The heart of the College of Agricultural and Environmental Sciences lives in its people. The CAES family stays true to its roots — innovation in an evolving agricultural landscape.
In my first year as dean, one of the messages I have consistently heard around the state is of the affinity Georgians have for the University of Georgia College of Agricultural and Environmental Sciences and of their commitment to continuing its legacy for the betterment of the state.

From the halls of the U.S. Capitol to farms across Georgia, I’ve heard moving stories of the difference this college makes in the lives of Georgia families. One congressman told me how valuable his father’s animal science degree was to their family. Another recounted the story of how his 84-year-old father considered his days of teaching entomology in this college among the most important times of his life.

This theme of legacy has been repeated among so many people. Recently, I met with David Ratcliffe, former CEO of Southern Company, who started an endowment to provide experiential learning opportunities to our students in memory of his father, Jack, who was a Phi Kappa Phi graduate from the College of Agriculture in 1953, and returned to earn a master’s degree in 1941.

Caroline Hutland graduated from CAES with two degrees in agricultural and applied economics. She now runs an international equipment company that she started in Georgia. Her daughter, Nicole, is currently a CAES student, also in agricultural and applied economics, and Caroline volunteers her time bringing other students to campus to learn about the outstanding career and study opportunities in agriculture.

Among our own administration, Associate Dean for Academic Affairs Josef Broder’s family has a tremendous legacy in our college. Joe and six of his siblings are all CAES graduates. This year the Broder children endowed the Broder-Ackermann Global Citizenship Award in honor of their parents, Hans Broder and Margrit Ackermann. The award will be given each year to a CAES student who demonstrates dedication to global citizenship by working and studying abroad or engaging with the international community in Athens, Georgia. As associate dean for academic affairs, Joe works to ensure our students have the opportunities and reap the success this college afforded to so many in his family.

Many of our students and alumni were the first in their families to attend college, but history tells us that they aren’t likely to be the last.

We are fortunate to have Secretary of Agriculture Sonny Perdue now leading the U.S. Department of Agriculture. He’s the first UGA alumna to hold a Cabinet position and the first Georgian to serve in this post. As Congress begins developing the new farm bill, his strong experience and deep understanding of the value of land-grant universities will serve the nation well.

In the years ahead, we are committed to continuing the CAES legacy. We are focused on providing the world-class education, groundbreaking research and hands-on outreach that is the true spirit of this college.
States with the most CAES alumni

11,162 Georgia
911 Florida
601 North Carolina
503 South Carolina
492 New York
337 California
315 Texas
284 Camaroon
284 Virginia
284 Alabama

CAES alumni by academic department

Agricultural & Applied Economics: 3,168
Agricultural Leadership, Education & Communication: 1,477
Animal & Dairy Sciences: 2,818
Agricultural & Environmental Sciences: 1,951
Crop & Soil Sciences: 1,734
Entomology: 1,690
Food Science & Technology: 1,406
Horticulture: 1,046
Poultry Science: 928
Plant Pathology: 415

LIVING ALUMNI GENDER SNAPSHOT

68% Male
32% Female

5,837
12,225

CAES ALUMNI ACROSS THE GLOBE

Noteworthy

COLLEGE, EDUCATION, RESEARCH, OUTREACH & UGA EXTENSION NEWS

Steep South

UGA ornamental plant breeder Donglin Zhang works to bring tea production to the U.S.

Sweet tea may be the “house wine” of the American South, but very few of the tea leaves used in the thousands of gallons of tea Southerners drink every year is grown nearby.

Although experiments in tea farming in the Southern U.S. date back to Colonial times, this temperamental cousin of the camellia has never caught on as a cash crop. However, with growing interest in craft teas and innovations in breeding and harvesting technologies at hand, it may be time for the South to start supplying pitchers with locally grown tea.

“Tea, or Camellia sinensis (L.) Kuntze, has been grown here, but for some reason — the cost of processing, the cost of cultivation, the cost of labor — it’s never become a large-scale crop,” said Donglin Zhang, a professor of horticulture in the University of Georgia College of Agricultural and Environmental Sciences who is working to bring large-scale tea production to the U.S.

Today, tea harvesting has been mechanized, and the demand for tea has grown. U.S. sales grew from $1.8 billion in 1990 to $10.8 billion in 2014, according to the Tea Association of the U.S.A. That market trend, combined with consumers’ growing preference for locally sourced products, may mean that it’s finally tea time in the South.

Currently there’s only one large, working tea farm in the U.S. — the Charleston Tea Plantation outside of Charleston, South Carolina. A new farm is under development in Mississippi, and Zhang feels that there will be more coming online in the near future.

“Consumption has gone up, prices have gone up and the mechanical harvesting techniques have improved,” Zhang said. “This is why I think it could work here.”

Zhang has a long history as an ornamental plant breeder. He was drawn to tea and Camellia species as ornamental plants. His breeding program focuses on producing plants that serve two purposes: food and beauty.

Continued on page 4
How sweet it is

Extension helps farmers grow sweeter onions through soil management

University of Georgia Cooperative Extension is instrumental in helping Vidalia onion farmers produce a sweeter onion crop.

Through work at the UGA Vidalia Onion and Vegetable Research Center and in surrounding southeast Georgia counties — the hub of Vidalia onion production — onion research has yielded timely information, including data relating to flavor, to aid growers in their production every year. Growers want to know every year what varieties do the best in our trials. They use that information to help them in variety selection,” said Chris Tyson (BSA – Agriculture, 06), UGA Extension Agriculture and Natural Resources agent in Tattnall County, Georgia. According to Tyson, the agents aren’t breeding onions. They’re researching varieties from onion companies to see how they perform in southeast Georgia’s conditions. The crop’s taste has been improved by UGA Extension research on the impact of low-sulfur application treatments. In previous years, agents have provided fertility recommendations aimed at producing not only optimal yields, but also the best flavor possible. “We’ve always known that sandy soils are what create the sweet Vidalia onion. What we’ve been able to do in recent years is to really study the depth of the sulfur and micromanage the soil to put out an even sweeter onion,” said Cliff Riner (BSA – Agricultural Education, 06), Vidalia Onion and Vegetable Research Center coordinator. “UGA research and Extension have always had a role in variety trials and variety evaluation, but we’re starting to see a major influx of new varieties within our industry from seed companies. It’s the job of county agents and myself to help figure out ways to manage those varieties — from how much fertilizer they like to planting dates — in order to try to maximize the potential of those varieties.” Riner has served in Extension for 11 years. He has been the center’s coordinator for four of those years. Through research trials, Extension has made strides to improve direct seeding to save on labor and plant disease management. Riner thinks that Extension’s biggest accomplishment has been enhancing the onion’s flavor. “We’ve learned a lot from the flavor aspect of onions and how to take a good onion and make it even better,” Riner said. Vidalia onions are a major crop in Georgia. Onions were grown on 12,600 acres in the state in 2015, with a farm gate value near $149 million, according to the UGA Center for Agribusiness and Economic Development.

Continued from page 3

“People today have smaller yards, and I think there is interest in plants that have multiple purposes,” he said. He’s traveled to China to collect varieties of persimmon, jujube and waxberry to use as parent plants for Georgia-adapted ornamentals. With delicate foliage, variegated leaves, bright blooms in the form of camellia flowers and the prospect of a homegrown cup of tea, tea plants are also part of his ornamental breeding program. Of camellia flowers and the prospect of a homegrown cup of tea, University of Georgia Cooperative Extension can help you tend your crop. Check out the following publications from UGA Extension agents, horticulturists and Master Gardener Extension Volunteers, and remember — with vigorous work comes vigorous veggies! Gardeners can do with a few, properly tended plants. Garden Series: Vegetable Garden Calendar (C 943)

You can plant or harvest something from your garden almost all year. The monthly recommendations in the vegetable calendar can be used as a guide to planning and implementing your garden work.

With delicate foliage, variegated leaves, bright blooms in the form of camellia flowers and the prospect of a homegrown cup of tea, tea plants are also part of his ornamental breeding program.

Many of the tea plants grown for beverage production are notoriously cold-sensitive and don’t tolerate the rapid temperature changes seen in Georgia. Zhang is working to breed more cold-tolerant plants that also produce a distinctly delicious Southern tea.

Today, Zhang has a selection of nine tea cultivars growing at the Durham Horticulture Farm outside the UGA Athens campus, and he plans to add more varieties to his breeding programs soon.

In late 2016, Zhang toured China’s tea-producing regions with plant breeders from other Southeastern land-grant universities as part of a program organized by the U.S. Department of Agriculture and the Ministry of Agriculture in China. The trip was paid for, in part, by a faculty travel grant provided by the CAES Office of Global Programs.

With a 3,000-year history and about 2.8 million acres of land devoted to tea production, Zhang and his colleagues hope that tea experts in China could help them determine what they needed to make tea work in the Southeast. Zhang hopes to add those varieties to his breeding program in the future.

For more information about how UGA plant breeders are helping to diversify Georgia’s agriculture, visit caes.uga.edu.
Citrus production is ripening, with potential for growth in south Georgia, according to University of Georgia Cooperative Extension Agriculture and Natural Resources agent Jacob Price (BSA – Agricultural Education, ’90), based in Lowndes County, Georgia.

More than 150 acres of satsuma oranges have been planted in south Georgia in the last four years. And UGA scientist Wayne Hanna recently released a seedless tangerine, lemon and grapefruit after years of research on the UGA Tifton campus.

Hanna’s goal is to develop citrus plants that could grow across the southernmost part of the U.S. “(If) you stretch a line across the United States, and a homeowner below that line wants to grow a tangerine, lemon or a grapefruit in their backyard, they should be able to grow it,” Hanna said. In Georgia, Hanna places that line through Cordele.

While Hanna’s research targets homeowners, Price’s goal is to provide commercial growers with an alternative crop to produce. In 2015, he held the first official satsuma meeting in Georgia. The popularity of satsumas has grown so much in recent years, Price believes the number of acres planted in Georgia will at least double in 2017.

There are challenges: cold weather, markets and the strong possibility of citrus greening, an infection that ruins groves. Price warns new growers that it only takes one cold night to cause a great deal of damage to the trees. Fruit on the trees can freeze at 28 degrees Fahrenheit. Most of this fruit is available at the same time, making it crucial to develop markets. One acre of 10-year-old satsumas can easily produce 120,000 pieces of fruit. If no additional trees are planted in the state and current plantings survive, there could be 18 million pieces of Georgia fruit that need to find a market.

Some farmers who grow vegetables or blueberries already have the infrastructure in place to process and move citrus, Price said. “Their facilities can possibly be made available when most Georgia citrus ripens in mid-November. As of now, I do not know of any buying points for citrus, but one of the main focuses of the Georgia Citrus Growers Association, which was officially established at the Lowndes County Extension office on Oct. 5, 2016, is to try and develop markets.”

According to Price, as of March 2016, there were 22 counties in south Georgia in which commercial citrus grows. While expanding the satsuma crop appears inevitable, it may not happen quickly. There simply aren’t enough trees to accommodate the growing number of interested producers.

“Growers want more trees to plant this spring, but they (the trees) just aren’t there,” Price said. “I know many growers who have placed orders for trees for spring of 2018. It takes about 18 months to produce a 1-gallon satsuma tree.”

Hanna cautions new growers who are eager to grow multiple acres of citrus. An acre can house approximately 145 trees. Producers need to make sure they can handle 1 acre before planting 20 acres. “It’s like anything else, you’ve got to get a feel for it,” Hanna said. “When do I do this? When do I do that? It depends on a lot of variables, like temperature and the response you’re getting from your plant.”

Hanna was one of the first experts Price called on when he began to hold regular meetings regarding potential satsuma production in Georgia. Some of Hanna’s words of caution stem from growers who want to speed up a process that takes time.

