Boreal toad numbers have dwindled to dangerous levels in recent years. . . Page 8
### Table of Contents

#### On the Cover
Boreal toad numbers have dwindled to dangerous levels in recent years, and Mississippi State University has partnered with the Memphis Zoo to find a way to increase the population. Researchers in MSU's Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology care for and study over 50 toads as part of this project. (Photo by Kat Lawrence)

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Soil Survey</td>
</tr>
<tr>
<td>6</td>
<td>Fashion Fascination</td>
</tr>
<tr>
<td>7</td>
<td>Kenaf Innovation</td>
</tr>
<tr>
<td>8</td>
<td>Toad Research</td>
</tr>
<tr>
<td>10</td>
<td>Troop Support</td>
</tr>
<tr>
<td>12</td>
<td>Forage Testing</td>
</tr>
<tr>
<td>13</td>
<td>Folk Festival</td>
</tr>
<tr>
<td>14</td>
<td>Farm Intern</td>
</tr>
<tr>
<td>16</td>
<td>Focus Section</td>
</tr>
<tr>
<td>22</td>
<td>Fresh Water Fish</td>
</tr>
<tr>
<td>23</td>
<td>Powerful Pollinators</td>
</tr>
<tr>
<td>24</td>
<td>Veterinary Technology</td>
</tr>
<tr>
<td>25</td>
<td>Airbase Garden</td>
</tr>
<tr>
<td>26</td>
<td>CSI Entomology</td>
</tr>
<tr>
<td>27</td>
<td>County Profile</td>
</tr>
<tr>
<td>28</td>
<td>News Notes</td>
</tr>
<tr>
<td>30</td>
<td>Sidon Plantation</td>
</tr>
</tbody>
</table>

- **Soil Survey**: A recently completed century-long soil survey has a wealth of information for land-use planners.
- **Fashion Fascination**: A passion for fashion has led an MSU graduate to a career with a major clothing retailer.
- **Kenaf Innovation**: MSU scientists are perfecting a unique plant-based material able to withstand high levels of stress.
- **Toad Research**: An endangered toad species is helping teach MSU students conservation ecology.
- **Troop Support**: MSU Extension Service specialists are training troops to assist Afghanistan’s agricultural agents.
- **Forage Testing**: Portable forage testing equipment lets Extension specialists test hay and grass in the field.
- **Folk Festival**: A Washington, D.C. event put land-grant universities in the spotlight.
- **Farm Intern**: One MSU student spent his summer farming and interning for a major seed company.
- **Focus Section**: Camps to appeal to almost every interest brought young people to campus during the summer.
- **Fresh Water Fish**: University research is helping keep Mississippi a leader in numbers of freshwater fish species.
- **Powerful Pollinators**: Bees are renowned for their plant pollination prowess, but other insects and animals help the process.
- **Veterinary Technology**: The College of Veterinary Medicine has graduated its first Veterinary Technology class.
- **Airbase Garden**: A Welcome Home Garden at Columbus Air Force Base pays tribute to the nation’s military.
- **CSI Entomology**: MSU entomology students have learned to look at crime scenes from an “entomology standpoint.”
- **County Profile**: This issue profiles Yalobusha County.
- **News Notes**: News of people and activities in the Division of Agriculture, Forestry and Veterinary Medicine.
- **Sidon Plantation**: A 2,500-acre Delta plantation is now part of the MSU Bulldog Properties program.
Summer is a unique time on a university campus. The pace slows in some respects but goes into high gear in others.

At Mississippi State, dozens of camps and workshops bring hundreds of young people from throughout the state to campus for summer activities that are fun and educational. Units in the Division of Agriculture, Forestry and Veterinary Medicine conduct many of those programs.

Bugs, robots, photography, archery, bird-watching, wood products and many other activities are all included in camps led by Division personnel. Young people with an interest in veterinary medicine can even learn about what it’s like to be a veterinarian.

Our summer camps are featured in the Focus section of this issue of Landmarks. It starts on page 16.

Summer is one of the busiest times of year at our research and Extension Service facilities throughout the state. Work with research plots is in full swing, and workshops and other educational programs attract hundreds of participants.

Included in those activities are field days at research and extension centers and Mississippi Agricultural and Forestry Experiment Station units. One of those events this summer was the Aug. 9 North Mississippi Row Crops Field Day at the North Mississippi Research and Extension Center in Verona.

The featured speaker at the Verona field day was Mississippi Commissioner of Agriculture and Commerce Cindy Hyde-Smith, who emphasized the importance of such outreach activities.

“Events such as this one are great opportunities for all of us to meet with farmers,” she said. “(Farmers) are the backbone of our country. I never cease to be amazed at the innovation of our Mississippi producers.”

It’s that spirit of innovation and determination that the nation’s land-grant system of higher education was created to foster 150 years ago. Part of the celebration of the 150-year anniversary was participation by land-grant universities in this summer’s Smithsonian Folklife Festival in Washington, D.C.

I want to take this opportunity to again say thanks for MSU’s outstanding representation at the two-week-long event from students, faculty and other volunteers. It was an opportunity to spread the message beyond our state borders about the exciting and innovative things we are doing as part of the land-grant university system, including the work with thermal technology under way in the Department of Animal and Dairy Sciences. The festival was also an opportunity to showcase the outstanding work of the College of Veterinary Medicine’s mobile lab.

I look forward to continuing to visit with you through Landmarks magazine and in person about the work we are doing here.

Gregory A. Bohach
Technology may have changed in the 114 years since the national soil survey started, but the dedication of soil scientists engaged in the project has not wavered.

On May 8, partners from the Mississippi Agricultural and Forestry Experiment Station, the Natural Resources Conservation Service (NRCS) and other natural resources agencies met in Jackson to celebrate the completion of an ambitious project: mapping Mississippi’s soils on the acre level.

“To map over 30 million acres is a mind-boggling scientific and technical accomplishment,” said Billy Kingery, MAFES scientist and president of the Professional Soil Classifiers Association of Mississippi. “But it’s not simply a map of the soils like a road map. This survey also offers suggestions for the uses of soils — we call them interpretations — to address the needs of people in such fields as agriculture, urban development, wastewater treatment and road building. It’s a resource for anyone, anywhere in the world to use any time of day or night. That’s a big deal.”

Many agencies collaborated to assess the soil types in each county, but the soil scientists who did the fieldwork received special recognition at the celebration.

“The soil survey is not just an effort of NRCS; it’s a cooperative effort of Mississippi State University, Alcorn State University and other state and federal agencies,” said Al Garner, acting state conservationist. “But it’s the soil scientists, the boots on the
ground, who have made this achievement possible. When you open a soil survey, you can see the work of agronomists, engineers, biologists and writers who have put soil science into layman’s terms and made the interpretations user-friendly so everyone can manage the land to preserve soil and water, our most important natural resources.”

Kingery said that the look and feel of soils is the starting place for putting them in a taxonomy.

“You have to put them into groups or classes so there’s a system,” he said. “Soils have different colors — some are dark brown, almost black, and some are reddish or yellow. They have layers. That’s the beginning of a taxonomy, or classification. Some are sandy, silty or clay-based. Red soil tells you iron has oxidized, gray tells you the soil is wet, so now we’re into water availability and drainage. Slope or position in the landscape, climate, age, plants and microbes and of course the starting or parent material — all of these factors influence the formation and properties of soil.”

