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LANDMARKS

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DIVISION OF AGRICULTURE,
FORESTRY, & VETERINARY MEDICINE

RESEARCH, EDUCATION, AND EXTENSION

MISSISSIPPI LANDMARKS

Mississippi LandMarks is published quarterly by the Division of Agriculture, Forestry, and Veterinary Medicine at Mississippi State University.

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VICE PRESIDENT'S LETTER

The snow and ice of early 2018 gave way to a glorious spring and summer. We eagerly anticipate the growing and harvest seasons and the opportunity to serve Mississippi growers, whether they are transplanting tomato seedlings into patio containers, harvesting

several thousand acres of row crops, or sowing the seeds of new business ventures. Experts in the MSU Division of Agriculture, Forestry, and Veterinary Medicine work hard to conduct cutting-edge scientific research and translate the latest findings into practical information people can use in their daily lives.

It is important that we offer returns on the investments made in our work. In addition to local, state, and federal funds, DAFVM units apply for and receive numerous grants. Many grants require matching funds or in-kind support. In this way, we leverage taxpayer dollars to extend their reach. We are pleased to report that, for every \$1 of state and federal funds we receive, we generate 89 cents in grants, contracts, and sales. We sell our agricultural products and put those funds back into our programs. From the milk produced by our dairy herd to the crops grown in our fields, we strive to maximize our financial opportunities.

In turn, we are investing in our facilities to boost our agricultural industries and provide our students with the best educational experiences possible. The new Meat Science and Muscle Biology Laboratory has opened, progress is underway on the new Animal and Dairy Science Building, and we opened bids for the new Poultry Science Building in the spring. Located near the new Hail State Boulevard that runs through the area of campus commonly called South Farm, these buildings will offer modern facilities while bringing together related units into a geographically central area.

We are also proud of our most recent graduates. Each semester, graduation ceremonies remind us of the incredible responsibility we undertake to prepare young people for their careers and their lives. This spring, we were pleased to award 247 undergraduate and 44 graduate degrees from the College of Agriculture and Life Sciences, 42 undergraduate and 19 graduate degrees from the College of Forest Resources, and 82 DVMs, 25 veterinary medical technology degrees, and eight graduate degrees from the College of Veterinary Medicine. We appreciate the investment made in each of these students and wish them well.

Kudos to Dr. Keith Coble, head of the Department of Agricultural Economics, for his service as one of two experts invited to address the American Farm Bureau Federation's annual meeting. His expertise in agricultural marketing and risk management is well regarded across the nation. He is just one of many Bulldogs working to advance Mississippi State's reputation as a leading research university.

Thank you for your continued interest in our work.

Warm regards,

GREGORY A. BOHACH

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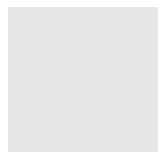
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ON THE COVER

Rack Rent Plantation in Minter City, Mississippi, contributed to the 1.4 million bales of cotton produced statewide in 2017 at a value of \$534 million.





Bradley Welch, an MSU premedical student from Laurel, Mississippi, has created a legacy of scholarship and service at Mississippi State, including the establishment of the Gift of Life bone marrow registry on campus.

Rural Health Awareness

MOTIVATES PREMED STUDENT

“I’d love to work with Doctors Without Borders, but you don’t have to travel around the world to make a difference. You can make a difference right where you’re at. And you never know how far that influence can spread.”

BRADLEY WELCH

Most students prepare themselves to live their dreams after college, but not Bradley Welch. This recent MSU graduate has used his college years to build a legacy.

Welch, a native of Laurel, Mississippi, has studied in the College of Agriculture and Life Sciences as a premedical student. His choice of major was inspired by his sister's rare medical disorder, primary ciliary dyskinesia. For patients with this syndrome, the cilia, which line the respiratory tract, do not move to help clear mucus.

"We'll occasionally get sick, but bacteria don't normally affect us," Welch said. "That's not the case with her."

During his childhood, Welch spent many hours traveling with his family to medical specialists across the country. Sometimes, his family would spend up to 12 hours a day on the road.

His sister's condition, coupled with his awareness of rural health care, led Welch to spend an intensive 5 weeks studying medicine at MSU in the Rural Medical Scholar (RMS) program before his senior year of high school.

Welch's summer with RMS inspired him to further his education at Mississippi State. What Welch could not foresee, however, was how deeply connected he would become with the university during his 4-year stay.

"I've done some volunteer work through MSU with a group called Global Brigades," Welch said. "Over and over, Honduran people said that they had never been to a doctor before. What amazed me about this experience was the similarities I saw between Honduras and parts of Mississippi."

His humanitarian work is rooted in scholarship. He has completed minors in French and psychology to help him better understand people across the globe.

"I'd love to work with Doctors Without Borders, but you don't have to travel around the world to make a difference," Welch said. "You can make a difference right where you're at. And you never know how far that influence can spread."

Welch achieved one of his most notable accomplishments

during his sophomore year when he founded a Gift of Life bone marrow registry club on campus. Through this group, Welch and other MSU students have swabbed the mouths of more than 1,317 volunteers. Two of these swabs led to marrow transplants, helping a 65-year-old man and a 14-year-old girl.

"Someone we swabbed went through a transplant for someone that they didn't even know, and I think that's amazing," Welch said. "There's roughly only a 1 in 1,000 chance that someone would donate, but we've had two transplants."

While Welch credits all of his professors as invaluable, one of his most influential faculty relationships is with Ann Sansing, director of the RMS program and an instructor with the MSU Extension Service.

"Bradley has the determination, personality, intelligence, and perseverance to run the race set before him," Sansing said. "He is always looking for an avenue to learn, excel, and give back to his passion."

Welch graduated with a degree in biochemistry and is now attending medical school. He plans to become a rural physician or spend time serving others abroad.

"A physician is not only a physician, but an educator and a leader in the community," Welch said. "That's where my heart is at. So, I ask others: What is your legacy?"



Welch credits much of his success at Mississippi State to Ann Sansing (right), director of the MSU Extension Service Rural Medical Scholars program. While in high school, Welch spent a summer as a Rural Medical Scholar, which inspired him to continue his education at MSU.

BY LINDSAY PACE • PHOTOS BY MEGAN BEAN

COMMUNITY GARDEN

Serves as Classroom, Research Station, and Student Hub



Mississippi State graduate student Geoffrey Lalk of Starkville, Mississippi, and senior Cheyenne Burchfield of Eupora, Mississippi, both studying horticulture in the Department of Plant and Soil Sciences, harvest lettuce from the MSU Community Garden at the Landscape Architecture complex. (Photo by David Ammon)

The MSU Community Garden now serves as a classroom and research space for about 100 students, but Cory Gallo has designs on it being far more inclusive.

Gallo, an associate professor of landscape architecture at Mississippi State, leads the garden project, which is a cross-campus collaboration of the MSU Student Association, College of Agriculture and Life Sciences, and College of Architecture, Art, and Design.

“We are hoping that eventually it’s almost like the Sanderson Center in terms of having another recreational avenue for students,” he said. “From a use standpoint, we’re setting it up to be a garden space for anyone on campus.”

Faculty and students built 30 raised beds during the 2017 and 2018 spring semesters behind the MSU Landscape Architecture building. Twenty-two of them are 4 feet by 16 feet, while the others measure 4 feet by 4 feet. Growing in each bed are seasonal fruits and vegetables.

“Pretty much anything Grandma would have grown in her back yard is grown here,” Gallo said.

The MSU Departments of Landscape Architecture, Plant and Soil Sciences, and Food Science, Nutrition, and Health Promotion now offer courses featuring the garden as a classroom.



Cory Gallo instructs recent landscape architecture graduate Caitlin Buckner of Starkville as she works to install cedar steps during a workday to help build the MSU Community Garden. (Photo by Megan Bean)

Gallo taught one of the courses, Community Food Systems, along with Dr. Brent Fountain, Extension nutrition specialist, and Dr. Tongyin Li, assistant professor of plant and soil sciences.

“Cory’s portion of the course focused on gardening policies and benefits. Tongyin went into the growing aspects of it, and my portion focused on nutrition,” Fountain said. “I discussed dietary guidelines, preparation, and food preservation methods to make the best use of food when the garden yields more than someone can eat at a given time.”

Li also teaches a course called The Gardening Experience to freshmen with limited backgrounds in horticulture.