“I think one of the biggest concerns is that growers are going to buy small plants and want to grow them fast. They’re going to put nitrogen to them, and they’re going to pay the price,” Hanna said. “You don’t want to put too much nitrogen on after the first of June. That new growth will really be sensitive. You want hardened-off growth when the cold weather comes.”

But, Price said, farmers with satsumas are finding reasonable market prices, whether at local schools, farmers markets or fruit stands. Some larger vegetable and blueberry farmers have brokers to sell their blueberries and vegetables, and those brokers may be able to sell the satsumas as well. Though there are issues to work out, with careful planning, the satsuma industry has the potential to thrive in Georgia.

- Clint Thompson
Charlie arrives at 30 Rockefeller Plaza at 6:30 each morning to prepare for his appearance on national television. After a morning routine with host Matt Lauer, he waits in the Orange Room through the 7 a.m. hard news block before taking the plaza stage outside the studio at 8 a.m. There’s an 8:30 a.m. appearance with Lauer or host Carson Daly, the filming of 9 a.m. teases with celebrities, then 10 a.m. downtime in the studio before returning home unless a trip to an NBC affiliate or video “pupdate” for social media is required.

Charlie is the “TODAY” show’s “Puppy with a Purpose.” University of Georgia College of Agricultural and Environmental Sciences alumna Olivia Poff (BSA – Animal Science, ’11) is responsible for him. Poff is a guide dog mobility instructor for America’s VetDogs and its sister organization, the Guide Dog Foundation for the Blind, both charitable organizations that provide guide and service dogs to U.S. veterans, first responders and civilians. However, for this project, she is Charlie’s puppy raiser. She started raising Charlie on national television last August, after “TODAY” sought out the organization to sponsor its second “Puppy with a Purpose.”

“He’s a good fit, a happy-go-lucky dog,” Poff said. “Not a lot fazes him.”

When they return home, Poff continues training Charlie. He will become a service dog for a U.S. veteran. He’s learning to push buttons and lights with his nose, to retrieve dropped items, and to tug to open doors or pull off covers.

Continued on page 10

It’s nearly impossible to walk on campus today without spotting a yellow-jacketed guide dog in training. There are between 100 and 120 on the University of Georgia’s Athens campus, and twice that number of puppy raisers, according to Deana Izzo, the Guide Dog Foundation for the Blind’s Southeastern field representative. The puppy-raising program has spread to Kennesaw State, Emory and Augusta State universities in Georgia, as well as Auburn University and the University of North Carolina. The program took root at UGA through the work of alumna Sarah Hooper (BSA – Animal Biology, ’10). She began raising guide dogs as a Girl Scout Gold Award project in high school and wanted to continue her work in college.

She dealt with some resistance in the beginning, especially within her on-campus housing accommodations, a requirement for freshmen at the time. Her professors were all receptive to the idea, though. She even took her service dog-in-training to her labs and to work at the college’s poultry farm.

As students approached Hooper and word got out, the program grew. Hooper served as area coordinator.

Continued on page 10

CAES ALUMNA’S DAWG DAYS HELPED CREATE GUIDE DOG PROGRAM AT UGA

“When I met the woman he went to and saw the difference he made in her life, that specific moment of puppy training was where my career path did a 180 (degree turnaround) and I started pursuing (work in) the assistance dog industry.”

Olivia Poff

Charlie, the “TODAY” show’s “Puppy with a Purpose,” and CAES alumna Olivia Poff, Charlie’s puppy raiser, navigate the busy streets of New York.

Dogged Pursuit

“TODAY” show puppy raiser Olivia Poff’s tale began with work for the Guide Dog Foundation while at CAES

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Continued from page 9
Poff thought she wanted to be a veterinarian and came to UGA for the animal science program. She rode on the university’s equestrian team and took on student work in veterinary medicine. One day she approached a student who had a golden retriever wearing a yellow “Future Guide Dog” jacket in tow. She learned that raising a guide and service dog required no prerequisites. She just had to put in the time, energy and commitment to raising and training it. Her life changed.

“The first one I raised went to a veteran,” she said. “When I met the woman he went to and saw the difference he made in her life, that specific moment of puppy training is where my career path really changed.”

While still in college, CAES gave her credit hours for an internship with the Guide Dog Foundation. “They gave me the flexibility to do an internship that wasn’t Veterinary Medicine or Farm Animal Production,” she said. “They allowed me the freedom to explore the boundaries of what I could do with my education.”

CAES education instilled in her the need to research and question everything related to dogs’ care to ensure training is done in the “most efficient, humane way possible.”

“It has helped me be inquisitive about canine cognition, how they think, and in my approach to training,” Poff said. “I was exposed to so many amazing professors who made sure I didn’t just spit information back, but made sure I understood why.”

Poff said. “I was exposed to so many amazing professors who made sure I didn’t just spit information back, but made sure I understood why.”

“Much of my Ph.D. is bench-top lab research where I work on developing assays to measure biomarkers,” Harper said. “We ran some assays called ELISAs. My research professor asked me how I understood how they worked. It was through my ocean bio techniques class.”

Being a puppy raiser teaches ownership and responsibility. Working in the program helps students stand out at interviews and in veterinary school applications. And working with the other students on campus allowed me to develop lifelong friendships,” Harper said.

Puppy raisers include students majoring in disciplines throughout the university. • Kathryn Schiillo

UGA’S GUIDE DOG PROGRAM

Continued from page 9

Her experience as both a College of Agricultural and Environmental Sciences (CAES) alumnus and puppy raiser aid her higher education pursuits.

“We are at their peak in May, June and July and then die back in early spring. They are at their peak in May, June and July and then die back in early spring.”

Robacker knows that little bluestems are low maintenance and the new varieties are bred specifically for Georgia. “Little bluestems are at their peak in May, June and July and then die back in early spring.”

Robacker said. “My job is to conserve close to 500 different species of grasses, but their genes may be used to breed specific characteristics into new grass varieties. Looking at little bluestems daily, Harrison noticed the colorful summer foliage and attractive form of the grasses and began to see them as ornamental.

“Having bred numerous abelia and vitex varieties, Robacker knows home gardeners and professional landscapers like to have a variety of plants to choose from, but they don’t always know how to use them. Little bluestem is becoming popular, but people don’t know how to plant it,” she said. “It does well in mass plantings mixed with other plants. And it’s very attractive when the wind blows.”

Little bluestems are low maintenance and the new varieties are bred specifically for Georgia. The grasses retain their color in hot Georgia summers and go dormant in the winter. And, Robacker says, the color is “more intense in areas of north Georgia, like Blairsville.” After dieback, the grasses should be cut back in early spring. “They are at their peak in May, June and July and then die back in early spring.”

Research team has applied for patents and now seeks a company to license. • Sharon Deady-Cruse
Facing Hunger

Global Food Security Fund established to help students take on food insecurity and malnutrition on local and international scales

The statistics are nothing less than sobering. About 795 million of the world’s more than 7 billion people are undernourished, and most are living in developing countries, according to the United Nations’ World Food Programme.

Domestically, Feeding America data shows that 29.1 million American adults and 13.1 million children live in food-insecure households as of 2015. Even closer to home, more than 1.7 million Georgians — around 17 percent of the state’s population — are food insecure.

In an effort to combat this epidemic, Hiram Larew (BSA ‘75), adjunct professor in the Department of Agricultural Leadership, Education and Communication (ALEC) in the University of Georgia College of Agricultural and Environmental Sciences, member of the CAES Dean’s Advisory Council and Office of Global Programs collaborator, established the college’s Global Food Security Fund. The fund will provide CAES students with the financial means to study and take on food insecurity and malnutrition on local, statewide and international scales through work, service, study and research.

“The point of this fund is to allow students who are interested in trying to address that problem to study it, research it and understand it, then to apply what they learn, wherever they learn it, to other places,” Larew said.

Larew and ALEC Associate Professor Maria Navarro, who established the fund’s purpose with Larew, wanted to put into place a funding source for students who want to address food insecurity individually, “outside of the most traveled path” and independent of existing programs.

As an example of the kind of work the fund will support, student Ty Brooks immersed himself in Ethiopian culture and agriculture last summer. He conducted field observations and interviews with smallholder farmers in an effort to learn about the conditions of farmers with limited access to resources. Brooks was exploring how perennial sorghum might “fit into global agricultural systems at varying scales.”

“If not only learned about the challenges facing farmers in this context, but gained an appreciation of the complexity of factors at play while working globally … Through this experience I gained knowledge that would serve me well in future global agricultural work,” Brooks wrote.

Existing programs tend to address food insecurity at the international level, but food insecurity exists at the community, state and national levels, too. Larew and Navarro wanted to enable students to explore the issue close to home and on campus, a prospect that may not require as much travel, but still requires funding.

“Hunger is a key concern that exists worldwide, and none of us, no place, is without it,” Larew said. “Within five to 10 years, I’d like to see 20 to 50 students in CAES use the funds to help support their interest in (studying) hunger on campus, hunger in the county, hunger in the state, hunger in the U.S. and hunger around the world.”

To contribute to the fund, contact the CAES Office of External Relations at 706-542-3390, external@uga.edu, or visit give.uga.edu and click “Give Now.” Be sure to select CAES from the school or college menu, and “Global Food Security Fund” as the designation. - Kathryn Schiolo

Global Food Security Fund established to help students take on food insecurity and malnutrition on local and international scales

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The collective work of University of Georgia College of Agricultural and Environmental Sciences researchers has flourished under the guidance of CAES Associate Dean for Research Bob Shulstad for the past 16 years. He’s conducted research on production economics, water resource allocation, land and water policy, and recreation demand. Before UGA, Shulstad spent 14 years in the University of Arkansas’ Dale Bumpers College of Agricultural, Food and Life Sciences Department of Agricultural Economics and Agribusiness. He was department head for his last five years there. Shulstad joined CAES as the head of the Department of Agricultural and Applied Economics from 1987 to 1997. “I am eternally grateful to my wife, Carol, for her love and support over these last 48 years,” Shulstad said.

Southscapes writer Merritt Melancon asked Shulstad about his time as associate dean, a position he’s held since 2006. He’s set to change roles within the college this year. Allen J. Moore, UGA Distinguished Research Professor and head of the Franklin College of Arts and Sciences Department of Genetics, will begin in the role of CAES Dean for Research Bob Shulstad for the past 16 years.

Q: What CAES initiatives from your time as associate dean are you particularly proud of? A: We have been successful in hiring the very best new faculty and staff while significantly expanding our external funding, downsizing our physical facilities and improving facilities and equipment. The Iron Horse Farm; J. Phil Campbell Sr. Research and Education Center; new greenhouses for horticulture, plant pathology, and the Center for Applied Genetic Technologies; as well as new turfgrass facilities and greenhouses on our Griffin, Tifton and Athens campuses are significant additions. The legislature provided bond funds for improving the facilities at each of the campus farms and research and education centers as well as replacing major farm equipment and irrigation systems. All of this significantly increased our ability to do applied research to improve the quality, yield, safety and nutrition of our food while improving the environment for all and profitability for our producers.

Q: What were the biggest challenges of the past 10 years? A: The recession significantly impacted our ability to meet the expectations of our agricultural clients. Critical faculty or staff positions had to be left unfilled, critical farm machinery and lab equipment could not be replaced, facilities could not be properly replaced and operating dollars were lost. Our industry supporters were successful in convincing the Georgia Legislature to fund the most critical vacant faculty positions. The board of regents and governor also approved the sale of four properties, the acquisition of two properties and demolition of 148 buildings to improve the efficiency of college agricultural experiment stations’ operations.