David Pettry, retired MAFES soil scientist and W.L. Giles Distinguished Professor, said people do not realize the wealth of soils in Mississippi.

“We have eight out of the 12 soil types found in the world, right here,” Pettry said. “I call the soil survey a blueprint for destiny; it shows what we are capable of and where we’re going. The key is to keep our efforts in balance and harmony with nature. How are we going to adapt our practices to make sure these resources are available for our children and grandchildren?”

The initial work of the soil survey has been completed, and the next phase of the project will bring together Mississippi’s county maps. The original project was laid out by county, but the overall goal is a seamless, national map based on geographic land formations.

“The most important message from this celebration is that our soils are the living foundation of the home and provide for the needs of the household. We should take care of our soils as if our lives depended on them,” Kingery said.
A passion for fashion led a Mississippi State alumna back to campus to share her career path with students in the MSU Apparel, Textiles and Merchandising (ATM) Program.

Robin Cox, a 1998 MSU graduate and corporate merchandise planner for national retailer J.C. Penney Co., now known as “jcpenney,” spent a day talking with students and faculty as part of the Senior Showcase. This event celebrated 2012 graduates and the design work they completed while in the MSU School of Human Sciences.

ATM instructor Charles Freeman applied for an MSU/ESPN grant to fund the event, but he said students did all of the work to plan and organize it.

In 2010, ESPN began giving funds to MSU for televising football games, which the athletic department shared among the colleges. Freeman said the College of Agriculture and Life Sciences set aside the funds to help student organizations defray the costs associated with attending professional conferences and other professional development opportunities.

“Students involved in ATM programs in fashion cities, such as New York, Los Angeles and Dallas, are in constant contact with industry professionals,” Freeman said. “It is important for our students to have similar exposure to help them stay competitive and up-to-date on the ever-changing fashion industry.

“I wanted to bring an industry expert to campus, and my colleagues have kept up with what our students have been doing with their careers. Robin was the first graduate to come to mind. She has had the time and experience to give students perspective on the different careers available in this major,” he said.

Cox said when she was a senior at MSU, she wanted to be a buyer, but now she uses her analytical skills in the financial side of the fashion industry.

“As the corporate merchandise planner, I basically keep the checkbook for the buyer,” she said. “I help forecast sales, plan markdowns and serve as the buyer’s financial partner. I work with the buyer for jcpenney modern casual brands for petites and women.”

The ATM program has changed since Cox graduated.

“It’s special to be invited to come back and see how much the program has grown over the years. The students asked me what my specialization was, and I had to tell them we had only one: merchandising,” she said.

Seniors shared both their design displays and their dreams for the future with Cox. Rylee Tomlinson, a senior from Starkville, said she enjoyed learning new skills, such as embroidery, in her degree program but also learned to value other aspects of the fashion world.

“I want to use my organizational skills to produce fashion shows,” she said. “I like to see all of the details of a project come together.”

Justin Phelps, a senior from Madison, said he wants to move to Dallas, the city Cox now calls home.

“I’m looking for an internship with a designer,” he said. “I want to have my own label and be the next Chanel. As a kid I drew dresses, not stick figures.”

Cox gave the students practical advice.

“Enjoy college while you’re here. Get as much industry experience as you can,” she said. “You are your own advocate. You must sell yourself to that future company if you want them to hire you or offer you an internship.”

By Keri Collins Lewis

A passion for fashion led a Mississippi State alumna back to campus to share her career path with students in the MSU Apparel, Textiles and Merchandising (ATM) Program.

Robin Cox, a 1998 MSU graduate and corporate merchandise planner for national retailer J.C. Penney Co., now known as "jcpenney," spent a day talking with students and faculty as part of the Senior Showcase. This event celebrated 2012 graduates and the design work they completed while in the MSU School of Human Sciences.

ATM instructor Charles Freeman applied for an MSU/ESPN grant to fund the event, but he said students did all of the work to plan and organize it.

In 2010, ESPN began giving funds to MSU for televising football games, which the athletic department shared among the colleges. Freeman said the College of Agriculture and Life Sciences set aside the funds to help student organizations defray the costs associated with attending professional conferences and other professional development opportunities.

“Students involved in ATM programs in fashion cities, such as New York, Los Angeles and Dallas, are in constant contact with industry professionals,” Freeman said. “It is important for our students to have similar exposure to help them stay competitive and up-to-date on the ever-changing fashion industry.

“I wanted to bring an industry expert to campus, and my colleagues have kept up with what our students have been doing with their careers. Robin was the first graduate to come to mind. She has had the time and experience to give students perspective on the different careers available in this major,” he said.

Cox said when she was a senior at MSU, she wanted to be a buyer, but now she uses her analytical skills in the financial side of the fashion industry.

“As the corporate merchandise planner, I basically keep the checkbook for the buyer,” she said. “I help forecast sales, plan markdowns and serve as the buyer’s financial partner. I work with the buyer for jcpenney modern casual brands for petites and women.”

The ATM program has changed since Cox graduated.

“It’s special to be invited to come back and see how much the program has grown over the years. The students asked me what my specialization was, and I had to tell them we had only one: merchandising,” she said.

Seniors shared both their design displays and their dreams for the future with Cox. Rylee Tomlinson, a senior from Starkville, said she enjoyed learning new skills, such as embroidery, in her degree program but also learned to value other aspects of the fashion world.

“I want to use my organizational skills to produce fashion shows,” she said. “I like to see all of the details of a project come together.”

Justin Phelps, a senior from Madison, said he wants to move to Dallas, the city Cox now calls home.

“I’m looking for an internship with a designer,” he said. “I want to have my own label and be the next Chanel. As a kid I drew dresses, not stick figures.”

Cox gave the students practical advice.

“Enjoy college while you’re here. Get as much industry experience as you can,” she said. “You are your own advocate. You must sell yourself to that future company if you want them to hire you or offer you an internship.”
A fibrous plant studied at Mississippi State University may end up at the Olympics in the form of a specialty gunstock.

“We’re exploring how to make a commercial product out of an agricultural byproduct and kenaf, a quick-growing plant,” said Dan Seale, forest products professor in the MSU Forest and Wildlife Research Center (FWRC).

Seale and researchers in the FWRC Department of Forest Products are working with Lane Segerstrom of Corn Board Manufacturing Inc. (CBMI) and his product development team to test a unique mix of kenaf and corn stover that can be pressed into a board useful for a variety of purposes, including gunstocks.

“We’ve tried a number of different resins, pressing to a number of different densities, and now we’re zeroing in on a density that will produce properties competitive with commercially available products,” Seale said. “It’s like making wood cookies. We’re developing and testing recipes, and we’ll develop product recipes for each niche market. Our manufacturing expertise and specialized equipment will help CBMI figure out what they will need before they buy their own presses and start production.”

Kenaf is a fibrous plant somewhat similar to bamboo that grows as tall as 10 feet and has a woody base up to about 4 inches across. MSU licensed its patented kenaf board production technologies to Segerstrom in January 2011, and research has been ongoing, said Chase Kasper, associate director for the MSU Office of Entrepreneurship and Technology Transfer.