“A large part of the course is to introduce how to produce traditional and alternative vegetable crops,” Li said. “The community garden is serving as a lab for us, where students are responsible for growing and harvesting vegetables. Through the lab sessions, students gain hands-on experience from the construction of vegetable beds to growing their own food, learning growing techniques, and using sustainable practices.”

The most common technique taught is composting. Students collect food scraps from the Fresh Food Company (one of the MSU campus dining facilities) and store them in piles that are used in the beds.

Along with using the garden as a classroom space, Gallo envisions it as a hub of community food systems research and

demonstration. Some research is already underway in the garden. One graduate student in the Department of Civil and Environmental Engineering uses a portion for water-efficiency tests. A researcher in the Department of Agricultural and Biological Engineering tests small-scale robotic farming.

“Another goal in progress is incorporating the space for Extension Service workshops and other educational programs for campus visitors,” he said. “The garden would be an ideal instructional tool for Extension agent training, Master Gardener programs, or 4-H summer camps. We’re spending a lot of time thinking about making the space as flexible as possible.”

MSU Students for a Sustainable Campus already use some of the beds, but Gallo hopes to make a larger portion of the garden available to students. Future plans also include a fruit orchard and access for people with physical disabilities.

“The main thing we’re focused on right now is getting the structure of the physical space and the programming in place to make the project successful,” he said. “We still have a lot to do, but we’ve come a long way.”

BY NATHAN GREGORY

LEARNING BY DOING

Unique Rotation Provides Hands-On Experience



Dr. Kris Hubbard, a resident in population medicine, and third-year CVM students Christina Weise, Jenna Hoden, and Samantha Blossom examine a dog at the Starkville Animal Shelter.

“Seeing an animal in its environment and how it interacts in that environment brings it all together for students and veterinarians. It helps veterinarians make the best choices about the care they provide.”

DR. KIMBERLY WOODRUFF



Dr. Jim Brett (center), an associate clinical professor of pathobiology and population medicine, works with fourth-year students Tommy Ware and Cody Faulkner at the Bearden Dairy Research Center.

Students at the MSU College of Veterinary Medicine have a rare opportunity to learn the principles of population medicine in a hands-on environment.

CVM's population medicine rotation was created 2 years ago after a routine curriculum review by the American Veterinary Medical Association. Population medicine focuses on the health of livestock and pets in settings where several animals live together, such as farms and animal shelters.

"When we evaluated how population medicine was being taught, we believed we could give students a better understanding by creating a separate rotation that focused on how disease is influenced by other animals, the environment, and the level of care provided," said Dr. David Smith, a professor in the Department of Pathobiology and Population Medicine. "This is a relatively unique clinical rotation. Not many veterinary schools address population medicine this way."

In the past, students might have discussed population-based issues in the process of treating an individual animal within other rotations. They learned principles of population medicine in lecture and lab-based settings but had few opportunities to experience it in clinical settings. The new rotation allows students to investigate disease outbreaks or other problems at the animals' homes, which can help diagnose the cause of an individual animal's ailment, Smith said.

"If we have a calf come into the hospital with diarrhea, our concerns are that the animal is dehydrated, so we start him on fluids and maybe some antibiotics," he said. "But that is care directed at the individual animal. If we were to visit that calf on the farm, we might decide that calf is sick because of his inability to get adequate immunity at birth or because there is a hygiene problem on the farm. Those are herd-level problems that we would not necessarily be able to diagnose unless we visit the animal's environment."

Students on the rotation have visited cattle farms, catfish operations, animal shelters, poultry farms, and breeding facilities for rabbits and dogs. Smith and Dr. Kimberly Woodruff lead the rotation. Along with other faculty members, they work with producers, private veterinarians, and other clients by request. They take students in the rotation to farms and other facilities in Mississippi, Alabama, Louisiana, and Arkansas.

"We try to give them as many different experiences as we can," said Woodruff, an assistant clinical professor of shelter medicine. "This rotation helps students realize there is a bigger picture than what they are seeing in the exam room when they are treating an animal that is part of a herd or lives in a situation with other animals."

On-site care is also important to the One Health initiative, which aims to help all medical professionals work together to resolve problems by understanding and addressing the relationship between animal and human health and the environment.

"Seeing an animal in its environment and how it interacts in that environment brings it all together for students and veterinarians," Woodruff said. "It helps veterinarians make the best choices about the care they provide."

The population approach is helpful in fighting antimicrobial resistance, one of the chief concerns in animal and human medicine, Smith said.

"If we can change the care and living conditions so that animals are less likely to get sick, we avoid the need to use antibiotics and selecting for antibiotic-resistant bacteria," he said. "We want to find the solution that cures the animal but doesn't cause a problem somewhere else or affect human health."

BY SUSAN COLLINS-SMITH • PHOTOS BY TOM THOMPSON



Dr. Mark Woodrey (left), Dr. Ray Iglay, and Dr. Kristine Evans study the saltwater wetlands on the Mississippi coast. (Photo by Kevin Hudson)

SCIENTISTS BRAVE HARSH CONDITIONS in Gulf Habitat Restoration

“

Marshes are the nursery ground for many juvenile fish species we rely on for recreation, such as redfish. Marshes filter storm water, so they protect oysters and improve water quality. Given that marshes are so important to coastal Mississippi, marsh birds can be an excellent indicator of their health. Hence, keeping track of marsh birds along the coast and understanding their response to restoration is very important.”

DR. KRISTINE EVANS

Mississippi's coastal waters and forests provide attractive habitats for wildlife research. The flooded saltwater wetlands in between these two areas, however, present challenging conditions for the researchers who work in them.

"It's not for the faint of heart," observed Dr. Mark Woodrey, Mississippi Agricultural and Forestry Experiment Station (MAFES) assistant research professor at the Coastal Research and Extension Center in Biloxi. "Not everyone is cut out to work in buggy, hot, wet, dirty environments."

The anaerobic sulfuric smell, sharp black needle rush, clouds of gnats, and thick, humid air may not be ideal for humans, but these marshes provide important ecological and economic benefits.

A team of MSU scientists received a \$2.1 million grant from the Gulf Environmental Benefit Fund, established under the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States (RESTORE) Act, for a 4-year marsh study that began in summer 2018.

Researchers will evaluate current restoration efforts and establish baseline population information for key marsh birds. Their efforts will connect with gulf-wide contributions to the Gulf of Mexico Avian Monitoring Network. Woodrey will lead a team of field technicians and graduate students to conduct standardized fieldwork looking and listening for elusive tidal marsh birds, such as the clapper rail and seaside sparrow.

When the Deepwater Horizon oil spill occurred in 2010, most of the oil hit Louisiana's marshes, but Mississippi sustained a significant impact, as well, said Dr. Kristine Evans, an assistant professor in the Forest and Wildlife Research Center (FWRC).

"As tides washed up, the oil slick came up, covered the plants and birds, and then receded," she explained. "Marshes are very vulnerable to toxic impacts and can die off really quickly. In hot spots where the marshes die and break up, we're left with big patches of open water."

Marshes are rich centers of biodiversity, with multiple, specialized species that help them function well, including fiddler



crabs, aquatic invertebrates, and certain birds.

"Marshes are the nursery ground for many juvenile fish species we rely on for recreation, such as redfish," Evans said. "Marshes filter storm water, so they protect oysters and improve water quality. Given

that marshes are so important to coastal Mississippi, marsh birds can be an excellent indicator of their health. Hence, keeping track of marsh birds along the coast and understanding their response to restoration is very important."

Marshes also serve a protective purpose. When storms hit, marshes can absorb a lot of floodwater impacts and reduce damage to vital coastal industries, including shipyards, recreation, tourism, and military installations.

This research is a holistic evaluation of marsh-bird populations across the entire Mississippi coast, a much larger spatial study area than ever before, said Dr. Ray Iglay, FWRC assistant research professor and project lead investigator. By using standardized research methods, the evaluation component can be replicated easily in all five Gulf states. In essence, the evaluation is like postoperative care and check-ups to test the health of the system.

Dr. Scott Rush, FWRC associate professor, said it is not enough for a restored marsh area to look beautiful. It has to fulfill its role as a habitat to be considered a successful restoration effort.

"We want to be sure the marshes will last for generations and maintain their course, and this project will help us do that," he said.