Q: Do you feel that CAES is well prepared for the future of agricultural research? A: Yes. There is an excellent administrative team in place and our faculty and staff are recognized as among the very best in the world. Georgia continues to be among the leading states in providing funds for agricultural research and Extension, though state funds alone cannot cover the cost of a world-class research program. New and existing faculty members have aggressively sought external funding. Over five of the last six years, the legislature provided major repair and renovation bond funding to remove dilapidated facilities and improve our remaining facilities. They also provided funds to update equipment at our research and education centers and departmental farms. This greatly increased our efficiency and the morale of our employees. UGA has also allowed our college to compete for funds to hire outstanding research and teaching faculty. External competitive funding has increased more than 100 percent over the last 10 years.

Q: What makes you say “Wow!” when you think about the progress of agricultural research at UGA and across the country? A: Agricultural experiment stations were established to be the research and development departments for agricultural producers and agribusinesses. Our research and Extension faculty assess the problems facing agriculture and develop solutions to address those problems. Our health and safety depend on these programs, and the economic engine of the state of Georgia is its agricultural industry. At UGA, agricultural research is responsible for over 70 percent of all patents issued to UGA faculty and 65 percent of the royalty dollars received by UGA. Seventy-five percent of royalty funds from plant breeding is returned to the inventor and the college plant breeding program.
Cotton harvesting just got a bit more efficient at the University of Georgia’s C.M. Stripling Irrigation Research Park (SIRP).

Funston Gin, out of Funston, Georgia, donated a cotton module builder and boll buggy, valued at $25,000, last harvest season to help the park harvest its cotton plots in the fall. SIRP Superintendent of Operations Kealey said the module builder and boll buggy are welcome additions to the park’s inventory.

“I fully intend to solicit my other cotton partners in the ginning industry and production industry to see if we can’t get more money into researching cotton,” Stallings said.

The cotton picker dumps the cotton into the boll buggy trailer after moving through the field. The picked cotton is then transferred into the module builder, a big, rectangular mechanism that presses it into big bundles of cotton. This allows the gin truckers to haul the harvested crop easily from the field.

“If we’re waiting a couple of days for a scientist’s plots to be ready, we can let the cotton sit in that boll buggy for a few days under a shelter without having to put it into a module builder and run the risk of having rain get on it,” Perry said. “It definitely serves our needs quite well.” - Clint Thompson

University of Georgia scientists are better equipped to help businesses launch new food products thanks to the opening of the Food Technology Center, which houses the Food Product Innovation and Commercialization Center (FoodPIC), on the UGA Griffin campus.

The $7.4 million project was funded with $3.5 million from the state of Georgia and additional funds provided by the U.S. Economic Development Administration, the Griffin-Spalding Development Authority and UGA. The state-of-the-art, 14,500-square-foot facility was dedicated on Jan. 30.

“The Food Product Innovation and Commercialization Center is an outstanding example of the University of Georgia using its resources to help strengthen our state’s economy,” UGA President Jere W. Morehead said. “We are grateful for the support we have received for the new Food Technology Center, and we are excited to expand the reach of FoodPIC within the global food industry.”

While awaiting construction of the building, UGA College of Agricultural and Environmental Sciences faculty used existing laboratories at UGA-Griffin to help food entrepreneurs with product development, packaging, food safety, consumer acceptance and marketing.

“It’s a great pleasure to be able to help them. I fully intend to solicit my other cotton partners in the ginning industry and production industry to see if we can’t get more money into researching cotton,” Stallings said.

“If we’re waiting a couple of days for a scientist’s plots to be ready, we can let the cotton sit in that boll buggy for a few days under a shelter without having to put it into a module builder and run the risk of having rain get on it,” Perry said. “It definitely serves our needs quite well.” - Clint Thompson

Kealey would like to see the center become the best facility of its kind in the U.S.

Past FoodPIC projects include improved drying technologies for Georgia’s rabbit-eye blueberries, frozen desserts using Georgia fruits and a grain-based milk beverage being now produced in California. An ingredient company is currently working with FoodPIC and hopes to see its reduced-sodium salt used in convenience foods like potato chips. FoodPIC scientists are also working with a company that plans to incorporate its probiotic into extruded foods.

FoodPIC is designed for short-term partnerships between food entrepreneurs and UGA scientists, not long-term food production and packaging.

“We help companies get a pretty good idea about how big their business potential is,” Kealey said. “They can then go to their own manufacturing site or to a co-manufacturer who will make their recipe to their specifications.”

Some potential clients decide to stay small and create recipes in their home kitchen to share with friends and family.

“FoodPIC is where food entrepreneurs go with their ideas, and we turn them into reality — into physical prototypes that they can eat,” Kealey said. “If they decide they want to continue their journey, we can help them with process development, package development, shelf-stable studies, thermal process validation and the Nutrition Facts panel. We’re an one-stop shop.” - Sharon Dowdy Cruse
Locked in museums across the world, millions of insect specimens tell the story of the world’s climatic shifts, moving animals and changing fauna. The complete story told by these pinned bees, beetles and butterflies has been buried for centuries under the sheer number of specimens. Researchers at the Georgia Museum of Natural History at the University of Georgia are working to digitize specimens and set a framework for other museums’ collections.

Joe McHugh, curator of the arthropod collection at the museum and professor of entomology in the UGA College of Agricultural and Environmental Sciences, will help lead the effort to digitize millions of butterflies and moth specimens from museums collections across the nation.

As part of the LepNet project, Joe McHugh, CAES professor of entomology and curator of the arthropod collection at the Georgia Museum of Natural History, will help lead the effort to digitize millions of butterflies and moth specimens from museums collections across the nation.

Researchers digitize 2.1 million Lepidoptera specimens to build database, app

“As part of the LepNet project, Joe McHugh, CAES professor of entomology and curator of the arthropod collection at the Georgia Museum of Natural History, will help lead the effort to digitize millions of butterflies and moth specimens from museums collections across the nation.”

“The complete story told by these pinned bees, beetles and butterflies has been buried for centuries under the sheer number of specimens. Researchers at the Georgia Museum of Natural History at the University of Georgia are working to digitize specimens and set a framework for other museums’ collections.”

“Joe McHugh, curator of the arthropod collection at the museum and professor of entomology in the UGA College of Agricultural and Environmental Sciences, will help lead a National Science Foundation-funded effort to digitize around 2.1 million specimens from the order Lepidoptera — moths and butterflies — and to make that data available to scientists studying climate, natural habitats and agricultural pests. When LepNet is complete, it will be one of the largest databases of insect information, opening centuries of scientific inquiry to the new world of data analytics.

“People don’t really want to spend five years going around the world visiting collections in museums and transcribing data from tiny little labels just to understand the basic biology and distribution of a species,” said McHugh. “Researchers need to be able to address important questions quickly by going to some web-based resource and pulling down all the relevant information in some standard format for analysis.”

Scientists have been collecting and organizing insect specimens since before the Enlightenment, and museums worldwide have solid collections dating back 300 years. Museums in North America alone house around 250 million insect specimens from around the world.

Most specimens are stored with details of their capture: the date and the time of day they were found, their location, the condition of the insect and their interactions with other organisms. Each entry represents a data point that can now be used to construct a clearer understanding of the biology of that species and of how populations move and change, and why.

“We can use this information to look at questions about invasive species, climate change or human impact on environments by seeing how, over time, the ranges of insect species have changed,” McHugh said.

Researchers can also build models to project when and where problem insects, like crop-devouring caterpillars, will appear, allowing farmers to prepare for the arrival of a species, McHugh said.

“You can layer in climate information, soil information and host plant information, and you can predict — pretty accurately in many cases — where a species will occur, even if it has never been collected there,” he said. “All of the data from various sources could indicate that a location has the right conditions for a particular species.”

“These kinds of models are almost impossible to generate today because only a very small portion of the collections in museums across the globe has been digitized, and what has been done has been erratic.

“For many years, there was nothing comprehensive and little agreement in the scientific community about the format for these electronic records. In recent years, however, great progress has been made to develop universal standards for digitizing museum specimens. McHugh and his colleagues are hoping to further refine the process.

While butterflies and moths are not McHugh’s main research focus — he studies beetles — his team chose Lepidoptera to start the digitization project because the order includes many major pests and some beneficial species. Also, scientists and naturalists have been collecting specimens for hundreds of years. There are more than 15 million specimens in museums in North America.

“They are a group that’s charismatic, highly visible, frequently collected and more easily identified than others,” he said. “You can identify over 50 percent of North America’s Lepidoptera to species using a picture book, just by sight.”

LepNet will include 95,000 quality specimen images that represent 60 percent of North America’s Lepidoptera species. Presently photo recognition software may enable these images to be used in a publicly available butterfly and moth identification app called “LepSnap.”

Moths to a MAINFRAME

The LepNet team, including curators, student researchers and collection managers from across North America, started the digitization process last fall of 25 major insect collections. In addition to the UGA Collection of Arthropods at the Georgia Museum of Natural History, participating museums and institutions include:

- Arizona State University
- Clemson University
- Colorado State University
- Denver Museum of Nature and Science
- Drexel University
- Harvard University
- Kansas State University
- Michigan State University
- Milwaukee Public Museum
- Mississippi State University
- New Mexico State University
- Northern Arizona University
- Ohio State University
- Oregon State University
- Purdue University
- University of Alaska
- University of California, Davis
- University of Delaware
- University of Florida
- University of Idaho
- University of Illinois
- University of Minnesota
- University of Missouri
- University of Nebraska
- University of Oklahoma
- University of Utah
- University of Wisconsin
- Western Washington University
- Yale University

The video at https://youtu.be/33kGyImfF7Q and more about LepNet, see the site at gsu.edu/alumni/news.
Georgia 4-H personnel take seats on national board

Georgia 4-H faculty members aren’t strangers to lead roles in national organizations, but it is unusual to have several of them serving on the National Association of Extension 4-H Agents (NAE4-HA) board of trustees at the same time.

In August 2016, members elected the national board, which includes three officers from University of Georgia Cooperative Extension: Casey Mull, state 4-H specialist for military programs; Abby Smith, Effingham County 4-H agent and county Extension coordinator; and Rebecca Brewer Thomas, Chattahoochee County 4-H agent and county Extension coordinator.

In addition, State 4-H Leader Arch Smith (BSA – Agricultural Economics, ’77), pictured on the opposite page, serves as an ex-officio member of the board, as he is currently chair of the state program leaders working group.

Mull will lead the organization over a three-year period as president-elect, president and past president. He is in charge of a board of about 30 youth development professionals.

Jerry Whiteside is a former Polk County, Georgia, 4-H member and retired University of Georgia Cooperative Extension human resources director, who was the state 4-H leader when Rock Eagle 4-H Center was dedicated. He was the state 4-H leader when Rock Eagle 4-H Center was dedicated. He was the state 4-H leader when Rock Eagle 4-H Center was dedicated. He was the state 4-H leader when Rock Eagle 4-H Center was dedicated.

“Mike said to me, ‘we, 4-H’ers, were going to play a major role in building that camp by conducting fundraisers and getting our parents, friends, neighbors and local business leaders excited about being a part of making our dream a reality for all Georgians ... My first visit to Rock Eagle was from a State 4-H Council meeting in Milledgeville, (Georgia). We visited the Rock Eagle (Effigy) Mound and participated in the groundbreaking ceremony. The next year, we dedicated the first cabin. Then, in the fall of 1955, thousands of us participated in the center dedication. That next summer, I and other lucky young people had the privilege of being members of the first group of Rock Eagle counselors. Over the past 60-plus years, the camp’s impact has been amazing,” said Whiteside.

Tom Rodgers, who was the state 4-H leader for 14 years, says the history book brought him back to his days as a camp counselor at the Rock Eagle 4-H Center. ‘The memories and the good times poured from the pages,” said Rodgers, who initially visited the 4-H center to attend camp 57 years ago as a fifth-grade 4-H'er.