Segerstrom said combining corn stover (dried husks and leaves) and kenaf fibers will create a better product than either material could offer separately.

“We hope to find increased strength — a board that will handle more stress,” he said.

When developing new products, small manufacturers are limited in terms of equipment available to test prototypes. Segerstrom overcame that limitation by working with MSU experts to press and test boards for a variety of factors, including density, internal bond and moisture content.

CBMI’s goal is to generate green products for specialty applications and efficiently produce them in small quantities. Ideas include a line of home furnishings, a closet organization system and 100 percent biomass pallets.

“We’re not trying to create a raw good that people buy at a store,” Segerstrom said. “Our goal is to dial in on what type of board is needed for certain products and develop partnerships with companies that want to use renewable, bio-based technologies. For example, we’re working with Huntingdon Industries to make the greenest couch on the planet.”

Part of Segerstrom’s strategy is to create buzz about the product’s quality. To build excitement about Corn Board — a pressed board made from corn stover — he developed the Stalk It line of high-end skateboards. He rode a Stalk It longboard into history by setting a Guinness World Record for speed on a towed skateboard at 78.1 miles per hour.

“I’m a big fan of Richard Branson. I think he understands consumers and does things with flair,” Segerstrom said. “If a CEO will stand behind — or in this case, on — his product, and people can see what the product is capable of, then they’ll want it in their products. It’s the wow factor.”

Segerstrom hopes to create that same wow factor for the kenaf-corn board by developing an ultra-lightweight gunstock for competitive shooting sports, such as the Olympics.

“The long-term benefit to MSU is showing the world that kenaf is a viable product with a variety of uses,” he said.

Mississippi Agricultural and Forestry Experiment Station and FWRC researchers spent about 12 years studying the commercial usefulness of kenaf fibers. Among the results of this research were three patents, a book on kenaf processing and properties, and a new kenaf variety.
Nat Calatayud, a postdoctoral fellow shown here holding Diane, is researching ways to get the endangered Boreal toad to breed in captivity.

MSU WORKING TO INCREASE

Endangered Toad Numbers

By Bonnie Coblentz • Photos by Kat Lawrence
Boreal toad numbers have dwindled to dangerous levels in recent years, and MSU has partnered with the Memphis Zoo to find a way to increase the population.

Nat Calatayud, a postdoctoral fellow from Mexico who earned her doctoral degree in Australia in marsupial reproduction, is working on the project. She is under the supervision of Scott Willard, head of the MSU Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology; and Andy Kouba of the Memphis Zoo.

“We’re trying to optimize the reproduction protocols for these toads,” Calatayud said. “We want to get the toads to reproduce in captivity so the young can be raised and released to the wild.”

There is a large Boreal toad population in the wild in Alamosa, Colo., but those in captivity there do not reproduce as prolifically. Those in captivity in the South do not breed at all.

“In Colorado, they usually hibernate naturally from November to summer, and this is believed to be a major trigger of their reproductive cycle,” Calatayud said. “Here, we do not hibernate them in the lab.”

Working with Calatayud are Cecilia Langhorne, a doctoral student in physiology from Scotland; and Trish Rowlison, a master’s student in physiology from Missouri.

“We are trying to figure out what hormones to use to get the Boreal toads to reproduce in captivity without hibernation,” Langhorne said. “We’re trying to override hibernation and use hormones to induce breeding, but this is proving to be a fine science.”

The toads look very similar to Mississippi-native Fowler toads, but they have a few differences. For one thing, Boreal toads are sluggish when compared to their Mississippi cousins. Calatayud can turn her back on a toad resting on a lab bench without fear the toad will escape. Fowler toads are quick to hop away when given the opportunity.

Boreal toads have the distinctive warts toads are known for, but their feet are more webbed than those of a Fowler toad. The amphibians come in a range of shades of gray, brown, black and green. They can change color slightly to match their environment.

Unlike Mississippi Fowler toads, which have a call, Boreal toads are silent except for a slight chirp when they are picked up. They also have a long natural lifespan in Colorado. One toad found in the wild in 2011 had been tagged in 1995.

Their bellies make them unique. Three to four toads live in each plastic toad habitat, complete with a pool area, sand beach and artificial cave. Belly pictures, along with the toads’ names, are posted on the side of each plastic crate to help with identification.

“The underside of a toad is like a thumbprint on a human,” Calatayud said. “It’s how we identify them. No two are alike.”

To show just how distinctive they are, the toads have been given names. Visitors to the toad lab can meet Diane, Beyoncé, Linus, Zsa Zsa and Elvis, who has definitely not left the building.

The Boreal toads eat a typical toad diet of mealworms, crickets and wax worms. In the winter, they eat twice a week, but in warmer weather, they eat three times a week.

Calatayud, Langhorne and Rowlison, along with master’s graduate Lindsay Bullock from Ripley, care for the toads and conduct research on Assisted Reproductive Technologies, or ART. Right now, they are tracking hormone levels in the toads.

“It’s a bit hard to draw a blood sample from a toad, so we get them to pee in a dish each day, and we test the hormones found in the urine,” Calatayud said.

Toads urinate on nearly every child who picks one up at home, so the process of getting a toad to pee is not very scientific. The researchers gently hold the toad under the armpits and stroke its belly while it is suspended over a Petrie dish.

At one time, the researchers collected urine samples from all 52 toads each day, but now they collect samples twice a month from the entire population and daily from a much smaller group.

Kouba, director of conservation and research at the Memphis Zoo, said the partnership between MSU and the zoo has been a great program for both institutions, creating new graduate student and postdoctoral fellowship positions to address critical areas of conservation for declining populations.

“Advances in biochemistry, molecular biology and cryobiology are being applied to saving amphibians, like the Mississippi gopher frog, a locally endangered species that is relying upon MSU studies for its long-term genetic management and survival,” Kouba said.

This program is funded by two Institute of Museum and Library Services grants and a Morris Animal Foundation grant.

“By working together on these programs, the Memphis Zoo and MSU are able to combine resources and expertise to create a unique learning environment for future scientists interested in various disciplines related to conservation ecology,” Kouba said. “Thanks to passionate scientists like Nat, Cecilia and Tricia, I am encouraged that there is a more hopeful future for threatened amphibians.”
Mississippi’s Extension agents are not being deployed to Afghanistan, but their agricultural and food preservation information is.

Mississippi State University Extension Director Gary Jackson said agricultural specialists recently trained an elite group of military personnel preparing to assist the Afghan Ministry of Agriculture. After they are deployed, these men and women will maintain their contact with MSU specialists for ongoing needs and questions as they assist Afghan agricultural agents with demonstration food plots and similar responsibilities.

“MSU Extension specialists and agents have a wealth of knowledge about agriculture and about training communities to grow and preserve their own food,” Jackson said. “This is an opportunity to help one of the poorest provinces of a country trying to recover from years of turmoil.”

In early May, the MSU Extension Service trained a dozen members of the Agri-Business Development Team, a detachment of the 31st Rear Operations Center based out of Mississippi’s Camp Shelby. They are anticipating a 10-month deployment to Afghanistan.