Along with FWRC and MAFES, other collaborators include the National Fish and Wildlife Foundation, Mississippi Department of Environmental Quality, and MSU College of Forest Resources Department of Wildlife, Fisheries, and Aquaculture.

BY KERI COLLINS LEWIS

DelPrince Builds Unique Extension Floral Program

Mississippi State University Extension Service floral design specialist Dr. Jim DelPrince has worked in the flower industry since he was in junior high school, and he always knew it was the career path he wanted to take.

“In the fourth grade, my dad took me to a houseplant shop to choose a gift for the music teacher who was in charge of the Christmas play,” DelPrince said. “They wrapped up the plant I picked in a clear bag with Christmas trimmings, and it was so nice. I was so impressed by the shop—the smell, the sights, everything. I looked at the lady behind the counter and said, ‘I want to work here someday.’”

Eventually, he did. The same shop was on his route to and from his junior high school. He’d stop in to chat with the owner daily, and soon she hired him to help around the store, including waiting on customers, watering plants, and picking up trash in the parking lot. Sometimes, he even washed her car, a 1975 red Corvette.

When he was a sophomore in high school, his parents helped him open a flower shop in the family’s basement. He ran the shop, and his brother, who was an accountant, kept his books.

“My parents were always supportive of me and anything I wanted to do,” said DelPrince, an Ohio native. “We’d take Sunday road trips to find greenhouses where we could buy unusual plants and flowers for the shop.”

After earning an associate’s degree in floral design and marketing from Ohio State University Agricultural and Technical Institute, he spent 3 years as the florist manager at a large, well-known flower shop in the Canton, Ohio, area.

“I got a lot of experience in retail there,” DelPrince said. “But then I realized that I wanted to learn more about design.”

He enrolled at OSU, where he earned a bachelor’s in horticulture and a master’s in agricultural education. He chose Mississippi State to work on his doctorate.

While working on his PhD, he accepted a faculty position. DelPrince taught students for 23 years before he became an Extension specialist in 2015. Now, he uses his skills and nearly 40 years of experience to help others enjoy and sell flowers.

DelPrince’s Extension program benefits consumers, business owners, producers, and retailers. He offers classes and workshops to amateur floral enthusiasts of all ages, as well as practicing and aspiring professional designers. He works with growers to help them strengthen their businesses by better understanding what customers want. He also consults with MSU researchers to help identify industry needs.

“My main goal is to get flowers in the hands of Mississippians and teach them the skills for decorating with them,” he said. “People want to not only learn how to design for their church and civic organizations, but for their homes. The request I hear the most from these clients is they need a wider variety of flowers at a reasonable cost.”

DelPrince works with other Extension and research horticulture specialists, including Dr. Christine Coker, associate Extension and research professor, to help reach his goals by finding suitable cut-flower varieties and methods for growing them in Mississippi.

“Production information specific to Mississippi growers is lacking,” Coker said. “Our work in the Mississippi Agricultural and Forestry Experiment Station with field trials and high-tunnel production will allow us to make recommendations to our growers to make them as successful as possible. A successful market begins with successful production.”

Mississippians have a unique floral Extension program that connects floral production to retailers and consumers, Coker said.


“While there are other floral programs in the U.S., Jim’s is the only one of its kind,” she said. “His concept of developing farmer florists opens up a whole new arena of horticulture in Mississippi. Current flower producers are gaining knowledge on new markets, while prospective growers, such as vegetable producers, are learning ways to diversify their crop offerings for existing markets, such as farm stands and farmers’ markets.”

For floral enthusiasts, DelPrince offers a variety of classes and workshops on specific types of arrangements, sometimes focused on a seasonal theme. For professional florists, he provides hands-on instruction in handling, designing, and selling wedding and other event flowers. For more information, see <http://coastal.msstate.edu>.

A Master Floral Designer program, which parallels the Extension Master Gardener certification course, offers certification to attendees who complete 42 studio hours of classwork and return 40 hours of volunteer service and education each year. Students learn and practice all foundational forms of floral design.

In Beautiful Things from Mississippi, DelPrince showcases Mississippi floriculture producers and professional designers. Participants display their products and designs during a national floral-design conference in the fall.

BY SUSAN COLLINS-SMITH • PHOTO BY KEVIN HUDSON



Floral-design programs conducted by Dr. Jim DelPrince benefit consumers, producers, and retailers.

“While there are other floral programs in the U.S., Jim’s is the only one of its kind. His concept of developing farmer florists opens up a whole new arena of horticulture in Mississippi. Current flower producers are gaining knowledge on new markets, while prospective growers, such as vegetable producers, are learning ways to diversify their crop offerings for existing markets, such as farm stands and farmers’ markets.”

DR. CHRISTINE COKER



MSU Extension agent Teresa Lyle leads Hinds Community College students through a Real World budgeting simulation.

Welcome to “The REAL World”

Program Helps Students Learn About Fiscal Fitness



Teresa Lyle (left), Theresa Hand, Felicia Jones, and Anita C. Bell-Muhammad help teach students financial literacy. Lyle and Hand are MSU Extension agents, while Jones and Bell-Muhammad are site coordinators with Hinds Community College Single Stop, which offers supportive services to students.

When Hinds Community College (HCC) faculty members began updating their orientation course on financial literacy, they turned to a long-time partner: the MSU Extension Service.

“A colleague of mine had seen Extension do ‘The Real World’ program and thought it would be an awesome addition to the financial literacy resources we currently offer our students,” said Kashanta Jackson, dean of counseling and advisement at HCC.

Extension agents Theresa Hand and Teresa Lyle adapted this interactive, real-life simulation activity for college students by adding a section on student loans.

“Students leaving college may not fully realize that they will have to pay back the student loans they borrowed to finish school once they graduate,” said Lyle, Extension family resource management agent in Leake County. “We wanted to help them understand that they need to include those student loans as part of their budgets.”

Hand and Lyle conducted train-the-trainer sessions to teach HCC orientation staff to conduct the activity at the college’s five campuses.

All incoming HCC freshmen participate in an 8-week course aimed at helping them successfully complete their education

so they can enjoy career and financial stability later. The course provides tips on studying, time management, and other habits for academic success. Students also are introduced to resources that can help them address childcare needs, transportation needs, and other external barriers to graduation. One week of the course is dedicated to financial literacy and includes lessons on budgeting and student loans.

During this week, students participate in The Real World. Each student is assigned a job and a family situation complete with children. Based on their income and obligations, students must budget and spend their money by visiting individual stations staffed by school employees. Station categories are housing, groceries, transportation, clothing, childcare, insurance, entertainment, utilities, taxes, communications, furniture, personal care, supplemental income, bank, and student loans.

“Though The Real World was originally designed for junior-high and high-school students, it is the perfect experience that many college students need,” said Hand, Extension agent in Hinds County. “It gives them a perspective they might not have had the opportunity to get firsthand. It is also a good way to motivate students to complete their college degrees or technical programs, and it encourages them to actively manage their money.”

Jackson said she has received positive feedback from students who participated in The Real World.

“Many students said they had a ‘light bulb’ go off,” she said. “It’s a useful tool that students are able to use now and for years to come.”

Students also complete a computer module focused on financial responsibility, which is being updated with the help of Dr. Becky Smith, assistant Extension professor.

“We received extensive feedback from Dr. Smith, and the edits will allow our student population to have the most current financial literacy information relevant to them,” Jackson said. “We are grateful for the opportunity to work with MSU Extension and appreciate their flexibility and support as we help our students become more financially literate.”

BY SUSAN COLLINS-SMITH • PHOTOS BY KEVIN HUDSON

CLEARING THE WATER

Study Finds Holes in Fishing Forecast Methods



Many recreational fishers rely on the *Farmers' Almanac* or local weather forecasts when looking for good times to head to the lake, but the science behind predicting when the fish are biting is almost as murky as pond water.

Ashley Shannon, a recent graduate of the Department of Wildlife, Fisheries, and Aquaculture in the MSU College of Forest Resources (CFR), believes creel survey data could be the first step in developing more accurate fishing forecasts. She analyzed 3 years of data compiled at Enid Lake by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) to determine the accuracy of forecasts there.

"There is no good correlation between the almanac forecasts and the catch rates," Shannon said. "We need to look at other systems and more years to further reinforce that result, but the data we've looked at so far supports what I suspected."