Georgia 4-H State Leader Arch Smith sees the book as much more than a history of the Rock Eagle 4-H Center. “This book is also the story of the Native Americans; of the cotton and livestock that once covered this area; the Piedmont area; the Rock Eagle Effigy; the Rock Hawk Effigy; G.C. Adams, the father of 4-H; the creation of the Georgia 4-H Foundation,” said Smith, who joined the Georgia 4-H faculty as Rock Eagle’s center coordinator in 1988. “It’s about the children at the Baptist Children’s Home who gave up their eggs for breakfast to help fund the center, the prisoners who built the camp and their talents, the development of the camping program and, later, the environmental education program. It’s also about the other Georgia 4-H centers across the state, and it’s the best record book that’s ever been prepared by a Georgia 4-H'er.” — Sharon Dowdy Cruse

School of Rock

A newly published history of Rock Eagle 4-H Center, “Rock Eagle: Centerpiece of Georgia 4-H,” details how the camp, which started as a dream of then-State 4-H Leader Bill Sutton, grew into a place where millions of Georgia 4-H’ers create lifelong memories.

It took the book’s author Ina Cook Hopkins, a former Walton County, Georgia, 4-H'er, almost nine years to compile data, interview key subjects, write the text and work with graphic designer Carol Williamson to complete the book.

“This campus is not about bricks and mortar. It’s about people with a passion, and people are what this book is about,” Hopkins said of the 640-page publication, which includes almost 900 photos and resembles a textbook. “Never again will I take for granted what was accomplished by the founders (of Rock Eagle 4-H Center) and their successors to provide a brighter future for Georgia’s children.”

New book details 60-plus-year history of Rock Eagle 4-H Center

Jerry Whiteside is a former Polk County, Georgia, 4-H member and retired University of Georgia Cooperative Extension human resources director, who was the state 4-H leader when Rock Eagle 4-H Center was dedicated. At a launch event for the book held in December at the 4-H center, located outside of Eatonton, Georgia, he recounted his memories of attending 4-H camp before the Rock Eagle 4-H Center was built.

“Bill Sutton convinced us that we, 4-H’ers, were going to play a major role in building that camp by conducting fundraisers and getting our parents, friends, neighbors and local business leaders excited about being a part of making our dream a reality for all Georgians ... My first visit to Rock Eagle was from a State 4-H Council meeting in Milledgeville, (Georgia). We visited the Rock Eagle (Effigy) Mound and participated in the groundbreaking ceremony. The next year, we dedicated the first cabin. Then, in the fall of 1955, thousands of us participated in the center dedication. That next summer, I and other lucky young people had the privilege of being members of the first group of Rock Eagle counselors. Over the past 60-plus years, the camp’s impact has been amazing,” said Whiteside.

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A revamped, 1,080-foot boardwalk leads to a pristine Jekyll Island, Georgia, beach. There are no hotels, condominiums or houses in sight, just the ocean, washed-up driftwood and sand dunes built up over time. The shrubs and small trees in the dunes provide protection for wild animals and mask views of the new, 15.89-acre camp for youth on the other side of the boardwalk. At the beginning of February, students from Northbrook Middle School in Gwinnett County, Georgia, comprised the first group to participate in environmental education again at the site of the former Jekyll Island 4-H Center, now called “Camp Jekyll.” This continues the legacy of 4-H programming and events held at the site from 1983 to 2014. Many schools that visited the facility clamored to schedule trips to the new camp when the sign-up date was announced nearly six months in advance of the opening. Within a month of reservations opening, more than 5,000 participants booked spring 2017 environmental education trips and another 9,500 people booked trips for the 2017-2018 school year. Seven weeks of 4-H camp in the summer welcomes another 1,500 visitors.

The new, $17 million, state-of-the-art camp was dedicated on Dec. 5, 2016, with ceremonies led by Gov. Nathan Deal, Georgia first lady Sandra Deal, Jekyll Island Authority (JIA) Director Jones Hooks and State 4-H Leader Arch Smith, alongside local 4-H club members and state 4-H board officers. “This new facility is a place to visit, study and learn for all the youth of Georgia and those beyond its borders,” said Gov. Nathan Deal. “The heart of this camp is education... (It) is a magnificent opportunity for youth to understand their role in a big world to explore. Young people are in a very impressionable part of their lives. Many of them have never had the opportunity to even see the ocean, so this is a tremendously important facility.” Following a 2013 visit to the center, Gov. Nathan Deal proposed funding for the project, and that funding was voted into the fiscal year 2014 budget by the state legislature.

“It’s an outstanding facility and we’ve deeply appreciated of Gov. Deal,” said Richard Royal, former JIA chairman. “I’m extremely pleased with the design and construction. Everyone’s excited about the new Camp Jekyll and the mission that it’s going to play in the education of youth.” The new JIA-owned facility will continue to be managed daily by the University of Georgia Cooperative Extension’s 4-H Youth Development program under an operations agreement. Richard Chewning, who served as program coordinator for the center for nearly a decade, leads as the camp director and Lauren Nys Kuscher oversees environmental education programming. "Georgia 4-H is pleased to be continuing our relationship with the Jekyll Island Authority at Camp Jekyll," said Smith. "We appreciate Gov. Nathan Deal’s commitment to make this wonderful new facility a reality. We are also excited to welcome other K-12 youth groups to rent and use Camp Jekyll."
“This college has given me a family and a home at UGA. I’ve learned so much. I’ve explored agriculture around the state and country, presented at two American Dairy Science Association national conferences and studied in France. CAES has afforded me opportunities I never imagined thanks to donors like you.”

SARAH JANE THOMSEN
Salem, Virginia
BSA – Animal Science and Dairy Science, ’17

You can ensure that future students have experiential learning opportunities, like education abroad, internships, research and leadership programs, by giving to CAES today.

Give online at caes.uga.edu/alumni/gifts or by mailing in the attached envelope.
THE TYSON FAMILY

THREE GENERATIONS OF THE TYSON FAMILY HAVE DEEP ROOTS IN GEORGIA AGRICULTURE

Willie Tyson (BSAE – Agricultural Engineering, ’57) may be the longest-serving University of Georgia College of Agricultural and Environmental Sciences recruiter not employed by the college. He grew up on a Tifton, Georgia, farm and was living at home, attending Abraham Baldwin Agricultural College, when he found out about the university’s agricultural engineering degree. He then transferred into and, later, graduated from CAES. He devoted his entire career to the U.S. Air Force, spending most of his years in personnel management. He says his degree served him well there. His CAES recruitment efforts began in the Air Force.

“I convinced the Air Force there are lots of good people coming out of the ag college, that the best engineers coming out of Georgia were in Athens,” he said.

There are a number of agricultural engineers working at Robins Air Force Base in Warner Robins, Georgia, as a result of Tyson’s efforts. He never pushed his children into CAES, they said, but Tyson’s influence did extend to his family. He first learned of his son, Tony Tyson’s (BSAE – Agricultural Engineering, ’79; MS – Agricultural Engineering, ’80) interest in pursuing a CAES degree when he found out about the university’s irrigation agriculture in Georgia,” he said.

Tony Tyson went on to work for the college, first as a student worker, then graduate assistant, and then nearly 40 years working in UGA Cooperative Extension, including one year at the Tifton Coastal Plain Station. “It was my pleasure to be involved in the early days of irrigated agriculture in Georgia,” he said.

Tony Tyson’s younger sister, Jody (Tyson) Strickland (BSAE – Agricultural Engineering, ’86), came to CAES undeclared as to her major. She knew her father and brother had good experiences in their major, but she was interested in all aspects of agriculture. Then Willie Tyson shared an article with her.

“My father read an article that Dr. Robert Brown, who was the head of ag engineering at the time, had written in the Market Bulletin about careers in ag engineering, how good they were and how they were needed,” Strickland said. “My dad showed me that article and encouraged me. I was strong in math and science and I have always had a passion for agriculture, so I decided to major in ag engineering.”

Strickland began her career working as an engineer for Proctor and Gamble Cellulose, which she later bought by Weyerhaeuser. She served in many leadership positions with the company, and says her education opened many doors. She is currently the vice president of F&W Forestry Services.

“Having my mom, dad, uncle, granddad and siblings go to the college, to UGA, was a tradition I wanted to keep.”

— SAMANTHA STRICKLAND

Jody Strickland married another UGA agricultural engineer, Edmund Strickland (BSAE – Agricultural Engineering, ’84), Tony Tyson and Jody Strickland’s sister, Betsy (Tyson) Flanders, is married to Reuben Flanders (BSA – Animal Science, ’81), another CAES alumnus. He earned a veterinary degree from UGA in 1984.

Tony Tyson’s son, Nathan Tyson (BSA – Agribusiness, ’04; MPPFM – Plant Protection and Pest Management, ’10), now a regional account manager for CNL, an agricultural retailer supplier, attended the college, as did all three of Jody Strickland’s children: Tyson Strickland (BSA – Animal Science, ’11), who took part in the college’s Food Animal Veterinary Incentive Program, graduated from UGA with a veterinary degree in 2016 and now works as a cattle veterinarian; Morgan (Strickland) Grizzle (BSA – Agribusiness, ’13), who went on to get a master’s degree from UGA in forestry resources and now works at AgGeorgia Farm Credit; and Samantha Strickland, an agribusiness and food industry marketing and administration double major who graduated in May with plans to go into food safety. Tyson Strickland’s wife, Anna (McIntyre) Strickland (BSA – Agricultural Communication, ’12; MAL – Master of Agricultural Leadership, ’17), the UGA Archway Professional in Hart County, is also a CAES graduate.

“Having my mom, dad, uncle, granddad and siblings go to the college, to UGA, was a tradition I wanted to keep.”

— SAMANTHA STRICKLAND

Another tradition, Tony Tyson, Reuben Flanders, Jody Strickland, Tyson Strickland, Anna Strickland, Morgan Grizzle and Samantha Strickland are all members of the honor society, AGHON.

Continued on page 31
I f not for another University of Georgia College of Agricultural and Environmental Sciences alumnus, Agriculture Commissioner of Georgia Gary Black’s (BSA – Agricultural Economics, ’60) career would look different today.

In fall 1979, Randy Nuckolls (BSA – Agricultural Economics, ‘74) asked Black what he was doing next quarter. Black planned to student teach, but Nuckolls offered him a Washington, D.C., internship.

Nuckolls was the legislative director for then-Sen. Herman Talmadge and persuaded Black to go to Washington to intern for the Senate Committee on Agriculture, Nutrition, and Forestry. Talmadge was the chairman of that committee.

“It had the opportunity to go to Washington, D.C., to work for Sen. Herman Talmadge after I finished law school at UGA primarily because of my involvement with South Campus student leadership organizations such as Ag Hill Council, the college 4-H club and ACHON,” Nuckolls said. “I knew how beneficial my experience on Capitol Hill was and I wanted other outstanding students from the College of Agricultural and Environmental Sciences to have the same opportunity, so I reached out to Gary about coming to D.C. to intern in our office.”

This internship changed the path of Black’s career.

“There’s no doubt that experience in the winter of 1980 changed my course toward policy and politics more, so that’s one of the reasons I never taught ag,” Black said.

Black tried to glean as much as he could from professors and administrators.

“I would never be able to put a value on express enough appreciation for literally thousands of hours that I spent with Dick Knowles (the CAES associate dean for instruction), Tom Frasier (an assistant in the academic affairs office) and Bob Wheeler (later the associate dean for instruction),” he said. “They took interest in every student that came their way. They were active in Ag Hill Council. It was just the benefit of being around wise people and, if we were wise, we would listen. In my view, they were Rhodes scholars when it came to life skills.”