Col. Bert Gilmore is a member of the team and a 1983 and 1986 graduate of MSU. He said members of the team stepped forward when a call went out for volunteers with agricultural backgrounds. Gilmore, who is currently fulltime with the National Guard, is a former vocational agriculture teacher. Other members of the team have backgrounds in agricultural economics, veterinary medicine, cattle production, plant pathology, agronomy and related fields.

“We will be replacing a similar team from Minnesota, and our job will be to support the governmental workers who function like American Extension agents,” Gilmore said. “This is a chance to improve the relationship between the local people and their government. Some Afghans may do things for the Taliban because they need money to feed their families. This could increase the trust locals have for their government.”

Of the 12 team members, Dr. David Powell, a preventative medical veterinary corps officer, is the only one who has a previous deployment to the country. This will be his third medical/veterinary mission to Afghanistan.

“I anticipate working to improve herd health conditions for the sheep and goats in the area. Most problems tend to be nutrition or parasites. The drought causes some challenges,” said the 1989 graduate of the Tuskegee University School of Veterinary Medicine.

“There also will be a need for poultry assistance.”

Extension horticulturist David Nagel told the team that most of their challenges would be related to lack of rain. With an average of 4 inches of rainfall annually, their crops will depend on irrigation.

“Too much water can be just as detrimental as not enough,” he said. “Transplants require shorter growing seasons, which is a good option when there is a shortage of water.”

Nagel said one goal is to help Afghans grow crops for consumption throughout the winter months.

“Winter squash, such as butternut and spaghetti squash, have hard shells and can last a long time in the right conditions,” he said. “Properly constructed root cellars can hold produce for months.”

The Agri-Business Development Team covered topics including beekeeping, livestock, poultry, weed management, disease and insect management, irrigation and water conservation, farm management and economics, and food safety and processing. In addition to five days of classroom training, the team toured a goat farm near Wiggins and the MSU Beaumont Horticulture Unit in Perry County.

Joe Street, Extension associate director and state program leader for agriculture, described the training as a privilege for the Extension Service and a chance for him to give back to his former unit. Street retired as commander of the 31st Rear Operations Center in 1998.

“This was a great opportunity for MSU Extension to support the troops and their efforts to improve the lives of people in Afghanistan,” he said. “The military puts a priority on training, and so do our Extension personnel. We know that the more prepared people are for the challenges, the better the results will be.”
“This was a great opportunity for MSU Extension to support the troops and their efforts to improve the lives of people in Afghanistan. The military puts a priority on training, and so do our Extension personnel. We know that the more prepared people are for the challenges, the better the results will be.”

Joe Street

“Too much water can be just as detrimental as not enough. Transplants require shorter growing seasons, which is a good option when there is a shortage of water.”

David Nagel

“MSU Extension specialists and agents have a wealth of knowledge about agriculture and about training communities to grow and preserve their own food. This is an opportunity to help one of the poorest provinces of a country trying to recover from years of turmoil.”

Gary Jackson
Mississippi State University has the South’s first portable forage tester that can give hay and cattle producers immediate decision-making information and enable them to improve their profit margins.

Rocky Lemus, associate Extension and research professor in the MSU Department of Plant and Soil Sciences, said the small machine has big potential.

“We can use this year-round, testing grass in pastures and hay in fields during the growing season or testing hay in the barn during winter,” Lemus said.

Lemus said the near infrared reflectance (NIR) spectroscopy machine tests moisture, fibers and crude protein. He was able to purchase the tester using funds from a $30,000 grant from the Mississippi Agricultural and Forestry Experiment Station, the MSU Extension Service and the Department of Plant and Soil Sciences. He is calibrating it for Mississippi forage crops including bahiagrass, bermudagrass, alfalfa, annual ryegrass, tall fescue, small grains (wheat, rye and oats), summer annuals (crabgrass, teff grass and forage sorghums), and annual and perennial clovers.

“Right now, we are not traveling the state just to use this equipment, but we use the tester when we go on typical farm visits or forage-related field days to address various problems, pasture evaluations, grazing management decisions, weed control and fertility issues,” he said.

The machine’s analyses can help growers know the best time to harvest hay. Lemus said growers often are tempted to delay cutting, which may increase quantity but hurt quality.

“Lost quality before harvest means more money spent on feed supplements to cattle later,” said Lemus, a forage and grazing systems specialist. “We can also test hay that is already harvested and know how much, if any, supplementation is needed.”

Daniel Rivera is an assistant Extension and research professor who specializes in cattle nutrition in south Mississippi. He said the immediate results from this forage tester give it an advantage over the normal method.

“Typically, we send forage samples to university labs, and the whole process can take as long as two weeks under ideal conditions. A lot can happen in two weeks in a state like Mississippi, where we can go from lush to almost drought-like conditions in no time at all,” he said.

Rivera said the strength of this portable tester lies in the benefits for analyzing pastures for better management of cattle nutrition.

“When analyzing hay, growers have a little flexibility in terms of time, but with pastures, they need to know the nutritional quality of the grass as soon as possible,” he said. “Producers may choose to move cattle to different pastures or give supplements based on the animals’ nutritional needs.”

Rivera said producers can save money by determining supplement needs without overfeeding.

“Those savings can add up fast,” he said.

For questions about forage issues, contact the nearest county Extension office.
“Where is the chocolate milk cow?”

This is a question Peter Ryan, associate provost for academic affairs at Mississippi State University, answered many times during his week on the National Mall in Washington, D.C. Ryan was there, along with other representatives from land-grant universities as a part of the Smithsonian Folklife Festival.

The festival is held every summer on the National Mall in front of the Smithsonian as a tribute to living traditions throughout the country. While most years this means showcasing different cultures, this year one theme was tied with agriculture. Titled “Campus and Community,” the theme celebrates the 150th anniversary of both the U.S. Department of Agriculture and its partnership with land-grant and public universities.

On July 2, 1862, President Abraham Lincoln signed the Morrill Act, granting states and territories tracts of land that provided funding for universities when sold. Today, these land-grant universities total 105, at least one in every state and territory. They have become famous for their research in cutting edge technology and continually shaping the future of American agriculture.

At the festival, Ryan and colleague Scott Willard, professor of biochemistry and molecular biology at Mississippi State, gave a tour of their university’s tent. First, there is the crowd favorite: a life-sized Jersey cow statue, complete with a working udder in order to show people where their milk comes from. After milking the cow, the public could learn about mastitis in cow udders and move to the second part of the exhibit: research and work with thermal-sensing technology that allows professionals like Willard to locate and treat infections in the udder.

MSU’s College of Veterinary Medicine Mobile Clinic was also showcased at the festival.

“People have been really fascinated to learn about the technology and how much science can be involved in agriculture,” said Ryan. “Some people know nothing about agriculture, but their grandparents will jump in and have recollections of their past farming. Generally, older generations seem more familiar with agriculture.”

Mississippi State University was one of 28 land-grant universities to participate in the festival this year.

The Folklife Festival gets around 1 million people attending each year. This year’s festival gave visibility to the land-grant universities and the programs available to students that some may not know exist.

“When Lincoln signed the Morrill Act it had a huge impact on our country and the future of science and crop and livestock production,” said Ryan.

Little did Abe Lincoln know that someday, 150 years later, the Morrill Act would lead to the founding of institutions that could dispel the rumor of the chocolate milk cow.
While some college students struck out in their employment searches this summer, one Mississippi State University student has two full-time jobs.