Dr. Michael Colvin, assistant professor of fisheries in the Forest and Wildlife Research Center, developed this research project after he found out local meteorologists rely on the *Farmers' Almanac* to inform viewers whether fishing conditions are poor, fair, or good. He wrote a research proposal to the CFR Undergraduate Research Scholars Program. Approved proposals receive funding for collaboration with undergraduate students.

"There have been other validation attempts in terms of weather forecasts and the almanac," Colvin said. "You are just as

likely to flip a coin and get the same answer you get from those sources."

MDWFP staff members rotate among several reservoirs to compile annual creel survey data, interviewing anglers each summer and counting how many fish they catch in a day. They also record environmental influences, such as temperature and barometric pressure, as well as controlled factors, such as how anglers are fishing and what bait they use.

"MDWFP has monitored catch rates at different locations throughout Mississippi over the last 30 years, and I thought we could test the almanac predictions with some actual data," Colvin said. "Now that we've got enough evidence to support the idea that these forecasts aren't performing well, we're going to start diving in and looking at other factors that might be influencing catch."

Postdoctoral research associate Dr. David Schumann has worked with Shannon on data collected at Enid Lake in 2006, 2010, and 2014.

"Fishing forecasts have been a bit of a black box," he said. "There are categories of varying quality and descriptions of lunar cycles, but nothing we can formally quantify at this point. There is no local accuracy with the almanac's methods because those are general national predictions. This is a neat educational opportunity for Ashley to learn statistical,



Dr. Michael Colvin (left), Ashley Shannon, and Dr. David Schumann hope to develop more accurate methods for forecasting good fishing days.

“There is no good correlation between the almanac forecasts and the catch rates. We need to look at other systems and more years to further reinforce that result, but the data we’ve looked at so far supports what I suspected.”

ASHLEY SHANNON

writing, and presentation skills and see a project through to a conclusion.”

Shannon has analyzed approximately 1,000 surveys compiled over 3 years and used the survey answers to create a more specific forecast method.

“We’re looking at literature to see what other studies have been done on catch rates and trying to put together our own formula based on those to see what affects catch,” she said. “Environmental variables make it hard to narrow down to specifics, but whatever data we can get ahold of gets us closer to coming up with criteria that can help anglers decide when they’re more likely to catch fish.”

BY NATHAN GREGORY • PHOTOS BY KEVIN HUDSON



William Hollingsworth of Brooksville, Mississippi, enjoys fishing at the Sam D. Hamilton Noxubee National Wildlife Refuge, but he agrees that the *Farmers’ Almanac* may not be the best source for fishing forecasts.

Mandatory Training

Limited Auxin Damages



The MSU Extension Service has trained more than 3,900 private and commercial pesticide applicators since 2017 on the safe use of auxin herbicides, which are highly valued for use against resistant weeds but can damage crops that are susceptible to the chemicals.

Some new soybean and cotton varieties released in 2016 are resistant to auxin herbicides, which are used during the growing season to control weeds that have developed resistance to other pesticides. However, nonresistant crops are extremely susceptible to even very small quantities of these herbicides, making proper application a challenge. Despite precautions taken in 2017, millions of acres of soybeans were affected by auxin chemicals nationwide.

“A lot of people recognized there would be some challenges with integrating them in our row-crop systems,” said Dr. Dan Reynolds, a researcher with the Mississippi Agricultural and Forestry Experiment Station and an Extension professor in the MSU Department of Plant and Soil Sciences. “These auxin chemicals are super herbicidally active. We can get symptomology when you can’t analytically detect the presence of

Dr. Darrin Dodds, Dr. Jason Bond, Dr. Trent Irby, and Dr. Dan Reynolds, all faculty members of the Department of Plant and Soil Sciences, provide crucial training for producers and applicators who use auxin herbicides on soybean and cotton crops. (Photos by Kevin Hudson)

the chemical. Plants are more biologically sensitive than some of our analytical techniques.”

However, Mississippi had a much lower incidence of reported auxin-related injury than surrounding states.

“I think our mandatory training had an impact on that,” Reynolds said. “The Mississippi Department of Agriculture and Commerce made the chemical a restricted-use herbicide, which requires additional record keeping, and the state capped the maximum wind speed for application at 10 mph, rather than the 15 mph that federal regulations allowed.”

A Mississippi taskforce examined the challenges of applying auxin herbicides, as well as Environmental Protection Agency regulations regarding new uses for auxins. The group set enhanced restrictions on the use of auxins and tasked the MSU Extension Service with training everyone who purchases the chemicals.

Extension initially developed six training modules that address weed resistance, herbicide action, off-target deposition via drift and volatility, off-target deposition via equipment contamination, restrictions and application of Enlist herbicide, and restrictions and application of Xtend herbicide. As of July 25, 2018, 1,864 producers had completed this training. Although most were from Mississippi, people from 18 other states and the District of Columbia also completed the certification.

Because many states had such significant problems with use of auxin herbicides, EPA made changes for 2018 that reflected the regulations Mississippi already practiced in 2017, Reynolds explained. In addition to mandatory training for everyone purchasing the herbicides, training is now required for anyone who applies them. During early 2018, Extension developed new training modules for applicators, which were first offered in early March. So far, 2,063 agricultural workers have taken the new Dicamba Applicator Training course.



This photo shows a soybean leaf damaged by an auxin-based herbicide. (Photo Submitted)

Mike McCormick, president of Mississippi Farm Bureau Federation, has been outspoken on the benefits of these training modules.

“We thought from the start that these chemistries were going to be very important to our producers in Mississippi because we have a big problem with resistant weeds,” McCormick said. “Our approach was not to make it more difficult for the farmers to get the product or to create any more burden on the manufacturers of the technology. Our goal was to keep the technology on the market so we can combat the resistance problem we have.”

Mississippi Farm Bureau supported the state’s decision to restrict the use of the auxin chemicals and require training.

“We had a chemistry we wanted to make sure we could maintain in the market, so we worked through the Extension Service and the plant board to make sure we got it right,” McCormick said. “We have one more shot to use it right this year before the chemical has to be reregistered.”

BY BONNIE COBLENTZ

CALS Graduate

Receives Highest MSU Alumni Honor



Dr. R. L. Qualls

Few Mississippi State graduates have made as big an impact as Dr. R. L. Qualls, who has achieved great success as an author, banker, educator, and corporate executive. Qualls recently added another achievement when he was honored with MSU's highest accolade—National Alumnus of the Year.

Qualls was born in 1931 and grew up in Burnsville, Mississippi, where his parents farmed the land, and his grandfather was the only blacksmith in the area—making the family well known in Tishomingo County. For his education, Qualls attended Gravel Hill School and then Burnsville High School, where a Future Farmers of America project led him to be named “Corn King” of Mississippi by harvesting 154 bushels of corn from only 1 acre of rich bottomland. To claim the honor, he needed an FFA jacket from Mississippi State College, and that initial visit began his long association with the state's land-grant institution.

Over more than six decades, the Corn King has become known for his hard work and perseverance. His wealth of achievements has enabled him to become one of Mississippi State's most distinguished graduates.

Qualls earned bachelor's and master's degrees in agricultural economics from MSU in 1954 and 1958, respectively, before completing doctoral study at Louisiana State University.

Qualls later received an honorary Doctor of Laws degree from Whitworth College and an honorary Doctor of Business Administration degree from the University of the Ozarks, where he served 5 years as president and later was chairman of the Board of Trustees. Qualls left the university to help the state of Arkansas on a higher level as director of the Department of Finance and Administration in the administration of Gov. Bill Clinton.

Another significant chapter in Qualls's life was in the corporate sector. He joined Baldor Electric Company in 1986 as executive vice president of finance and planning. He was elected president in 1990, served from 1992 through 1997 as CEO, and was vice chairman until the end of 2000, when he retired. He is also a former presiding independent director of the Bank of the Ozarks, having served from 1997 to 2016. Today, Qualls serves as cochairman of Taylor Companies of Washington, D.C., an investment banking merger and acquisition firm with offices in Washington, Paris, and Stockholm.

Early in his career, Qualls was an assistant professor of finance at Mississippi State with a joint appointment as economist and director of research at First Federal Savings and Loan Association in Jackson, Mississippi. His academic résumé also includes appointments at Louisiana State University, Rutgers University, Southern Methodist University, University of South Alabama, St. Gregory's University, and Vanderbilt University.