After college, Black began his career in 1980 with Georgia Farm Bureau, where he supervised the Young Farmer Program for leadership development, then was assistant director of field services.

“Toward the beginning of his time at Farm Bureau, he dated and later married Lydia Black, née Beavers,” Gary Black said. “We were buddies and fortunate to run in the same pack in FFA and 4-H,” Gary Black said. “We had a strong group of friends. But it wasn’t until after we both left the campus that we started dating.”

Lydia Black was a UGA Cooperative Extension home economist in Coweta County, Georgia, from 1981 to 1983, after graduating from UGA with a degree in home economics. Then she moved to Macon, Georgia, to be the Bibb County home economist for three more years.

She followed in the footsteps of her mother, Louise (Kemp) Beavers, who was an Extension home demonstration agent in Cherokee County, Georgia, for two years after graduating from UGA in 1952.

Louise Beavers was active in Ag Hill Council during her time at the university, as were Lydia Black, Gary Black and their children, Ward Black (BSA – Agricultural and Applied Economics, ’99; MS – Agricultural and Applied Economics, ’11) and Caroline (Black) Lewallen (BSA – Agricultural Education, ’11).

In 1989, Gary Black was selected as the president of the Georgia Agribusiness Council. He served in that role for 21 years, until he was elected Georgia’s commissioner of agriculture in 2010.

After leaving Extension, Lydia Black operated a drapery business for 14 years, taught science at Commerce High School for three years, then family and consumer sciences at Jackson County Comprehensive High School for 11 years.

They raised their children, as well as beef cattle, on their Commerce, Georgia, 72-acre farm, where they still live now. Gary Black’s father bought the farm in 1969.

“We grew up attending South Campus Tailgate and calling the Dawgs,” Lewallen said.

“Once the event was underway, I would go to Washington to intern for the UGA College of Family and Consumer Sciences alumni with whom they had lost touch. “We only intended to have it for a few years, and it ended up lasting over 20,” she said. “Every time I would go, I would find alumni and friends I hadn’t seen in years.”

“Athens became a special place, but my parents didn’t force UGA on me,” said Lewallen. “When I chose a career path in agriculture, a degree from UGA became very important to me.”

Ward Black attended his first CAES alumni meeting with his father when he was about 6 months old, and commencement at a year old. Growing up, he and Lewallen were part of 4-H and FFA. Each sibling continued their activities in college, including as CAES Ambassadors.

During college, Ward Black interned in D.C. and worked for the UGA Center for Agribusiness and Economic Development (CAED), the economic development and outreach partner of the college’s agricultural and applied economics department, for two years. He used part of that time to work on research for his master’s degree and to gain some insight on how the college helps the food industry.

“The applied stuff I really enjoyed,” he said. “They (CAED) would be the ones to help people trying to get into the food business who needed the expertise of the university to help them figure it out. Seeing stuff like Flavor of Georgia, that’s what opens so many doors for people.”

Those experiences, coupled with a family background in Extension, demonstrated to Ward Black the ways in which the university serves the public.

He now works as a category manager and buyer for Sherwood Foods in Atlanta, dealing with meat sales to grocery stores. His knowledge from meat science classes and 4-H cattle shows and livestock judging immediately came in handy.

“When I first started doing this job, I knew what my fellow employees were talking about,” Ward Black said. “Due to 4-H and classes at UGA, I could put technical agricultural experiences with that business side from the classroom and I felt prepared on day one.”

Continued on page 31

A Chloewen, from top of page: Ward Black, Agriculture Commissioner of Georgia Gary Black, Lydia Black, Caroline (Black) Lewallen and Kyle Lewallen are pictured outside UGA’s Center Hall. Ward Black accepts a CAES Reserve Association Freshman Scholarship in 2005. Caroline Lewallen and Ward Black pose for a photo at a football game in 2015. Caroline Lewallen (later Black) is from Banks County, Georgia. Gary Black is pictured at the Sunbelt Ag Expo in Macon, Georgia, Louise Beavers, mother of Lydia Black, teaches sewing as an Extension home demonstration agent.

THE BLACK FAMILY’S DEDICATION TO SERVICE WAS CULTIVATED ON SOUTH CAMPUS

GEORGIAN OF THE YEAR

Gary Black’s commitment to Georgia agriculture spans nearly four decades of advocating for farmers, businessmen and agricultural education across the state. This, plus his leadership in strengthening the state’s largest economic sector and the Georgia Grown marketing program, were why Georgia Trend magazine named him the 2017 Georgian of the Year.
Megan Morris was a senior when she introduced her middle sister, Emily (Howard) Watson (BSA – Agribusiness, ’02), to student life at the university and involvement in CAES. Watson participated in Ag Hill Council, Block and Bridle Club, Ag Econ Club and AGREON, acted as a CAES Ambassador like her older sister, and was chosen for a CAES Congressional Agricultural Fellowship. She interned in the office of then-Rep. Jack Kingston. After graduating early, she served as a legislative aide in the U.S. House of Representatives.

“My education from CAES was well rounded, and I felt capable of accepting the challenges that I faced as I began my career in D.C.,” Watson said. Emily Watson met her future husband, Sam Watson (BSA – Agricultural Education, ’02), while on campus. They live in Colquitt County, Georgia, where they’re involved in vegetable and beef cattle production and are raising their two daughters, who are already showing livestock through 4-H. She is the director of marketing at Colquitt Regional Medical Center in Moultrie, Georgia, and a member of the Georgia Agriculture Expo Authority. Rep. Sam Watson is a member of the Georgia House of Representatives and the chairman of the Legislative Rural Caucus.

The youngest daughter of the Howards, Marilynn (Howard) Hopkins (BSA – Agribusiness, ’05), remembers hearing about her family’s experiences in CAES and followed suit. During the summers after her junior and senior years of high school, Hopkins interned with CAES through the Young Scholars Program, an internship that also took her to rural Costa Rica.

“Our first date was at the Georgia Young Farmers Association convention,” Marilynn Hopkins said. She recalled her father happily approving the date locale.

Both Chris and Marilynn Hopkins were involved in the Agronomy and Ag Econ clubs, and other organizations. Chris Hopkins said the academic coursework along with the agricultural clubs shaped Marilynn Hopkins and him into who they are now.

“Students have no idea what kind of knowledge they can gain even if all they want to do is return home and farm.” – CHRISTOPHER HOPKINS

“The Black Family

Continued from page 29
Lewallen also interned in Washington, like her father and brother. She worked for then-Rep. Jack Kingston, while Ward Black worked for then-Rep. Saxby Chambliss.

“After student teaching, I participated in the (Congressional) Ag Fellowship, which opened my eyes to my passion for educating consumers,” she said.

Agriculture

Continued from page 27
Samantha Strickland recalls her mother’s time as CAES Alumni Association president from 2001 to 2002 — her grandfather served as president of the association from 1991 to 1992 — and going to association banquets and events with her whole family. “There are pictures of me there in my baby carri,” she said.

“CAES has been a family to our family,” Jody Strickland said. “We have been very active and involved in the alumni association. It’s a chance for us to reconnect as a family and to our friends and family in CAES.”

Willie Tyson continues to recruit students to CAES. He serves on the board of his county Farm Bureau and still encourages students at local schools to consider careers in agriculture.

And he hopes that he’s set an example. “My legacy of not only representing the college, but supporting it — also the legacy his children leave — is not lost on the late Tyson–Strickland generation of CAES graduates.”

“This college has given me more than an education,” Samantha Strickland said. “Once I get out and on my feet, I’m going to give back.”

“You can see from the way we are involved, we do love this college and the university,” Tory Tyson said. “We try to support it the best we can. Those of us who came here are proud of the education we have.” - Kathryn Schiabor

THE TUSSON FAMILY
D.W. BROOKS LECTURE AND AWARDS

Thurow addresses global epidemic of malnutrition

One in 4 children will suffer severe developmental issues due to hunger. This number is overwhelming, but nothing will change if the problem is continually ignored.

That was the message that Roger Thurow, veteran foreign correspondent and global food and agriculture senior fellow at the Chicago Council on Global Affairs, shared with more than 200 people gathered at the University of Georgia College of Agricultural and Environmental Sciences D.W. Brooks Lecture last fall.

Thurow has reported on the causes and effects of hunger in the U.S. and developing world since covering the 2003 famine in Ethiopia for the Wall Street Journal. His latest book on the subject, “The First 1,000 Days: A Crucial Time for Mothers and Children,” delves into the importance of proper nutrition in the womb and in the first two years of life, when the blueprint for a child’s cognitive and physical development is being formed.

Worldwide, 25 percent of children are inadequately nourished during this crucial developmental period and become stunted, meaning that their cognitive and physical development will be limited for life because of this early period of malnutrition and hunger.

“A lost chance at greatness for one is a lost chance at greatness for all,” Thurow told the audience of mainly agricultural scientists, agricultural and journalism students. “That’s why everything you do here is so important and so vital to this great challenge that we’re facing — ending hunger, ending malnutrition and ending stunting.”

Thurow challenged the audience not to turn away from what can seem like a background condition for the world’s poor. Reshaping agricultural policy, providing agricultural and health education to smallholder farmers, and developing new crop varieties with an eye for both nutrition and yield will be key for meeting the United Nations’ goal of ending malnutrition by 2030, he said.

In addition to Thurow’s lecture, CAES Dean Sam Purdie recognized the winners of this year’s D.W. Brooks Faculty Awards for Excellence, D.W. Brooks Diversity Awards, Outstanding Academic Adviser Awards and CAES Staff Awards.

“Working on developing country crops can be a struggle because these crops have traditionally received very little attention from funding agencies. On the flip side, because very little breeding and research have been done with these crops, they are locally important but largely unsearched, could create a more secure food supply. Millions of people rely on finger millet for the bulk of their daily calories. Katrien Devos, a molecular geneticist at the University of Georgia, is hoping that a recent $1.8 million grant from the National Science Foundation (NSF) will lay the groundwork to make the crop more productive and disease resistant.

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When University of Georgia plant geneticist Andrew Paterson began searching for lines of sorghum that might survive in some of the most parched places in the world, he didn’t plant trials in the desert.

He started by researching plants that could survive a winter in Georgia.

“We don’t see a lot of correlation between surviving cold and surviving drought,” Paterson said.

When sorghum that could withstand a Georgia winter was planted half a world away, the results were stunning — 48 percent survived eight months without rain in Mali.

Paterson, a Regents’ Professor in UGA’s College of Agricultural and Environmental Sciences, heads up the Feed the Future Innovation Laboratory for Climate-Resilient Sorghum. The $4.98 million U.S. agency for International Development Feed the Future Project is aimed at creating sorghum that can survive extreme drought and appeal to those who eat the cereal as part of their traditional diet.

Sorghum — a crop sometimes called the “camel of cereals” because of its ability to withstand drought — is a native plant and traditional staple crop in some African countries where climate change is exacerbating food insecurity, so providing farmers with an even more drought-resistant sorghum could give them a crop to count on, even in the driest years.

“Sorghum is an important food in parts of Africa, where some people may receive 50 percent of their daily calories from it,” Paterson said.

In its third year, the climate-resilient sorghum project has made progress in its mission to use genomics tools to create harder varieties of the grain.

The work started in Georgia when Paterson began to look for sorghum lines that could grow perennially.

Like most cereal grains, sorghum is an annual, producing seeds and dying at the end of each growing season, only to start again from seeds in the next season. This requires farmers to till and replant each year, disturbing the soil each time. Minimizing that soil disruption can cut erosion and keep topsoil in place.

Growing trials in Georgia and coordinating with Stan Cox of The Land Institute in Kansas, Paterson started to see which lines of sorghum could survive the cold of winter, a first step to seeing which lines might live weeks without rain.