“I’ve been working from sunup to sundown every summer since I was 14, and this summer I’m farming and interning,” said James Locke, an MSU senior majoring in agricultural science. “School feels like a vacation to me.”

Locke, of Greenwood, operates Locke Farms on 18 acres of his grandparents’ land and has grown popular fruits and vegetables for sale locally. In March, while waiting to hear if he had been accepted into any internship programs, he planted more acres in field corn than he usually does, just in case he did not have as much time to farm fresh produce this summer.

“Field corn is not as labor-intensive as some of the other produce I grow,” he said. “I’ve already sold most of my corn crop to the grain elevator.”

His gamble paid off when Jimmy Sanders Inc. selected him to become one of 18 MSU student interns working in six states this summer.

Terry Brown, a certified crop adviser in the sales division of Jimmy Sanders Inc., a Cleveland, Miss.-based agricultural input supply and distribution business, said he feels fortunate Locke was assigned as an intern in Tchula, a small Delta town in Holmes County.

“Sanders enjoys selecting these young people to come into their system, training them and helping them see if this is the kind of work they’d like to do,” he said. “James has a tremendous agricultural background and has sold vegetables since he was a young teen to put himself through school. I worked with him before he was an intern, selling him fertilizers and chemicals for his truck crops. James is smart, he has a good personality, and he’s inquisitive.”

Brown said Locke is currently learning about the Optigro program, which uses GPS information to apply variable rates of fertilizer based on soil samples.

“He’s gone with us to map fields, take soil samples and determine the fertilizer rates so growers save money and are more efficient with their inputs,” Brown said. “He’s also been in the field with our other sales reps learning to check soybeans and corn, and he’s asking a lot of questions.”

In addition to the paid job experience, Locke receives six credit hours at MSU for the internship.
“I couldn’t turn down this opportunity, even though it meant changing my truck crop production and having more work in the evenings and weekends,” Locke said. “I’m busy, but I really like it.”

Locke is certainly not new to the business of farming. After growing an oversized garden one summer and giving away most of the produce, he decided to plant on a larger scale and treat farming as a summer job.

He took his produce to the farmers’ market and sold it out of the back of his truck. Soon customers were coming to the farm to purchase fresh produce and expecting to see him every week.

“I have a lot of older customers who can’t get out and garden like they used to, but they love fresh produce,” he said.

Locke’s sweet corn, tomatoes, peas, butter beans, watermelon and cantaloupe are in high demand.

“I’ve already got customers calling to reserve sweet corn. They know it’s about time, and they don’t want to miss out on it. That makes me feel good about my product,” he said.

Locke also pursued less conventional ways of making his operation profitable. During last summer’s Texas drought, he sold more than 300 rolls of hay over the Internet through Mississippi Market Maker. He received a young farmer’s grant from the Natural Resources Conservation Service - Farm Service Agency to share the cost of putting in an irrigation well.

“Usually farming is a steady cycle of checking for bugs, watering, spraying, harvesting while it’s cool, working until dark, calling customers and delivering,” he said. “On the weekends when everyone else is going to the lake, a farmer still has to work because if the crop is ready, you have to harvest or it will ruin. You take off for two or three days, and you’ve lost a lot of product and money. You just can’t do it.

“So this summer while I’m interning throughout the week, I’m squeezing in farming in the evenings and on weekends,” he said.
Summer Camps Blend Fun and Education

Some learned to milk a cow, others developed photography skills, but all had fun while learning at this year’s MSU Division of Agriculture, Forestry and Veterinary Medicine summer camps. The camps conducted by units in the division provide children and teens from throughout Mississippi and the nation with endless opportunities to engage in enjoyable and educational activities that challenge their minds, develop character and spark interest in future college studies. The following pages highlight just some of the summer fun the division hosted this year.

Students in the Wildlife, Fisheries and Aquaculture summer camp tested their SCUBA skills at the Sanderson Center with a certified instructor. The camp also featured activities such as archery, fly-tying and boating safety, with a field trip to the Noxubee National Wildlife Refuge. The annual camp, sponsored by the College of Forest Resources, is geared to 12- to 18-year-olds. (Photo by Beth Newman Wynn)
While enjoying activities themed around the London Olympics, a group of 5- to 8-year-olds built robots at Mississippi State University’s Cloverbud Camp that could block and kick soccer balls and draw. Young scientists watched teamwork and persistence pay off in visible results as they were introduced to the wonders of engineering at the robotics camp. During the two-day camp sponsored by the MSU Extension Service’s Center for Technology Outreach, the children built progressively more difficult robots and programmed commands to make them work. (Photos by Scott Corey)
Fun with Food brought 32 young people in grades 3-6 to campus for a week of hands-on learning about food and cooking skills. Ten boys and 22 girls spent 40 hours chopping, preparing and cooking in the camp offered by MSU’s Department of Food Science, Nutrition and Health Promotion. Organizers let the kids learn by doing. Campers were introduced to a variety of fruits, vegetables, cheeses and food combinations that many had never tried before. Field trips took the campers to a nearby produce farm, a local grocery store, and MSU’s dairy and beef units and sensory lab. (Photos by Kat Lawrence)
The 43rd annual Horticulture and Landscape Architecture Summer Camp brought 10 high school students aged 15 to 17 together to get their hands dirty in a variety of horticultural activities. Campers took field trips to a local orchard, a vegetable farm and MSU greenhouses. Classroom sessions covered plant propagation, interior plants, sports turf, landscape design, plant identification and floral design. The camp was sponsored by MSU, the Garden Clubs of Mississippi and the Mississippi Nursery and Landscape Association.
The three-day 4-H Tech Camp in Starkville introduced Mississippi 4-H’ers aged 14-18 to a variety of technical skills they could apply to college success. The residential program was offered through the Mississippi State University Extension Service 4-H youth program. Campers got a taste of college life while they followed their interests in tracks on robotics, darkroom photography, digital photography, robotics and digital movie making. The camp was designed to help high school students build a bridge between their 4-H experiences and careers in engineering, mathematics and technology. (Photos by April Wallace)
MSU’s College of Veterinary Medicine held two, three-day summer camps to introduce young people to veterinary medicine. The Vet Camp allowed 60 participants to get a feel for what veterinary college is like. Hands-on activities allowed the students to work beside veterinarians as they learned the two most common sutures used in veterinary surgeries; practiced examining dogs’ heart rate, temperature and vision; and even bandaged horses’ legs and performed an equine dental exam. The camp for 13- to 15-year-olds drew participants from as far away as Nevada. (Photos by Tom Thompson)
Mississippi has some of the best fisheries resources in the nation, with 204 native fish species. Only four other states rank higher than the Magnolia State in types of freshwater fish.

With the ample resources of freshwater and saltwater fisheries available in the state, scientists working in the Mississippi State University South Farm Aquaculture Facility strive to keep imperiled and threatened species from disappearing.

The facility is a joint venture of the university’s Forest and Wildlife Research Center and the Mississippi Agricultural and Forestry Experiment Station. Peter Allen, assistant professor of aquatic sciences, conducts research on the fisheries that provide sustenance and recreational opportunities for Mississippi residents.