Qualls has published a number of books and articles, including *Entrepreneurial Wit and Wisdom* and *Strategic Planning for Colleges and Universities: A Systems Approach to Planning and Resource Allocation*.

A resident of Little Rock, Arkansas, Qualls serves on university advisory boards. He contributes his financial resources in appreciation of all that his MSU education has helped him achieve.

A commemorative video honoring Qualls as 2018 MSU National Alumnus is available at alumni.msstate.edu.

BY AMY CAGLE • PHOTOS BY RUSS HOUSTON

MSU Honors Division Alumni



Dr. Alfred Rankins Jr. (left) accepts his Alumnus of the Year award from Dr. George Hopper, dean of the College of Agriculture and Life Sciences.



Dr. Todd Henderson (left) accepts his Alumnus of the Year award from Dr. Ron McLaughlin, associate dean of the College of Veterinary Medicine.

Mississippi State's 2018 Alumni of the Year include graduates from colleges in the Division of Agriculture, Forestry, and Veterinary Medicine. These distinguished graduates, selected from among the university's nearly 142,000 living alumni for their professional and community achievements, were honored in February by the university alumni association.

"Our division proudly salutes these alumni and the contributions they have made to their professions and society," said DAFVM Vice President Gregory Bohach. "They are excellent role models for demonstrating how an education from one of our colleges can help prepare one for an outstanding and productive career anywhere in the world."

Dr. Alfred "Al" Rankins Jr. was recognized as the College of Agriculture and Life Sciences (CALS) Alumnus of the Year. Raised in the Mississippi Delta town of Greenville, Rankins received his master's and doctorate, both in weed science, from MSU in 1996 and 1999, respectively.

Since 2014, Rankins has served as the 19th president of Alcorn State University, where he completed his undergraduate degree in agricultural economics. The Mississippi Board of Trustees of State Institutions of Higher Learning has appointed him commissioner of higher education effective July 1. His appointment marks the first time an African American has been selected to oversee Mississippi's college board.

Rankins began his career at Mississippi State as a tenure-track assistant professor in CALS and a specialist with the MSU Extension Service. He then served as deputy commissioner of the IHL Board, serving as chief academic and student affairs officer. Rankins also has been acting president of Mississippi Valley State University. He resides in Madison, Mississippi.

Dr. Todd R. Henderson of Charlotte, North Carolina, is Alumnus of the Year for the MSU College of Veterinary Medicine (CVM), from which he earned a 1992 Doctor of Veterinary Medicine degree. Henderson is the president and CEO of Nutramax Laboratories Inc. and an expert in nutraceuticals, as he researches and develops these high-quality products to support animal and human health. He holds several U.S. and international patents.

Before joining Nutramax in 1994, Henderson was the owner of TLC House Call Practice in his native Maryland. He earlier was a veterinarian with Animal Clinic of Harford County and Kissimmee Animal Hospital in Florida. Henderson has further served his profession as an adjunct assistant professor for the Virginia-Maryland Regional College of Veterinary Medicine.

MSU Trains Wildlife Services Personnel

to Resolve Human-Wildlife Conflicts



Janean Romines and Chad Dacus

From birds impacting aviation to beavers building dams and destroying property, human-wildlife interactions affect our world in many ways.

Wildlife Services officers with the USDA Animal and Plant Health Inspection Service (APHIS) are the first line of defense in defusing

these conflicts. Their work requires continuous training, which is where Mississippi State lends a hand.

In late 2016, the university became home to the Wildlife Services National Training Academy (NTA) through a cooperative agreement with the USDA-APHIS Wildlife Services. In early 2017, the NTA team began coordinating and delivering several courses in basic and advanced firearms, explosives, and immobilization and euthanasia drug delivery.

Chad Dacus, program director and training coordinator, earned a bachelor's in forestry and a master's in wildlife, fisheries, and aquaculture from MSU. He spent 14 years with the Mississippi Department of Wildlife, Fisheries, and Parks before joining NTA.

"The feedback has been positive this first year," Dacus said. "In one particular course, several attendees rated the course as excellent and indicated that the course increased their knowledge base of the subject 20 percent or greater across several metrics. One attendee remarked that in his 10 years in government service, this was the best course he had attended.

"We provide ongoing, standardized training programs to current and incoming Wildlife Services personnel, and we record and maintain training records," Dacus said, explaining the NTA's twofold mission.

NTA instructors also serve as subject matter experts for professional coursework reviews for Wildlife Services

technicians applying for federal wildlife biology positions. They completed 139 coursework reviews and provided 85 coursework endorsements in 2017.

Dacus works with Janean Romines, a Wildlife Services employee and NTA program liaison with nearly 30 years of state and federal experience in wildlife biology. Her wealth of institutional knowledge contributes to NTA's success in meeting training needs. Romines said the academy will continue to expand the scope of its training based on agency needs as directed by the Wildlife Services management team and safety committees, as well as the NTA steering committee.

"In 2018, we are expanding our training to include ATV safety handling, risk communications, tactical emergency medical care, contaminant response, and unmanned aerial systems basic training, as well as developing new employee orientation resources," she said.

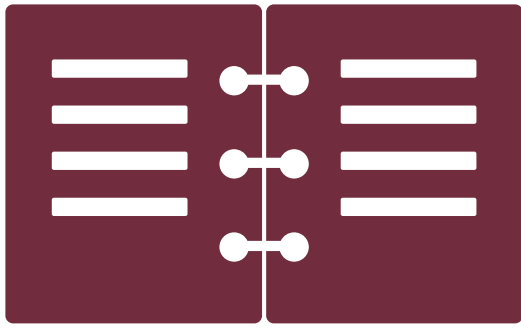
She said a collaborative spirit has helped the team hit the ground running.

"This has been an amazing first year that exceeded my expectations," Romines said. "Our phenomenal staff has worked from day one as a team. Wildlife Services is excited about this partnership, and we are here as a result of Dr. Jessica Tegt and her vision for a training academy and also the support of Dr. George Hopper and Dr. Gary Jackson. Through their combined work and the effort of our staff, I think we are well on our way to creating an amazing program with MSU."

Tegt is an assistant professor in the MSU Office of Research and Economic Development. Jackson is director of the MSU Extension Service. Hopper is director of the Forest and Wildlife Research Center (FWRC) and the Mississippi Agricultural and Forestry Experiment Station and dean of the College of Forest Resources and College of Agriculture and Life Sciences.

The NTA is housed under the Department of Wildlife, Fisheries, and Aquaculture within the Center for Human-Wildlife Interactions as a unit of Extension and the FWRC.

BY VANESSA BEESON • PHOTO SUBMITTED



20
training
courses held



257 employees
trained

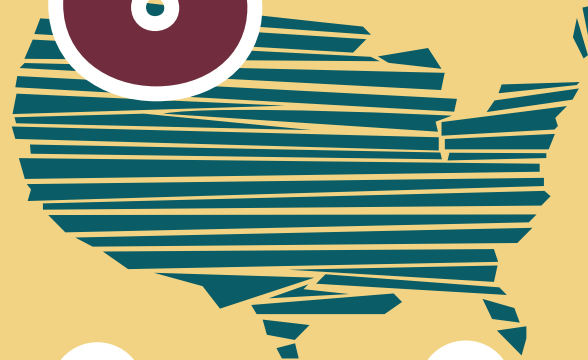
2017
NTA
YEAR
ONE

45

states, Guam, and
Puerto Rico represented

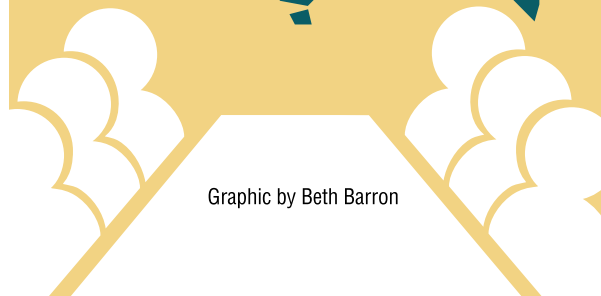
national
program
meetings
facilitated

6



5

new
training
videos
developed



Graphic by Beth Barron

Invasive Beetle Threatens Avocados and Other Laurel Trees

What is the power of a single insect?