“We had many genotypes that could overwinter in Georgia and even a few that could overwinter in Kansas,” he said.

A student working with Paterson and Cox, Wenqian Kong, chose about 100 lines that had favorable yields and other properties, and a collaborator in Mali, Eva Weltzien with the International Crops Research Institute for the Semi-Arid Tropics, took over.

He planted the lines about June, and they went through their normal growing season. Then, they had an eight- to nine-month period with absolutely no rainfall. About 48 percent of the lines had some survival, Paterson said.

Now, Paterson and colleagues are looking for diagnostic DNA markers in those survivors that might help them select for the resiliency trait without enduring another eight- to nine-month dry season.

The ability to survive both cold and drought is connected to the plant’s ability to make rhizomes, underground shoots that may seem like roots, but are actually stems that can store energy for the plant and grow into an above-ground stem.

It’s ability to grow rhizomes led Paterson to another plant that might lend some of its resiliency to sorghum: johnsongrass.

Considered by farmers and gardeners to be a noxious weed, johnsongrass is prolific at growing rhizomes, spreading itself into fields, gardens and pastures throughout the U.S. Looking to give a small portion of that ability to sorghum, Paterson used backcrossing, a traditional breeding process that repeatedly introduces a desired trait into a cross between two plants.

“We made a backcross to sorghum, so the progeny are 75 percent sorghum, 25 percent johnsongrass,” he said.

The progeny flowered at the wrong time for Africa, but they provided the concept that the johnsongrass trait could be transferred into sorghum.

The discovery couldn’t come at a better time. The countries of sub-Saharan Africa — where sorghum is a traditional crop — are some of the most vulnerable in the world to climate change. Drought has always been a concern, but now prolonged and extreme drought has become the worry. In 2015, Ethiopia was gripped in a drought so intense that Paterson’s partners there couldn’t test the new varieties’ drought tolerance.

“They had no irrigation, so they were dependent on rainfall that they just weren’t getting,” he said.

In 2016, Ethiopia received more rain and the experiment is going well. Paterson notes that it is a challenge to “study drought in certain places because drought has gotten so bad that even sorghum isn’t going to make it.”

By 2015, plant breeders in Mali, Ethiopia and elsewhere in Africa will have adapted lines of sorghum based on their local varieties, but bred with new mechanisms of drought resiliency.

“That will be the biggest single deliverable of the project,” Paterson said.

“It is also important that we were able to get the perennial lines through both cold seasons and dry seasons. Our African partners will continue to work toward creating perennial lines that can get multiple crops from a single planting.”

Paterson, who also heads UGA’s Plant Genome Mapping Laboratory in the Center for Applied Genetic Technologies, started working with sorghum 25 years ago.

“Africa has a relatively small genome, which was useful for genomics studies. But it has some interesting features, including climate resilience,” he said.

“Drought tolerance is only going to become more important over time.”

— Allison Floyd

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**Millet Research**

Continued from page 31

High-yielding crops such as maize were once considered the key to prosperity in the developing world, but the abandonment of traditional subsistence crops for maize led to food shortages in many regions.

The recombination of landrace varieties of millet in eastern African villages improved food security in those villages, but yields are still very low. Hybridization-based breeding of finger millet in eastern Africa only started about two decades ago. Very little research has been done on breeding disease-resistant varieties of millet and best production practices, Devos said.

The next step in developing food security in eastern Africa is to improve the yields of drought-tolerant grains, she said. Blast fungal disease severely limits the amount of millet that farmers can expect to produce from a single acre. In extreme cases, it can reduce yields by 80 percent, and it’s a major obstacle to improving food security in areas where millet is a staple.

To that end, Devos’ team, including Associate Professor Chang Hyun Kang of the plant biology department, is building on research funded by the biotechnology nonprofit Bio- Innovate Africa and the African Orphan Crops Consortium (AOCC).

The Bio-Innovate Africa and AOCC teams, of which Devos is a member, initiated sequencing the genome of finger millet, which has proven to be large and complex. Funding through NSF’s BREAD Program will allow use of long-read sequencing technologies to generate a reference—quality sequence of the finger millet genome. Devos’ lab at UGA has already generated two genetic maps of some 5,000 markers each that provide a framework that geneticists can use to anchor the sequence of millet’s genome.

“(Existing) initiatives provide a start, but need to be complemented by additional research to fully achieve the objectives of developing the genetic and genomic tools and knowledge needed to domesticate finger millet for blast and other traits, and help lift smallholder farmers out of poverty,” Devos wrote in a proposal for funding.

During this effort, they also hope to determine the sections of the genome responsible for resistance or susceptibility to blast, so that resistance can be bred into future varieties of millet.

— Merritt Melancon
Combating curculio in black-eyed pea crops

black-eyed peas have long been a symbol of New Year’s luck in the South, but black-eyed pea farmers aren’t feeling that fortunate. The legume has been part of a boom-and-bust cycle for the past three decades thanks to a pod-feeding weevil, the cowpea curculio, that has evaded farmers’ best pest control practices. This year is going to be a bust due to high pest pressure, said David Riley, a University of Georgia College of Agricultural and Environmental Sciences professor of entomology. “The crop is really under severe pest pressure,” Riley said. “Some years the crop is good, but the reason this has reached a critical point this year is because the last few available insecticides that we were using to control this pest have stopped working.”

The pest pressure was so bad last year that the largest pea grower in Georgia’s largest pea-growing county, Colquitt County, sold his pea-shelling equipment at the end of the season, said Jenna Brock, a UGA Cooperative Extension agent in Colquitt County. “They were our main pea grower, with hundreds of acres, and he’s just gotten out of it,” Brock said. “He still grows other vegetables — spinach and some corn — but peas that were packaged and sold frozen in the grocery store have been a big part of his business.”

Colquitt County went from growing almost 1,800 acres of Southern peas in 2015 to less than 500 acres in 2016, Brock said. “If we can’t solve this problem, Southern peas will never come back to Georgia in a big way,” Riley said.

A rich history

At the turn of the 20th century, Southern peas — the family of legumes including black-eyed peas, purple-hulled peas and crowder peas — covered close to 6 million acres of the Southeast. They were the primary legume grown during that period and used for livestock feed until World War II, when the soybean took over.

What was left in the Southeast was the close to 30,000 acres of cowpeas that make their way to our local supermarkets each year. Southern peas started facing pressure from the cowpea curculio in Georgia in 1873, and by the 1910s, the pest was widespread throughout the South. By the 1980s, pyrethroid insecticides were the most effective control, but even that group of insecticides can’t control the pest. Populations of the cowpea curculio overwinter readily, and after a few years of building up populations, the pest pressure was so bad last year that the largest pea grower in Georgia’s largest pea-growing county, Colquitt County, sold his pea-shelling equipment at the end of the season, said Jenna Brock, a UGA Cooperative Extension agent in Colquitt County. “They were our main pea grower, with hundreds of acres, and he’s just gotten out of it,” Brock said. “He still grows other vegetables — spinach and some corn — but peas that were packaged and sold frozen in the grocery store have been a big part of his business.”

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Solutions to the problem

Research at UGA is focused on ways to reduce the impact of the overwintering curculio population in the Southeast. Riley believes that the solution to the pea problem will involve developing a trap crop that can be planted in the spring to trick the curculios into laying their eggs early and in the wrong crop. There are also efforts underway to breed weed-resistant Southern peas. Hitting on resistance would have a larger impact not only on south Georgia pea farmers, but on families around the world who rely on Southern pea varieties as dietary staples. Across Africa, farmers grow about 26 million acres of Southern pea varieties.

If you don’t have the curculio, it becomes one of the easiest, cheapest crops to grow,” Riley said. “It naturally fixes its own nitrogen in the soil, and most of the disease and other insect problems are easy to manage. They’re the most drought-tolerant legume you can grow. It’s got all of the pluses and this one, big minus. If we would just take care of this curculio, we could have large acreage again because it is truly a very utilitarian crop.”

• Merritt Melancon

Remote soil-moisture sensors and smart irrigation systems have the potential to revolutionize the way that farmers, landscapers and homeowners use water. The technology is being tested as part of Lafian’s startup, Reservoir, a business he launched in early 2016 and plans to grow after his graduation in May. He moved to Athens, Georgia, to work as a research assistant in the UGA College of Engineering in 2014, after receiving his associate’s degree from Tompkins Cortland Community College in Dryden, New York, and completing a National Science Foundation-funded oceanography internship. He began pursuing a bachelor’s degree in horticulture in fall 2015.

“When I started this project, I wanted to create an accurate and affordable way for researchers to measure plant-available water in soil,” Lafian said. Continued on page 39

Student builds smart irrigation startup

Riley, a University of Georgia College of Agricultural and Environmental Sciences professor of entomology.

ografía de imagen | Gina Paulino
Student studies Arctic taiga

University of Georgia student Charles Orgbon, an environmental economics and management major in the College of Agricultural and Environmental Sciences, has been working to convince people of the reality of climate change since he was 12 years old. But last fall, while knee-deep in a Canadian bog of melted permafrost and wearing shin-high boots, the impacts of climate change started to crystallize for him. “In the coming decades, I think it will be necessary to have greater scientific competency around those (environmental) issues, and this trip challenged my understanding of climate science and global issues,” Orgbon said.

Orgbon was working with a group, the Earthwatch Institute, to monitor expansion of the taiga and thawing of the tundra. “Charles’ experience in the Arctic exposed him to actual biological research, the tediousness of the research and the need for data over time,” Centner said about the project. “It gave him a new appreciation for the organization and carrying out research, including the depth required for making an intellectual contribution.”

Orgbon’s Arctic adventure gave him a glimpse into the ways in which policies impact the Arctic and painted a clearer picture of why international climate negotiations can be so fraught. “My counting seedlings in the tundra relates to a long deliberation that scientists have had about what a tree is, but what I’m interested in is how data are collected on the international scene and how that influences policy,” Orgbon said. “And can Arctic nations come together to make meaningful change around Arctic issues? … The motives of all of the countries are not very aligned — the political will is divergent. All of these countries have different approaches to environmental regulation.”

No stranger to environmental science and activism, Orgbon started Greening Forward, a nonprofit that trains people to advocate for environmental issues and provides funding for educational programming, when he was a 12-year-old student in Gwinnett County, Georgia. He was still running that organization when he came to UGA as part of the CAES Young Scholars Program in 2013. His job that summer was to crush Vidalia onions so that they could be tested for their sweetness and sulfur content at UGA Cooperative Extension’s Agricultural and Environmental Services Laboratories.

Later he enrolled at the university, and during that time he’s studied Spanish in Spain, volunteered with the UGA Office of Diversity Affairs and organized community forums that introduce students to African-American pioneers who are UGA alumni. Through an Erasmus+ grant, Orgbon will spend six months this year in an exchange with Universidad Publica de Navarra, studying Spanish and taking courses related to his major before traveling to Colombia. He will graduate in December and, in January 2018, will start his position as a sustainability consultant with Deloitte in San Francisco.

Continued from page 27

“Fortunately, it has expanded into an opportunity to reduce water usage, pollution and expenses for other customers as well.” Lafian has applied for a patent on his sensor and plans to sell it to landscapers, farmers, golf course superintendents, scientists and homeowners. “Jesse’s sensor works fundamentally differently from the sensors I have used in the past,” said Marc van Iersel, a professor of horticulture at UGA, smart-irrigation pioneer and Lafian’s adviser. “The soil-moisture sensors I have been using measure how much water is in the soil, but not how tightly that water is held in the soil. Some — or much, depending on soil type — of the water in the soil cannot be extracted by plants because the soil holds it too tightly. Jesse’s sensor measures exactly that — how tightly the water is bound to the soil. That tells us whether the plants can actually use that water.”