Allen is an expert in how fish adapt to environmental changes. His work includes projects on paddlefish, alligator gar, catfish and other species.

Paddlefish have a unique appearance with an elongated, spatula-like snout, which is longer than the rest of the head. Populations of paddlefish have been on the decline, in part due to human activities of constructing dams, water control structures and water diversions.

“The paddlefish is a native species with a lot of potential in Mississippi,” Allen said. “This species produces tasty caviar and is a boneless fish.”

Paddlefish are sensitive to changes in water quality, whether from climate change or other factors, Allen added. Mississippi State research is examining how paddlefish adapt to low-oxygen levels and how much oxygen they actually require so that management techniques can be implemented in the state.

Oxygen levels decrease in the summer as high water temperatures reduce the oxygen-holding capacity. Organic waste decomposition such as decaying algae also contributes to low-oxygen levels.

Like paddlefish, the alligator gar is also sensitive to changes in water quality and is also in decline. A dual row of large teeth in the upper jaw and an elongated snout give this fish its alligator-like appearance. The alligator gar is one of the largest freshwater fish found in North America.

“With the alligator gar, we are trying to get a better understanding of its early life history,” Allen said. “This research is needed to provide long-term management strategies for remaining populations in Mississippi and to guide reintroduction efforts in Mississippi and elsewhere.”

Channel and hybrid catfish are also being studied at the university’s aquaculture facility. Allen and others are studying how the commercial and recreational fish reacts and adjusts to high temperatures and climate change.

“We are trying to understand how increasing temperatures may affect different strains of catfish and what genes contribute to the health of these fisheries at high temperatures,” Allen said.

Determining the best fish to produce commercially, based on climate, will assist catfish production, a $222 million industry in the state.

One of the newest fisheries to be studied is the killifish, an important baitfish on the coast. Mississippi State is the only university in the state examining the potential for inland marine fisheries production facilities.

“The Gulf of Mexico oil spill and extensive harvest have diminished the populations of these fishes,” said Bruce Leopold, head of wildlife, fisheries and aquaculture. “This could provide opportunities for existing aquaculture facilities to enhance their production.”

The research at Mississippi State University is vital to protecting the state’s resources, Leopold added.

“Understanding these fish species allows us to protect and enhance their populations, while also maintaining the recreation opportunities and sustenance they provide,” Allen said.
They help cucumbers grow straight, increase fruit yields and make the colorful fields of flowers possible — they are pollinators, and a few simple plantings can make a home garden a haven for these important creatures.

“Most people understand the role pollinators play in moving pollen from flower to flower to create fruit, but they think honeybees are the only insects that do the job,” said Audrey Sheridan, entomology research associate and beekeeper with the Mississippi Agricultural and Forestry Experiment Station and MSU Extension Service. “Honeybees are important, but there are many pollinating animals, including birds, butterflies, bats, beetles, flies, wasps and even geckos.”

Sheridan said native bees, such as bumblebees, blue orchard mason bees and Southeastern blueberry bees, pollinate different plants in the landscape. Variety in the garden helps keep local pollinators healthy.

“The shape and length of their tongues and the amount and location of the branched, pollen-collecting hairs on their bodies are adapted to particular types of flowers. Examples include the squash bee and the Southeastern blueberry bee.”

Bees can thrive in urban and suburban areas because of the wide variety of flowering plants that bloom throughout the year, Sheridan said.

“A garden that blooms in every season provides a constant supply of forage for bees, though a single garden can’t provide enough nectar for even one hive of honeybees,” she said. “They will roam in about a 2- to 3-mile radius to find adequate resources.”

Honeybees favor herbs and see blue and white flowers best, Sheridan said.

“Russian sage, lavender, chamomile, rosemary and basil are attractive to bees, and not to pests, which makes them good additions to any garden,” she said. “Yellow and light pink flowers or flowers with yellow centers, such as thyme, tansy, dill and echinacea, are popular with bees, too.”

Native plants can be attractive to both native bees and honeybees.

“Mississippi has a long season for pollen- and nectar-producing plants, which is a great advantage for all kinds of bees,” Sheridan said.

“In spring, foam flower, false indigo, red maple and redbud give bees a nectar flow after the winter dearth. In summer, sunflowers, butterfly weed, swamp milkweed and Joe Pye weed will attract all kinds of pollinators to your garden.”

MSU Extension horticulturist Gary Bachman said plants with tubular flowers are a must if gardeners want to see more butterflies and hummingbirds flying around.

“Tubular flowers hold more nectar,” he said. “As hummingbirds and butterflies feed, they have to probe the flower for the nectar, and in the process, they pick up pollen and transfer it to the next flower. The color red is particularly attractive to hummingbirds.”

Bachman said a pollinator garden should include catmint, red-hot poker, bee balm, nasturtium, honeysuckle and butterfly weed, the Mississippi Medallion native plant winner for 2012.

CVM honored its first graduating class in the four-year veterinary medical technology degree program with a special pinning ceremony April 27.

Dr. Allison Gardner, clinical instructor in CVM’s veterinary medical technology program, said veterinary technologists make important contributions in the field of animal care.

“Veterinary technologists are a critical component of the animal health care team,” Gardner said. “A trained veterinary technologist can perform diagnostic tests such as radiographs, run lab work and conduct examinations to check for parasites.

“Having a trained veterinary technologist in a practice allows the veterinarian to better use his or her time — more patients can be seen, more surgeries can be performed, all while providing the best care for the animal,” she said.

MSU is one of only three veterinary colleges in the United States to offer a four-year degree in veterinary medical technology, despite the increasing national demand.

“More and more jobs, especially in industry, academia and specialty practices, require bachelor’s degrees,” Gardner said. “We hope not only to instill in our graduates good critical thinking skills and the ability to troubleshoot problems, but also to prepare them with the necessary technical skills to be successful in their careers.”

Gardner said the program provides students with unique collaborative learning experiences.

“The students in the VMT and the DVM programs are able to train and work alongside each other. This allows them both to gain a better appreciation for and understanding of each other’s roles and strengths,” she said. “The VMT program students also get to see and participate in more advanced procedures, such as endoscopic exams, CT scans and emergency critical care, that independent programs might not be able to offer.”

Gardner said the entire class exemplified outstanding leadership skills and dedication.

“Two plan to go on to specialize in an area, one will begin veterinary college this summer, one plans to go into research, one into zoo medicine, one hopes to attend an animal hospital manager training program, and several plan to work either in mixed practices or small animal practices,” she said.

David Eldridge, like his classmates, had a job waiting for him after graduation.

“I’m going to work as an emergency medical technician at PetMed in Cordova, Tennessee,” he said. “It’s an after-hours clinic that serves clients 365 days per year and handles trauma, surgery and sudden illness cases when veterinary offices are usually closed.”

Eldridge said the in-depth lectures and labs at CVM have given him the knowledge he needs to be successful.

“During our senior year, we got real-life experience in the clinic and learned alongside veterinary students,” he said. “Learning from veterinarians and technicians as instructors and working with animals was a meaningful experience.”

Kayla Jaynes, president of the class, chose to do an elective rotation and an internship at the University of Mississippi Medical Center in Jackson. While there, she was able to spend time in the research laboratory and became more aware of opportunities in this field for veterinary technologists.