In the case of one invasive pest, it has the power to kill one-third of the nation's laurel trees. The redbay ambrosia beetle carries a pathogen that causes laurel wilt disease. Dr. John Riggins, a forest entomologist with the Mississippi Agricultural and Forestry Experiment Station, is leading MSU efforts to battle the insect.

"This beetle is expanding its footprint in states where it has already been established," said Riggins, who is also a professor in the MSU Department of Biochemistry, Molecular Biology, Entomology, and Plant Pathology. "More than 145 counties in the U.S. are positive for the disease. It is such a perfect invader that it has proven so far to be impossible to stop its spread."

The redbay ambrosia beetle came to the U.S. from Asia in 2002 and was discovered in Mississippi in 2009. It has since been found from Georgia to Arkansas and southeast Texas. It threatens all members of the laurel family in the U.S., which includes sassafras, redbay, and commercially important avocados.

Efforts to control the pest are focused on educational campaigns. One message urges outdoor enthusiasts not to move



The redbay ambrosia beetle spreads a disease that is lethal to laurel trees. The tree above shows signs of ambrosia beetle infestation.

firewood long distances, as a single female beetle introduced in a new region can reproduce and infect the entire area.

Researchers continue to look at ways to address the problem. Part of their effort is simply learning all there is to know about the insect, its habitat, and its life cycle.

A recently published MSU study found that the beetle has a high cold tolerance and no native enemies, which means its spread will not be geographically limited to the South. In North America, sassafras is the most widespread tree species susceptible to laurel wilt.

"The natural range of sassafras trees is from coastal Mississippi to southern Canada," Riggins said. "We were hoping the cold winters might limit its spread, but it turns out that less than 1 percent of the geographic range of sassafras will receive protection from winter temperatures."

Dr. John Formby, now the state forest health coordinator for New Mexico, conducted this research while completing his doctorate at MSU.

“The research was twofold: First, we had to find the super-cooling point, which is the temperature at which the insect’s internal fluids freeze,” Formby said. “Then, we had to determine the lower lethal temperature to find out what cold tolerance it has. We determined it is a cold-susceptible insect.”


Formby learned that the insect’s super-cooling point is -4 degrees Fahrenheit, but a temperature of 14 degrees kills it.

“We plugged that into host data and the range for sassafras trees and used historic temperature data to determine the potential expansion range for the redbay ambrosia beetle,” he said.

The interior of a tree offers a 1- to 2-degree protection from the cold, and Formby found that an air temperature of about 10 degrees is lethal to the pest. Less than 2 percent of sassafras trees occur far enough north to be protected from these beetles by cold weather.

“We now know that cold will not stop it, so the next best thing is finding resistant trees and planting them in the environment,” Formby said. “Researchers at the University of Florida found resistant redbay trees, so there is probably resistance in some sassafras, too.”

BY BONNIE COBLENTZ • PHOTOS SUBMITTED



“We now know that cold will not stop it, so the next best thing is finding resistant trees and planting them in the environment.”

DR. JOHN FORMBY

MSU researcher Dr. John Riggins removes bark from a laurel tree to look for evidence of redbay ambrosia beetles.

Call It a Comeback

Cotton Acreage Is the Largest in More Than a Decade

After a 10-year slump, cotton has made a significant rebound in Mississippi.

Dr. Darrin Dodds, cotton specialist for the Mississippi State University Extension Service and scientist with the Mississippi Agricultural and Forestry Experiment Station, expects 2018 to be the best year for cotton production in the state since 2006. He attributes technological advances, improved pest management, and a turnaround in market prices to the crop's rebound since it tumbled to 290,000 acres in 2009 and 2013.

Production has gradually increased each year since then and will likely exceed 650,000 acres in 2018. But more important are the input expenses growers face in producing the crop and whether they get satisfactory returns on these investments.

"I don't want to win the yield game," Dodds said. "I'll give that to whoever wants it. I want to win the money contest. If I pick a 1,200-pound crop and make more money, I'm content with that over 1,400 pounds and less money."

Growers routinely produced between 1.1 million and 2 million acres a year until 2007, when commodity prices shifted. Cotton acreage was halved as many producers followed the money and planted other row crops.

Jack Huerkamp, president of Bogue Chitto Gin in Macon, Mississippi, was one of the growers who stayed with cotton through the lean years. Even so, he grew more corn during that time.

"I didn't want to get all the way out of cotton because I knew it would be 1 or 2 years before prices improved; they always do," Huerkamp said. "When you get all the way out of any row crop, it's hard to get back in."

The down years allowed industry leaders and researchers to improve technology and increase grower confidence in planting cotton again when market conditions warranted it. Boll weevils are no longer a problem in cotton, thanks largely to the Mississippi Boll Weevil Eradication Program. In addition, new

transgenic cotton technologies offer enhanced pest-management options. Module-building pickers allow laborers to focus more on fieldwork and less on harvesting.

"Planting on more productive land has helped with recent yield increases," Dodds said. "The genetics that have been provided lately from the industry have been without question the best we've seen from a performance standpoint."

Yield per acre is a better barometer of performance than bale production. In the last 6 years, the state has averaged 1,126 pounds of lint per acre, compared with 887 pounds in the 6 years before that.

"That's the story," Dodds said. "Six years in a row of a more than 1,000-pound crop is pretty remarkable for us, considering the pests we fight and the unpredictable weather we have to manage. That 6-year average is the highest of any state in the Midsouth."

The biggest challenge cotton growers continue to face is high input costs relative to other row crops. Though boll weevils are no longer a problem, tarnished plant bugs, thrips, worms, and pigweed are considerable threats.

"We've made some great crops over the last few years, but it has come at a big expense," Dodds said. "The chemistry we have had to add to get pigweed under control has brought a significant cost. Furthermore, costs to control worms, buy land, and purchase harvest equipment are all very high."

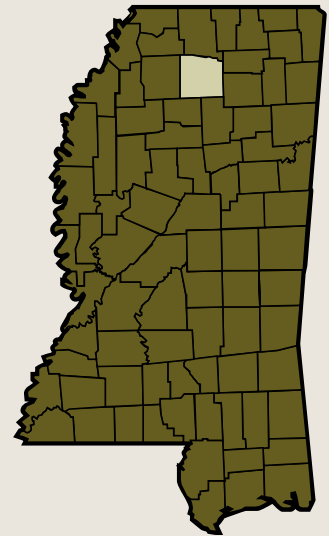
If monthly prices continue to stay above 80 cents per pound—a number the National Cotton Council has not reported since 2014—the rewards should outweigh the risks.

"I think an increase in demand for quality cotton is why we are seeing higher prices," Dodds said. "As long as prices are respectable and yields are strong, I don't see acreage going down."

BY NATHAN GREGORY • PHOTO BY KAT LAWRENCE



Rowan Oak, home of William Faulkner and his family for more than 40 years, was originally built in 1844. It stands on about 29 acres of land just south of The Square in Oxford. (Photo by Kevin Hudson)



1/82: Lafayette County

MSU in Lafayette County:

101 Veterans Drive
Oxford, MS 38655

“While Lafayette County may be most famous as the home of the University of Mississippi, it’s a place of many cultures and great diversity. From the beautiful square with a culture of its own to our farmland, forestry, and beef cattle operations, it’s a great place to live and work.”

MARGARET WEBB, MSU Extension County Coordinator (Retired)

County seat: Oxford

Population: 53,134

Municipalities: Oxford, Harmantown, Paris, Taylor, Abbeville

Communities: Yocona, Tulla, Clear Creek, Burgess, Shiloh, Anchor, Denmark

Commodities: cotton, soybeans, sweet potatoes, timber, cattle, dairy, vegetables

Industries: Caterpillar, Winchester, University of Mississippi

Natural resources: Sardis Lake

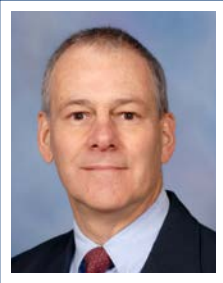
Attractions: Oxford Square, The Grove, Rowan Oak (Faulkner’s home)

History notes: Lafayette County was the inspiration for William Faulkner’s fictional Yoknapatawpha County. From *Sartoris* forward, Faulkner set all but four of his novels in the county, as well as more than 50 of his short stories. Yoknapatawpha, derived from two Chickasaw words, was the original name for the actual Yocona River, which runs through the southern part of the county.