Lafian thought of creating the tensiometer in fall 2015 while taking a “Soils and Hydrology” course. In spring 2016 he turned his idea into a business, and in the fall, he participated in the Idea Accelerator program run by Thinc at UGA and Four Athens, a local technology incubator. “During the Accelerator program, I interviewed 45 potential customers, and I got the best response from landscapers who install and warranty trees,” Lafian said. “Besides improving survival of trees, landscapers need a way to check soil moisture remotely so they can reduce travel to job sites. Reservoir is currently working to integrate our tensiometer with an app and a website to meet this need.”

Lafian is using the grants he secured to develop and test his technology so that field trials can begin. Several institutions at UGA have supported his work, including the Office of Sustainability, the Center for Undergraduate Research Opportunities, the Terry College of Business and CAES through its newly launched FABricate entrepreneurship program. Lafian won the FABricate grand prize of $1,000 in March. In April, Lafian won $10,000 through UGA’s Next Top Entrepreneur, a UGA Entrepreneurship Program contest.

Lafian has hired two UGA students in engineering to fine-tune the tensiometer’s electronics and website and app. He has collaborated with the UGA Instrument Shop to build several prototypes to be tested on UGA’s Athens campus. • Merritt Melancon

Trip to Canadian Arctic connects policy, reality for environmental economics and management major Charles Orgbon

continued...
DEPARTMENT OF AGRICULTURAL LEADERSHIP, EDUCATION AND COMMUNICATION

Steve Nickerson, professor and facilitation center lead, was named the University of Georgia associate vice president for instruction on October 16. In his position, he will "design and implement new instructional initiatives and improve levels of support for students," according to a university-wide press release. Nickerson started at UGA as a College of Agricultural and Environmental Sciences faculty member in 1989.

DEPARTMENT OF ENTOMOLOGY

David Buntin, professor, has been chosen to receive the Southern Region IPM Center’s 2017 Friends of IPM Lifetime Achievement Award. This award is given to individuals who recognize their history of achievement and involvement in the adoption of integrated pest management (IPM). Buntin has made outstanding contributions to IPM implementation in the Southern region and has been a key leader in the IPM community for several decades.

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

Ronald B. Pegg, professor, was the recipient of the 2016 Institute of Food Technologists (IFT) William V. Crockett Award for Excellence in Teaching. Pegg was honored at the IFT Annual Meeting held in Chicago in June 2016.

DEPARTMENT OF PLANT PATHOLOGY

Ron Giltinis, professor, received the Distinguished Service Award from the National Onion Association (NOA) at the NOA’s 7th Allium Research Conference in Savannah, Georgia, in December 2016. The award recognizes Giltinis’ long-standing efforts to improve the onion industry in Georgia and beyond by communicating the ecology, epidemiology, pathology and biology management of bacterial diseases of onions.

DEPARTMENT OF POULTRY SCIENCE

Woo Yoon Kim, assistant professor, was named a U.S. Department of Agriculture National Institute of Food and Agriculture grant beneficiary. His research focuses on chicken vaccination strategies involving nutrients and beta-defensin molecules in the diet, resulting in bone, muscle and fat formation in chickens. His primary research focus is to optimize bone and poultry development and reduce excess fat accumulation.

DEPARTMENT OF ANIMAL AND DAIRY SCIENCE

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DEPARTMENT OF HORTICULTURE

Matthew Chappell, associate professor and department head, and Marin Brewer, assistant professor, co-authored a total of six chapters and 120 pages on blueberries and cranberries in the 2016 edition of the “Compendium of Blueberry, Cranberry, and Lingonberry Diseases and Pests,” published by the American Phytopathological Society in early 2017. This compendium is a resource for identifying, managing and understanding the biology of blueberry pests and is used by growers, advisors and consultants worldwide.

Marin Brewer, assistant professor, was one of three University of Georgia faculty members named 2016-2017 Public Service and Outreach Fellows. Brewer is collaborating with the State Botanical Garden of Georgia, the University of the South’s public service and outreach units, to develop programs for the public focused on mushroom and fungi identification in the region. The collaboration is also conducting a pilot study on the effects of Chinese privet removal on fungal diversity.

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University of Georgia Cooperative Extension weed scientist Stanley Culpepper is one of 19 scientists recently selected to serve on the Environmental Protection Agency’s (EPA) Science Advisory Board. Culpepper will provide advice on matters that impact farming and other agriculture-related industries.

“My goal in helping our amazing farmers feed and clothe the world will not change with this new appointment,” Culpepper said. “In fact, this position will foster an even stronger relationship with the EPA, enhancing our ability to help them in the use of sound science and practical experience when making decisions that impact agriculture.”

He views his appointment as a way to improve the agricultural community’s communication with the EPA, which will “benefit everyone,” he said, and help the EPA better understand potential issues faced by American farmers.

Culpepper joined Extension on the UGA Tifton campus in 1999. During his award-winning career, he has been instrumental in finding ways to combat glyphosate-resistant Palmer amaranth, a weed that seriously threatens Georgia’s cotton production, and finding Georgia’s vegetable industry alternatives to the pesticide, methyl bromide. Culpepper has also been in the field, providing educational information to growers on the importance of targeted pesticide applications.

Perhaps nothing is more valuable to Culpepper than his childhood growing up on a biodynamic farm in North Carolina. He knows what it takes to be a successful farmer and hopes to provide a different perspective to the EPA’s Science Advisory Board.

“Hopefully, I can take that family-farm perspective and help those who are a little unfamiliar with our way of life better understand the complexities and difficulties farmers face each day,” Culpepper said. “In my experience as a weed scientist, working with the EPA to address significant issues facing our farmers has been almost as gratifying — a little painful at times, but still positive for agriculture, for me and I think even the EPA. I look forward to doing an even better job in the future.”

Clint Thompson
What is your legacy? How will your story be told? The University of Georgia College of Agricultural and Environmental Sciences plays a role each day in establishing a lasting legacy not only in our state, but around the world, through research, academics and Extension. From mapping the genomes of peanuts and other crops to establishing protocols for fighting harmful pathogens that could impact our food supply, the research done at CAES is life-changing. Faculty and staff enable students to determine their own outcomes to success in their chosen majors. These students are following our paths and experiencing incredible learning opportunities beyond the traditional classroom environment. UGA Cooperative Extension spreads CAES’s research-based knowledge around the state. From working with our youth to connecting with growers, Extension furthers the CAES legacy every day.

This is my last note as president of the CAES Alumni Association. It has been a great honor to work with you, and I am proud of the board’s legacy. Through the board’s leadership, the college has awarded six scholarships, revised the association’s bylaws and created a strategic plan to guide the future of the association during the last year of my presidency.

Would you like to become part of the alumni association and add a new chapter to your story? Think about how you can share your time, talent and treasure with the college and please contact our alumni director, Suzanne Griffith, at 706-542-5246, or asg@uga.edu.

1990s

Dean Long (BSA – Agricultural, ’50) was a student at Abraham Baldwin Agricultural College (ABAC) in Tifton, Georgia, from 1945 until 1948. His college days were interrupted by his U.S. Army Air Corps service, and it took him four years to obtain two years of college credit. He has produced a short book, “Don’s Memories of ABAC Wayback.”

Tommy Cutten (BSA – Agricultural Economics, ’50) is a salesperson for Tradewest Martin’s. He resides in Winter Park, Florida.

Mary Neide (BSA – Agriculture, ’57) is a food safety inspector officer for the U.S. Department of Agriculture. Needle resides in Portland, Connecticut.

Robert Whitaker (BSA – Dairy Science, ’54; MS – Dairy Science, ’58) was recognized in 2016 by the Boy Scouts of America for 50 years of service. He served as president in his AABP and NOWA organizations. As a board member for the Shepherd Center Retirement Group, is involved in the National Rural and Retired Federal Employees Association and the United Methodist Church. He has 35 years of Masonic activity and 15 years of driving for Meals on Wheels under Vets. Whitaker retired in 1991 as officer in charge for the National Reports Office, Poultry Market News, U.S. Department of Agriculture in Kansas City, Missouri; after 35 years of federal service.

1990s

Erie Ford (BSA – Agronomy, ’49) is part of the Georgia Farm Bureau and on the Georgia Agricultural Commodity Commission for Beef. The efficacy of his work at Fort Fords in Edison, Georgia, was documented in an article “Fertility and Versatility at Fort Fords,” in the January 2017 issue of Georgia Cattlemen magazine.

Nancy Longwood (BSA – Horticulture, ’75) works for the city of Dahlonega, Georgia’s Master Street Program. She retired from the Gwinnett County, Georgia, government after 25 years as a manager of long-range planning. Longwood resides in Buford, Georgia.

D.G. Pugh (BSA – Biological Science, ’75; MS – Dairy Science, ’78) is in the Western Veterinary Conference’s 2016 Food Animal Continuing Educator of the Year. Pugh is a professor of pathobiology at Auburn University’s College of Veterinary Medicine for the director of the four veterinary diagnostic laboratories in Alabama. He and his wife, Jane, also a UGA graduate, have a sheep farm in Wetumpka, Alabama.

Everett Williams (BSA – Dairy Science, ’75), a Morgan County, Georgia, dairy farmer, is the Georgia Farmer of the Year. Norman was the winner for the first time by Morgan County University of Georgia Cooperative Extension agent Lucy Ray. Williams was awarded the honor by Gov. Nathan Deal in March. Williams will represent the state at the Sunbelt Agricultural Expo in Macon, Georgia, in October when the Swisher Sweets/Sunbelt Expo Southeastern Farmer of the Year Award is presented.

Rick Hubert (BSA – Agricultural Economics, ’77; BSA – Agricultural Education, ’77) retired after 35 years of serving as the Georgia Farm Bureau’s 4th District field representative. He resides in Tifton, Georgia.

Justin Schmidt (Ph.D. – Entomology, ’77) recently published a book, “The Stink of the Wild,” to “inspire future scientists and readers of all stripes.” The book has received wide acclaim from ABC’s “Jimmy Kimmel Live.” WSFA’s “Science Friday” podcast and The New York Times. Schmidt resides in Tuscumbia, Alabama, and has been a research bisologist for 30 years.

Gary Parnoe (BSA – Agricultural Economics, ’79) serves as the performance engineer with General Motors. He resides in Royal Oak, Michigan.

1980s

Gary Black (BSA – Biological Science, ’80), agriculture commissioner of Georgia, was named the 2017 Georgia of the Year by Georgia Trend magazine.

John David Williams (BSA – Agricultural, ’84; BSA – Agricultural Extension, ’86) served eight years as chairman of the board of Antioch Christian Church in Winder, Georgia.

Another alumnus, Brent Marable (BSA – Horticulture, ’96; MLA – Agricultural Leadership, ’10), sustained him. Marable is the assistant director for plant licensing for Innovation Gateway at UGA.

Kevin Corrigan (BSA – Dairy Science, ’95) is a seasonal employee veterinarian. He resides in Ontario, Canada.

Jonathan Fischer (BSA – Poultry Science, ’92; MS – Poultry Science, ’94) is the vice president of food safety/quality at the Cargill agriculture supply chain. He resides in Flowery Branch, Georgia.

Samuel Beall (BSA – Agricultural Economics, ’85) is the president/CEO of the Bank of Dudley, Georgia, a position he has been in for 12 years. Previously, he worked for Farmers and Merchants Bank in Dublin for 35 years. Beall also manages his family’s land and timber-growing operation, small rental business and, with his wife, the former Katherine Gunoyer Porter, has operated Beall’s Christmas Tree Farm for the past 15 years. He is a member of Dublin First United Methodist Church and the Exchange Club, and stays active in civic events in and around Laurens and Macon counties.