Jaynes said being at CVM gave her the opportunity to experience the wide variety of options within the field of veterinary medicine.

“Each department within the college has board-certified specialists who oversee the most advanced cases,” she said. “The environment really helps students decide which area of medicine is right for them.”

Jaynes has accepted a position at Veterinary Neurology and Imaging, an affiliate of MSU-CVM.
Planting seeds for healthy living is a way of life for Lowndes County 4-H Agent Sharon Patrick, especially in her work at the Columbus Air Force Base (CAFB).

“Our on-base 4-H club has been learning about choosing healthy foods using the MyPlate guidelines, and when I heard about Burpee’s Welcome Home Garden program, I thought it would be an excellent way to support the concepts we’ve studied — eating healthy, exercising and being responsible,” Patrick said.

“I talked to the director of the CAFB youth center, and before you knew it, we had a garden planned.”

Patrick organized a team of MSU Extension Service 4-H staff to develop the garden and related lessons. On a sunny afternoon, children in the summer camp program and those who use the base’s youth center for recreation learned about seeds, gardens and what plants need to grow. Then they went outside with Patrick, Lowndes County Extension horticulturist Jeff Wilson, youth center staff and volunteers to rake rows and plant seeds sent by the Burpee Seed Co., as part of the Welcome Home Garden program to pay tribute to America’s military heroes.

“We can incorporate food, nutrition and citizenship concepts through this garden, as the children will be able to take produce home to their families, share the fruits and vegetables with veterans on base and use what they grow in their Kids in the Kitchen program,” said Kayla Fuentes, a 4-H military youth intern. “In addition to the garden here at the youth center, we gave away packets of seeds at a recent 5K fun run, so military families can plant their own gardens at home.”

The 4-H staff administered a quiz before and after the lesson to gauge what the children knew about plants and gardens.

“Many of them already had a strong understanding about the reasons to garden,” Fuentes said. “Their reasons for growing vegetables ranged from having fresh food, to saving money, to being strong.”

She said the garden will be a terrific way to bring together children of many different ages to work toward a common goal. While teens raked the tilled garden soil into rows for planting, younger children lined up to plant tomato and bell pepper seeds in a special growing tray filled with peat seedling starters. Master Gardener intern Alma Greer talked to them about soil depth and the colors of the produce they would grow.

“Part of our youth development program is to enhance the kids’ abilities, to give them life skills, and to work on character and leadership,” said Kayline Hamilton, director of the CAFB youth center. “The Welcome Home Garden is a good fit for our kids because a lot of them have family members who have been deployed or have been on remote assignments. They can come back, get seeds, plant gardens behind their homes and enjoy the fruits, vegetables and flowers they grow together.”

Eight-year-old Collin McWhorter waited patiently at the back of the line for his turn to plant seeds. As an experienced gardener, he knew there was no rush.

“I think this is cool,” McWhorter said. “I’ve never planted many vegetables, but I’ve helped my grandma plant wildflowers, aspens and columbines at her cabin in Colorado. I like to eat peppers, green beans and celery, and I love corn. The best part about having a garden is watching everything grow and picking, but my main job is usually weeding. I’m getting better at it.”

McWhorter, who recently came to Mississippi from Osan, South Korea, said he hoped to plant a garden when he and his family moved into their new home in Caledonia.
A handful of Mississippi State University entomology students spent their spring semester learning how to be crime scene investigators or expert witnesses in a courtroom.

Their teacher, Jerome Goddard, has been an expert witness on both sides of court cases and understands the importance of knowing details to defend or challenge crime scene findings.

“It’s not just about the insects found at the scene; you need to know the weather conditions and the environment around the body,” he said. “From an entomology standpoint, it’s important to know what is typical for insects in that area in specific conditions.”

Goddard, an associate Extension professor in the Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology, is teaching the first “special topics” class designed to study a crime scene scenario. He obtained a hog that had been euthanized by the MSU College of Veterinary Medicine. The carcass was placed in a secure, kennel-like enclosure in a remote area of the H.H. Leveck Animal Research Center, commonly known as South Farm.

“Different students from the class went out five days a week to collect insect specimens and make general observations of the crime scene.” he said. “Their evaluations included temperature readings from the body and the air around it, and they compared their measurements with those from the nearest weather station.”

Goddard said pathologists would have other ways to determine the exact time of death, but the insects present can provide a broad window of time that the body has been exposed to the elements.

“Bugs will find a way to get to a body, and the ones that come to remains change through time,” he said. “Certain blowflies often find a body within five minutes of death. Beetles are the last visitors by the time only hair and bones remain.”

This was the first entomology class for Emily Davis of Vicksburg, a junior majoring in biochemistry with a concentration in forensic science. She plans to pursue a career in forensic pathology. She said in addition to studying insect species, she learned about collecting samples.

“This was a very interesting class. Science has always interested me, but I haven’t had much experience in entomology,” Davis said. “This was my first post-mortem study.”

Florence Meyer, assistant professor in the Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology, teaches introduction to forensic sciences and addresses basic entomology aspects in a couple of her lectures. Goddard gives a guest lecture in her class focusing on the less obvious applications of forensic entomology. Students in her class also made trips to the “crime scene” for observations.

“The opportunity to observe directly the different stages of decomposition is actually unique,” Meyer said. “The students were really excited to see in person what we covered in lectures. We were lucky that our visits coincided with Dr. Goddard’s visits to the pig. He provided additional insights about what was happening and shared the details with us.”

Meyer is already planning for the next class.

“This was my first time visiting a decomposing corpse as well, so I am working on a checklist for students to use when writing down their observations,” she said. “This is a great opportunity to work across subject areas within our department.”
County Seat: Coffeeville, Water Valley
Population: 12,552
Municipalities: Coffeeville, Water Valley, Oakland, Tillatoba
Commodities: Cotton, Soybeans, Sweet Potatoes, Peanuts, Cattle
Industries: Borg Warner, Windsor Food, Valley Tool, Water Valley Poultry
Natural Resources: George Cossar State Park, Grenada Lake
History Notes: U.S. President James K. Polk (1845-1849) owned a plantation south of Coffeeville. Famed railroad engineer Casey Jones lived in Water Valley from 1893 to 1896. Yalobusha County was founded on February 21, 1834.
Attractions: Watermelon Carnival, Celebrate Coffeeville, North Mississippi Fish Hatchery, Jamie L. Whitten Plant Material Center
Did you know? Coffeeville was named after General John Coffee, who represented the United States in the Treaty of Dancing Rabbit Creek with the Choctaw and Chickasaw. Yalobusha is an American Indian name for “tadpole.” Yalobusha County is surrounded by two beautiful lakes, Grenada Lake and Enid Lake.

“Yalobusha County is a mix of agriculture and industry with beautiful landscapes in the hills of north Mississippi. The people of the county are some of the hardest working, friendliest people in the state. They really know how to make you feel welcome. It’s a great place to live the country life and be just close enough to the pretty towns in the county.”