Did you know? Jerry Clower, well-known comedian and native of Liberty, Mississippi, served as an assistant Extension agent in Lafayette County after playing football and studying agriculture at Mississippi State.

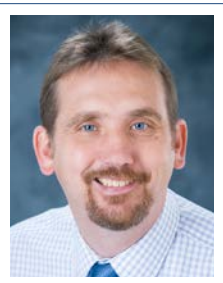
Editor’s note: 1/82 is a regular feature highlighting one of Mississippi’s 82 counties.

NewsNotes



Demarais

Faculty and students in the MSU College of Forest Resources (CFR) took top honors at the 41st annual meeting of the Southeastern Deer Study Group, marking the first time in the conference's history that one school swept the competition. **Dr. Steve Demarais**, the Dale H. Arner Professor of Wildlife Ecology and Management, received the prestigious Deer Management Career Achievement award, which was established in 1995 to recognize outstanding contributions to white-tailed deer ecology and management. Graduate students in the Department of Wildlife, Fisheries, and Aquaculture took first, second, and third places in the student oral presentation competition. Dan Morina of Raleigh, North Carolina, took first place for his research presentation on mating preferences among white-tailed deer. The second-place winner, Jordan Youngmann of Hoosick Falls, New York, presented his research on the genetic profile of deer to determine their origin. Jacob Dykes of Amory, Mississippi, took third place for his presentation on a study of how plant nutrients influence diet selection in white-tailed deer. These awards demonstrate the quality of research conducted by the MSU Deer Lab, a unit of the Forest and Wildlife Research Center (FWRC) and Extension Service.



Schilling

Dr. Wes Schilling, a professor in the Department of Food Science, Nutrition, and Health Promotion, has been awarded the 2018 Ralph E. Powe Research Excellence Award. His research in the Mississippi Agricultural and Forestry Experiment Station (MAFES) focuses on proteomics, sensory science, meat quality, flavor chemistry, statistical methods, and meat processing (poultry, beef, pork, and catfish). His studies on sensory research, broiler meat quality, and relationships between sensory quality, flavor chemistry, and consumer science have earned him numerous university and national awards. Schilling has secured more than \$2.8 million in funding for his laboratory, while working in conjunction with administrators and scientists to secure more than \$6 million. He has published 15 textbook chapters, more than 125 peer-reviewed journal articles, and more than 50 invited articles for trade magazines. Since joining the MSU faculty in 2003, Schilling has developed five courses that focus on hands-on experiences and real-world examples that greatly benefit students. He also completed a sabbatical at Johnsonville Sausage, which helped him learn to better design research projects to impact business decisions. He has served as the graduate student adviser for 34 students. The Powe Award is a memorial to the MSU alumnus and longtime research vice president who died in 1996.



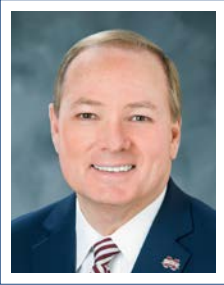
Davis

Dr. Brian Davis has been named CFR's James C. Kennedy Associate Professor for Waterfowl and Wetlands Conservation. This position was established in 2008 to sustain in perpetuity the teaching, research, and outreach program in waterfowl and wetlands ecology and conservation at Mississippi State. Davis, an associate professor, joined the Department of Wildlife, Fisheries, and Aquaculture in 2009. Before coming to MSU, he worked in several waterfowl flyways. Davis held positions with the Missouri Department of Conservation, California Waterfowl Association, and Ducks Unlimited in Arkansas and Louisiana. He helped deliver numerous conservation programs that restored and protected bottomland hardwood forests and other wetlands. His current research in the FWRC is focused on waterfowl and wetland ecology and management in the Lower Mississippi Valley. Davis received his bachelor's degree in wildlife management from the University of Missouri-Columbia and his master's and doctoral degrees from Mississippi State.



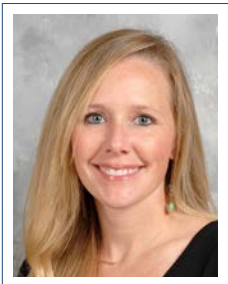
Reddy

MAFES recognized outstanding research conducted by faculty, staff, and students. **Dr. Raja Reddy**, a MAFES research professor in the Department of Plant and Soil Sciences, received the MAFES Excellence in Research Faculty Award, which is sponsored by Mississippi Land Bank. Reddy, a 29-year MSU veteran, has published 138 refereed publications. As director of the Soil-Plant-Atmosphere Research unit, Reddy has conducted more than 125 research projects. He received bachelor's, master's, and doctoral degrees from Sri Venkateswara University in India. Other MAFES award winners included Chathurika Wijewardana, doctoral student in Plant and Soil Sciences, Excellence in Research Award, Graduate Category; Hunt Walne, senior agronomy major, Excellence in Research Award, Undergraduate Category; Thomas Horgan, research associate, Outstanding Research Staff Award; Dr. Sead Sabanadzovic, researcher and plant pathology professor in the Department of Biochemistry, Molecular Biology, Entomology, and Plant Pathology, Outstanding Publication Award; Dr. Eric Stafne, associate Extension/research professor in Plant and Soil Sciences, Most Impactful Publication Award; and Dr. Carrie Vance, assistant research professor in Biochemistry, Molecular Biology, Entomology, and Plant Pathology, Grantsmanship Award.

**Keenum**

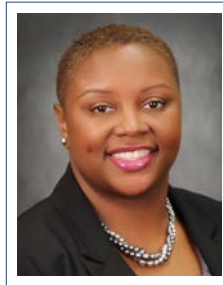
MSU President Mark Keenum has been named chairman of the Board for International Food and Agricultural Development (BIFAD), which was created in 1975 under Title XII (Famine Prevention and Freedom from Hunger) of the Foreign Assistance Act. BIFAD's mission is to draw on higher education's scientific knowledge to advise U.S. international assistance efforts. Keenum also chairs the board of

the Foundation for Food and Agriculture Research and the Presidents United to Solve Hunger Steering Committee. In 2016, Keenum was named to the Feed the Future Evaluation Oversight Committee, which evaluated the U.S. Agency for International Development (USAID) Feed the Future initiative. Keenum was also appointed to the Challenge of Change Commission by the Association of Public and Land-Grant Universities, served on the Chicago Council on Global Affairs Agriculture Development Initiative, and was named to USAID's Soybean Innovation Lab Advisory Board. Keenum has addressed the United Nations on global food security and world hunger initiatives. Before accepting the MSU presidency, Keenum served as an undersecretary of the U.S. Department of Agriculture.

**Sparks**

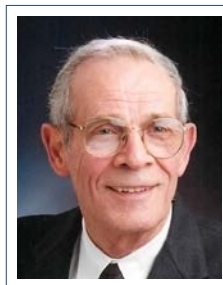
Bekah Sparks, an instructor in the MSU Extension Center for Technology Outreach, was one of 16 Extension professionals across the country to earn an Impact Collaborative Facilitator certificate from the eXtension Foundation. Land-grant universities in the U.S. Cooperative Extension System share tools and resources through eXtension. Sparks uses her training to facilitate the organization's Designathon One events.

These workshops kick off the Impact Collaborative Initiative, which is eXtension's flagship program to help Extension professionals generate local programming for their clients. Participants practice design thinking skills and learn techniques they can use with their colleagues. This process reconsiders how and when the effectiveness of a new Extension program is evaluated in its development. The ultimate goal is for participants to duplicate the innovation process learned at Designathon One with their colleagues or within their communities to create localized Extension programs that make a measurable difference.

**Simpson**

The College of Agriculture and Life Sciences (CALs) recently recognized outstanding teachers. **Dr. LaShan Simpson**, an assistant professor in the Department of Agricultural and Biological Engineering, received the CALs Teacher of the Year Award and the Excellence in Teaching Award, Upper Division. Simpson advises graduate, undergraduate, and high-school students who conduct research in her lab.