Byron “Lamar” Smith (BSA – Agricultural Engineering, ’86) is a valuable child of the college. He is a key figure in agricultural growth. UGA Extension has employed him from October 1993 to May 2016.

LEAD

In 10 or 15 years when someone asks about a certain project, I’ll get to proudly say I had a small part in getting that done,” Lackey said.

Lackey has spent his time at the University of Georgia College of Agricultural and Environmental Sciences and been involved in the college’s Engineering Club was pivotal for him. He explained that the technical components of his degree, coupled with the interpersonal skills he gained, allowed him to grow as an engineer and as a leader.

“Don’t be afraid to start at the bottom, work your way up and continue to learn from all of your experiences,” he said. - April Bailey
Two-thousand miles

Ryan Kerr hikes AT from Georgia to Maine

Despite a calf injury and an aggressive black bear, not to mention time and mileage, alumnus Ryan Kerr (BSES – Environmental Economics and Management, ‘15) emerged victorious at Mt. Katahdin, Maine, the end of the Appalachian Trail and the conclusion of his thru-hike, on Sept. 22, 2016. Kerr, a Suwanee, Georgia, native who now samples and monitors groundwater and methane for Woodstock, Georgia-based EM Services, started his seven-month, 2,189.1-mile journey on Feb. 16, 2016, at Springer Mountain, Georgia. A lifelong dream, Kerr thought the time between graduation and starting his career provided the best opportunity to pursue the thru-hike. He was able to slowly acquire gear. A month before he left, he started using the stair machine at the gym, wearing his backpack with a 35-pound weight inside. A few months—about 900 miles—into his journey, Kerr injured his calf and was off the trail for three weeks. “It thought it was the end of my hike, but I didn’t want to give up,” he said.

Back on the trail, he encountered a juvenile black bear, scared it away, then crossed the mother bear. When she started running at a gait, making noises with her jaw and hissing, Kerr said he “stuck his ground” and talked to the bear while trying to remain calm. She took off only “a very long” 20 seconds. “That was the scariest moment of my life,” Kerr said.

Kerr found practical applications for his university of Georgia College of Agricultural and Environmental Sciences education during his thru-hike. Research skills paid off in his pre-hike study of terrain and weather patterns, and in his use of GPS to chart meal drops. Problem-solving skills and his knowledge of hydrology and basic geology helped him to find water sources not listed in the trail guide.

“I learned how to think outside the box at school,” Kerr said. “I learned stewardship and sustainability in the classroom, and I saw it applied on the trail.” - Kathryn Schillro

Megan (Multi) Green (BSA – Animal Science, ‘01)

The regional manager for Henry Schein Animal Health, a world-renowned, Fortune 500 company that distributes animal health products to veterinarians worldwide, Green started in the position in August 2016, and her region covers Georgia and South Carolina.

Cameron Trible (BSES – Environmental Economics and Management, ’14) was elected as a partner in the Barnes Law Group, ULC, a Monetta, Georgia, law firm headed by former Georgia Gov. Roy Barnes. Trible resides in Atlanta.

Carla (Moree) Wood (BSA – Agricultural Communication, ’04, MNA – Agricultural Leadership, ’16) is part of a team that won the Gold Award for Exhibits at the Association for Communication Excellence in Agriculture, Natural Resources and Life and Human Sciences’ 2016 program. The award recognized the University of Georgia’s Garnish Agricultural crops building display, which highlighted Georgia commodities. Wood and her husband, John, also a UGA graduate, are co-owners of Workville, Georgia-based More Wood Timber Company, Inc. Previously she was the director of conferencing and special events for the UGA College of Agricultural and Environmental Sciences.

Jason Norris (BSA – Agricultural Economics, ’97) was promoted to market president at First Community Bank of Tenifer, a division of Synovus Bank.

Health Baker (BSA – Animal Science, ’91) is a registered veterinary technician at the emergency department at Piedmont Athens Regional Medical Center in Georgia. He resides in Athens, Georgia.

Brent Dykes (BSA – Crop Science, ‘96) is a special projects manager for the Division of Family and Children Services. He resides in Athens, Georgia.

Brent Marable (BSA – Horticulture, ’96, MNA – Agricultural Leadership, ’13) succeeded alumnus John (David) Williams (BSA – Agriculture, ’86, MEX – Agricultural Extension, ’81) as chairman of the board of Antioch Christian Church in Walsingham, Georgia. Marable is the assistant director for plant licensing for Innovation Gateway at UGA.

Thomas “Tommy” Bass (BSA – Animal Science, ’97) is an associate Extension specialist at Montana State University focusing on livestock sustainability and environmental management. He is currently working part time on a doctorate, studying spatial and temporal optimization of Montana’s local beef-supply chain.

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CAES ALUMNI NAMED TO THE BULLDOG 100

Four UGA College of Agricultural and Environmental Sciences alumni were named to the UGA Alumni Association’s 2017 Bulldog 100 list of growing Alumni companies.

Ron Holt’s (BSA - Biological Science, ‘97) Two Maids & A Mop, out of Birmingham, Alabama, came in at No. 6 on the Bulldog 100 list.

The college received national recognition, and Holt was named to the University of Georgia Alumni Association’s “40 Under 40” Class of 2013 and the association’s 2014, 2015 and 2017 Bulldog 100 lists. Holt founded the college’s Holt Family Student Support Fund. It is an annual $2,500 scholarship to help cover the expenses of attending UGA for students from rural communities.

“Time at UGA was really a turning point for me and I wanted to provide someone else with an opportunity to have that same kind of experience,” Holt said. - April Bailey

Cultivating curiosity

Tim Griffeth steers young minds to agriculture through class

University of Georgia College of Agricultural and Environmental Sciences alumnus Tim Griffeth (MAL – Agricultural Leadership, ’01) believes there’s no more rewarding career than teaching agriculture.

“I always knew that I wanted to make a difference in young people’s lives over multiple generations, and I got to do that,” he said.

Griffeth is an agriculture teacher at North Oconee High School in Bogart, Georgia. He teaches three classes a day that may include basic agriculture, horticulture, wildlife management and nursery landscape. Griffeth also serves as the adviser for the school’s chapter of the National FFA Organization, which promotes agricultural education and leadership. He is responsible for overseeing students’ supervised agricultural experiences (SAE). Through SAE projects, students manage the campus’s foray plot, tend the livestock or spend time in the greenhouse, among other options. There are off-campus opportunities as well.

Griffeth’s students write plans for their SAEs that try to anticipate obstacles within those plans. “I tell them we’re trying to accomplish as opposed to telling them what to do,” Griffeth said.

Griffeth earned his bachelor’s degree in recreation and leisure studies administration, a program that is no longer offered at UGA. He was certified to be an agriculture educator through the Agricultural Leadership Master’s Program in CAES.

“Many of our graduates come from schools that have agriculture classes, but they didn’t get the same kind of advice from their teachers that I got. Many of these kids end up being in another field,” Griffeth said. “I always knew that I wanted to make a difference in young people’s lives over multiple generations, and I got to do that,” he said.

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Alumni luminaries
CAES announces Alumni Awards of Excellence and Young Alumni Achievement Award recipients

The University of Georgia College of Agricultural and Environmental Sciences and CAES Alumni Association recognized a former agriculture commissioner, bankers, a farmer and UGA Cooperative Extension leaders as part of its annual awards program. “These awards not only allow us to recognize the accomplishments of our fellow alumni, but also the ways in which CAES has contributed to our collective success,” said Elliott Marsh, president of the alumni association.

The alumni association recognized its 2016 award winners, as well as the 2016 Georgia Agricultural Hall of Fame inductees, at the annual CAES Alumni Awards Banquet on Nov. 11, 2016, Athens, Georgia.

This year, the alumni association awarded four Alumni Awards of Excellence.

1. Charles Robert Bronson Jr., former Florida commissioner of agriculture and consumer services
2. Robert Dahlke, former UGA Associate Dean for Entomology and soybean specialist
3. D. Wayne Akins Jr., former UGA vice president and chief operating officer
4. Loyce Whorton-Hayt, second-generation Morgan County, Georgia, farmer

Alumni Awards of Excellence

<table>
<thead>
<tr>
<th>Name</th>
<th>Alumni Association</th>
<th>Year</th>
<th>College</th>
<th>Degree</th>
<th>Profession and Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles Robert Bronson Jr.</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agricultural and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Former Florida commissioner of agriculture and consumer services, served as Florida Senate representative, and is a leader in the agricultural community</td>
</tr>
<tr>
<td>Robert Dahlke</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agriculture and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Former UGA Associate Dean for Entomology and soybean specialist, recognized as a leader in the soybean industry</td>
</tr>
<tr>
<td>D. Wayne Akins Jr.</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agricultural and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Former UGA vice president and chief operating officer, revered for his leadership and impact on the university and industry</td>
</tr>
<tr>
<td>Loyce Whorton-Hayt</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agricultural and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Second-generation farmer, dedicated to the family farm, Innisfail, and the community, known for her tireless work and passion for agriculture</td>
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</table>

The alumni association also honored three young alumni through its CAES Young Alumni Achievement Awards. These awards recognize CAES alumni under 35 who have achieved excellence in their chosen fields or communities.

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<td>Merritt Melanson</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agricultural and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Young farmer and agricultural leader, recognized for his dedication to sustainable practices and community involvement</td>
</tr>
<tr>
<td>Sarah Cook</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agricultural and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Entrepreneur and advocate for sustainable practices, recognized for her work in the food industry and community involvement</td>
</tr>
<tr>
<td>Justin Wright</td>
<td>Alumni Association</td>
<td>2016</td>
<td>College of Agricultural and Environmental Sciences</td>
<td>Agricultural and Environmental Sciences</td>
<td>Former UGA graduate, entrepreneur, and leader in the technology and agricultural technology industries</td>
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Michasia (Harris) Dowdy (BSA – Agriscience and Environmental Systems, ’14; MPPPM – Plant Protection and Pest Management, ’16) and her father, Glen Harris, share more than a father-daughter bond. They are also colleagues who rely on each other. Dowdy officially became an Agriculture and Natural Resources agent for University of Georgia Cooperative Extension in Lowndes County, Georgia, last June, then became the agent in Brooks County, Georgia, in May. Her father is an Extension agronomist based on the UGA Tifton campus. He delivers scientific, research-based information to agents like Dowdy, who relay that information to local growers. Dowdy has already called on her father’s expertise.

“I would say the middle of July, about a month and a half into my job, I had a peanut field where there were some nutrition problems. It wasn’t long before I had to have him come down and help us,” Dowdy said.

“It’s one of my favorite parts of my job as an Extension specialist, working with the agents. We always tell people that they’re not just colleagues or friends, they’re family,” Harris said. “It makes me proud to have Michasia in Extension.”

Having a father serve as an Extension specialist and practically growing up at UGA-Tifton helped Dowdy transition to Lowndes County Extension agent. She grew up knowing many of the specialists that she works with now, and some were her professors.

“She took advantage not only of the degree programs offered, but also sought internships and applied research experience. I was delighted to have hired her into our organization and look forward to the bright future both Michasia and Glen have with UGA Extension,” said Associate Dean for Extension Laura Perry Johnson.

As for Harris, the proud father only offers advice if asked. He doesn’t want to hover over Dowdy’s work, as a parent might. But when Dowdy solicits advice, Harris is quick to respond.

“Probably one of the best pieces of advice I ever received was when I started at UGA-Tifton 22 years ago. Someone told me our job is to make the agent look good, especially when we go into the county. That was super advice and I always try to follow that,” Harris said. “It’s a two-way street. It’s not me telling them what to do. We communicate together and work it out together. That’s what makes our Extension system special, I think, the relationship between the specialist and the agent.” • Clint Thompson