACULTY/STAFF
GAVE TO SUPPORT
UTIA IN FY2017

340

CURRENT UTIA
ENDOWMENTS

22

NEW ENDOWMENTS
IN FY2017



APPROX 2 OUT
OF 5 STUDENTS
RECEIVE DIRECT
DONOR SUPPORT
THROUGH
INSTITUTE-BASED
SCHOLARSHIPS



A PARTNER WITH THE BLACKFEET

When Will Seeley graduated, he knew he wanted a life of adventure and assisting others. Yet this food science and agricultural business alum (BS '16) scarcely could have predicted life would land him in glacier country, living on the eastern slopes of the Northern Rocky Mountains. Based in tiny Browning, Montana, population 1,031, Seeley is working with one of the largest Native American tribes. He is helping members of the Blackfeet Nation grow a more sustainable and self-sufficient future.

Seeley is on a team that is advancing an Agriculture Resource Management Plan. Much of it represents a full-circle concept. In this way Blackfeet implement changes that increase their profits, improve the health of the land, and yield healthier foods that steer tribal members away from a problematic high-fat, high-calorie diet. The plan includes a return to growing high nutrition heritage foods that affirm the Blackfeet's culture. It also includes

encouraging value-added production of organic crops, pulse crops, and the implementation of a beef certification label to tap into the higher end beef market featuring grass-fed, free range, and organically produced meat. These and other endeavors intend to improve stewardship of the land, the health of the Blackfeet Nation, and their economic security.

"I would really like to thank the Big Sky Watershed Corps and the Blackfeet Tribe for allowing me the opportunity to be a part of such an exciting and innovative Agriculture Resource Management Plan," Seeley says. "I can only hope that my time here will be as fruitful for the Blackfeet people as it has already been for me." ■

Read an essay by Will at tiny.utk.edu/seeley.

Photo credit: J. Pecora Photography, jpecoraphotography.com

E11-1101-00-002-18 25.8M 11/17 18-0032

Vol. 13 / No. 2 / 2017

A publication of the University of Tennessee Institute of Agriculture Office of Marketing & Communications

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Guests of all kinds enjoyed Ag Day, held in Brehm Animal Science Arena on Saturday, September 30. Read about the day's festivities on pages 8 and 26.