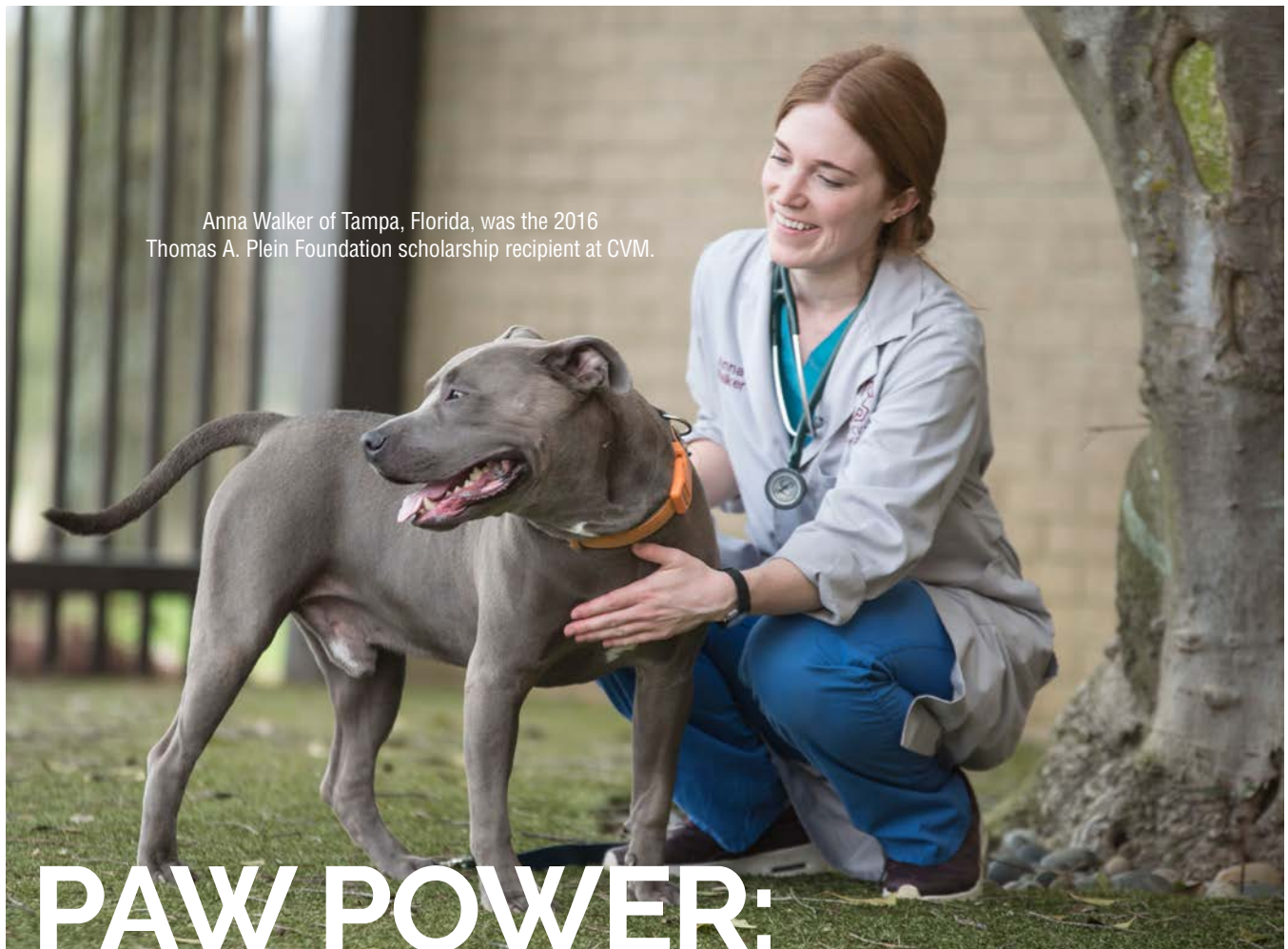
She also helped charter the Biomedical Engineering Association of MSU (BEAM) student chapter. BEAM, an undergraduate chapter of the Biomedical Engineering Society, has mentored two National Science Foundation Graduate Fellowship recipients. Simpson earned bachelor's, master's, and doctoral degrees in bioengineering from Clemson University. Other CALs teaching award winners included Dr. Joel Paz, associate professor in Agricultural and Biological Engineering, Excellence in Teaching Award, Lower Division; Dr. Lori Elmore-Staton, assistant professor, School of Human Sciences, Excellence in Teaching Award, Graduate Level; and Dr. Paul Tseng, assistant professor, Plant and Soil Sciences, New Faculty Teaching Award.

**Thompson**

Dr. Warren S. Thompson, CFR dean emeritus, died on March 26 at the age of 88. Thompson began his career with Mississippi State in 1964 as professor and director of the Forest Products Utilization Laboratory. The Mississippi Legislature created the laboratory to conduct research on wood and wood products, a major economic driver of the state economy. Thompson oversaw construction of the facility and fostered its

growth. In addition to research, the laboratory included teaching and outreach in the Department of Wood Science and Technology (now the Department of Sustainable Bioproducts). In 1983, Thompson was named CFR dean. In 1993, the building that houses the dean's office, Department of Forestry, and Department of Wildlife, Fisheries, and Aquaculture was named Thompson Hall in honor of the longtime administrator. Born in Utica, Mississippi, Thompson completed his bachelor's and master's degrees at Alabama Polytechnic Institute (now Auburn University) and his PhD at the University of North Carolina. He was a veteran of the U.S. Army.

DevelopmentCorner



Anna Walker of Tampa, Florida, was the 2016 Thomas A. Plein Foundation scholarship recipient at CVM.

PAW POWER:

Family's Dedication to Rescue Dogs Leads to CVM Scholarship

Hannah Skurzewski was in Belize for a spring-break study abroad when she told her parents she wasn't interested in returning home to Wisconsin for her sophomore year. She had applied to Mississippi State based on a strong recommendation from a family friend. After visiting campus for the first time with her mother, Terry Skurzewski, she joined the Bulldog family as a psychology major, and the entire family enthusiastically embraced SEC sports.

Back home in Wisconsin, Terry Skurzewski turned her attention to the Thomas A. Plein (TAP) Foundation, started by her uncle in 1987. While her children were young, she was too busy to serve on the board, but, as an empty-nester, she anticipated being part of the foundation's mission of helping

those in need. She knew her love for rescue dogs—she and her husband have three—didn't meet the foundation's funding criteria. But she had an idea.

"Hannah had a friend in vet school at MSU, so one day I just called the College of Veterinary Medicine, and they put me through to Jimmy Kight," she recalled. "We talked about dogs and football for nearly an hour. I told him I wanted to create an endowed scholarship with an emphasis on dogs. Was that possible? He said it was and drafted a proposal, which the TAP board approved."

The TAP Foundation's first CVM scholarship supports first-year students with an interest in canine medicine and demonstrated financial need. Encouraged by that gift's success,



The initial TAP Foundation scholarship at CVM supports first-year students with financial need and an interest in canine medicine.

Terry Skurzewski worked with Kight and the foundation's board in 2017 to create a scholarship for students in the veterinary technician program.

"I met Dr. Allison Gardner, who runs the vet tech program, and she is awesome, so passionate!" she said. "She sold me on the program. I know from my own experience with my dogs that vet techs are amazing. They are like the nurses of the animal world.

"In the long term, many animals will get great care through the students who graduate and work with them," she explained. "In the short term, because the foundation criteria are based on need, I hope to see young people who wouldn't otherwise have a chance at this type of career get to pursue an education."

She said she thinks her Uncle Thomas would be happy with the scholarships.

"Education was very important to him, and he was also a dog and animal lover," she said.

As for Hannah Skurzewski, she graduated in May 2018 with a degree in accountancy. Tailgating with friends led to a change of career plans. She enjoyed an internship at FedEx and two internships with Georgia Pacific, which offered her a position. In her free time, she volunteered with local dog-rescue organizations. She also worked with her mother on the scholarship proposal for the vet tech program, and she anticipates being on the TAP Foundation board someday.

"It's truly a family at MSU," she said. "People always ask, 'What do you need? I can help!' I am happy to be part of that giving community."

For information about endowed scholarships at CVM, contact director of development Jimmy Kight at (662) 325-5893.

BY KERI COLLINS LEWIS • PHOTOS BY TOM THOMPSON

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Extension horticulture specialist Dr. Jim DelPrince recently worked with MSU researchers Dr. Gary Bachman and Dr. Christine Coker to study extended late-season production and mildew and disease management in zinnias. DelPrince wants to help farmer florists pursue growing zinnias and other cut-flower crops to expand Mississippi's local floral market. Learn more about DelPrince and his unique floral program on page 12. (Photo by Kevin Hudson)