Brent Gray, Extension County Director

MSU in Yalobusha County:
Yalobusha County Extension Service
P.O. Box 610
18025 Hwy. 7
Coffeeville, MS 38922
Phone: (662) 675-2730
Fax: (662) 675-2599
Email: Yalobusha@ext.msstate.edu

Editors note: 1/82 is a regular feature highlighting one of Mississippi’s 82 counties.
Long-Time Administrator Joins MSU Vice President’s Team

Cary W. “Bill” Herndon, a long-time leader in the MSU Division of Agriculture, Forestry and Veterinary Medicine (DAFVM), has been named the new associate vice president of the division.

“After a national search, Dr. Herndon’s experience made him the perfect choice to help advance our efforts to serve the university, the state and beyond,” said Greg Bohach, DAFVM vice president. “He brings a wealth of experience and knowledge of the three land-grant functions — learning, service and research — to the position. He is appreciated by the agricultural community for his service in academic, administrative, international, research and Extension settings.”

Since November 2008, Herndon has served as the head of the North Mississippi Research and Extension Center at Verona, which supports agricultural and forestry research and outreach activities in northeastern Mississippi. He previously served for almost 25 years on the faculty of the Department of Agricultural Economics. Assignments during that time included departmental graduate program coordinator, Cochran Fellows program manager and interim department head. He also served for three years as interim director of the MSU Office of International Programs.

Herndon received his bachelor’s and master’s degrees from Texas A&M University and his doctorate from Oklahoma State University, all in agricultural economics.

MSU Announces New Aquaculture Leadership

Two Mississippi State University scientists are taking on new leadership roles at the university’s Delta Research and Extension Center in Stoneville.

Jimmy Avery, who has served as the MSU Extension Service aquaculture specialist since 1999, has been named director of the Southern Regional Aquaculture Center.

The mission of the center is to support aquacultural research and education in the Southeast. Its goal is to enhance aquaculture production to benefit consumers, producers, service industries and the American economy.

David Wise, a research professor with the Mississippi Agricultural and Forestry Experiment Station, has been named coordinator of the Thad Cochran National Warmwater Aquaculture Center. Wise has been employed by the center since 1993. In that time, he has conducted aquacultural research with an emphasis on fish health.

The duties assumed by Avery and Wise were previously held by research professor Craig Tucker, who retired from MSU following more than 30 years of service.

Avery completed a bachelor’s degree at the University of Mississippi and a master’s degree at Delta State University. He earned his doctorate at Louisiana State University.

Wise earned his bachelor’s degree at Texas State University and master’s and doctorate degrees at Clemson University.

MSU Extension Office Gets New Leader, Name

A new leader, a new name and a new fiscal year all began July 1 in the MSU Extension Service’s technology department.

Randy Loper has been selected to lead the newly christened Extension Center for Technology Outreach, formerly the Department of Computer Applications and Services. Loper has served as the interim head since July 2010. Loper received his bachelor’s and master’s degrees from MSU in computer science. He began his career in the Department of Computer Applications and Services as a student worker in 1984. An Extension employee since 1988, Loper has worked as a computer programmer and systems analyst while serving at the campus, state and national levels on various committees and in professional organizations.

He has provided technical expertise and support to state agencies, stakeholder organizations, and partners in business and industry, including the Department of Homeland Security, Mississippi Emergency Management Agency, Farm Bureau and county supervisors.

“Randy Loper has a tremendous amount of experience, and he has demonstrated very effective administrative leadership in his interim role, which includes developing a visionary plan to expand the unit’s technology education role to Mississippians, stakeholder groups and local government,” said Gary Jackson, director of the MSU Extension Service. “Randy has a consistent record of seeking and receiving external funding to support Extension’s technology and education efforts.”

The new Extension Center for Technology Outreach will help fulfill the mission of Extension by providing research-based information about technology. The center will train, educate and support Missis-
Southern beekeepers have an experienced ally joining the ranks of researchers and specialists at Mississippi State University.

On July 1, Jeff Harris began his new position as an Extension Service apiculture specialist and researcher with the Mississippi Agricultural and Forestry Experiment Station. Harris previously worked for the U.S. Department of Agriculture in the honeybee breeding laboratory in Baton Rouge. For the past 12 years, Harris has focused his research efforts on breeding honeybees resistant to the Varroa mite, a pest that afflicts and weakens honeybee colonies.

“I have a long-term interest in bee breeding and making it better,” Harris said. “I’m an expert in instrumental insemination, and I’ll continue using those skills in my new job.”

Harris began his work with bees at the age of 8, when he caught his first swarm.

“I had an uncle who kept bees, and from the time I was 5, I was learning about them,” he said. “I built up my bee yard until I had about 25 colonies by the time I was in high school.”

Harris worked for a small commercial beekeeper near Montgomery, Ala., through high school and college to pay for tuition. That experience taught him how to raise queens. It also gave him insight into the commercial side of the beekeeping industry.

While in graduate school, Harris enjoyed working with students and interacting with faculty, something he missed during his career as a USDA researcher.

“My job at MSU is primarily Extension, and I’m looking forward to interacting with people,” he said. “I have big shoes to fill since Dr. Clarence Collison and Harry Fulton both retired, but I’m excited about the opportunities here.”

Harris received a bachelor’s degree in physical science from Auburn University, a master’s degree in entomology from Louisiana State University and a Ph.D. in insect physiology from LSU.

“Dr. Harris is well known for his work developing Varroa-sensitive hygienic bees and strengthening honeybee populations across the country,” said Gary Jackson, MSU Extension Service director. “Pollinators are a significant part of the agriculture sector, and with the continued challenges and colony losses beekeepers are experiencing, it is important to have experts such as Jeff available to Mississippians and contributing to our research efforts.”
Willis Durden McGeary left Mississippi to follow his dream of becoming a pilot, but he never forgot his connection to his home state and the university where he earned his degree.

As the last surviving member of a prominent Mississippi Delta family, McGeary chose to give Mississippi State University his beloved Sidon Plantation in Leflore County to honor his heritage. The longtime California resident died in 2011 at the age of 91.

The $8 million bequest of real estate, the largest in university history, is designated as “unrestricted,” meaning agricultural lease proceeds from the property will provide an annual source of revenue for MSU as part of the university’s Bulldog Properties program. The funds will assist university areas that exhibit the greatest need.

The bequest includes 2,069 acres of farm land and 568 additional acres around Sidon Plantation near Greenwood, as well as one of the oldest homes in Leflore County. During his lifetime, the land meant more to McGeary than the beauty of the home and the bountiful row crops that grew there. The property remained in his family for generations, and he wanted to preserve it.

“Row crops are still grown on the farmland — cotton, corn and soybeans — and we are proud to say our efforts are prosperous each year,” said John Doty Porter, one of the property’s tenant farmers.

Porter and his family have farmed the property since the early 1970s, and he is happy the land will now belong to MSU since the McGeary family had no heirs.

Although McGeary deeply appreciated agriculture, he had aspirations outside of farming. From the age of 10, he decided to become a pilot. His dream led him to then Mississippi State College, where he earned an aeronautical engineering degree in 1940.
After graduation, McGeary was employed with several aircraft manufacturing companies as an engineer before joining the U.S. Army Air Corps. He became an aircraft commander, flying missions in the European Theater during World War II. For his valiant efforts, he was awarded the Distinguished Flying Cross. One of his favorite pastimes was to chronicle his many adventures of piloting a B-24 Liberator.

After the war, McGeary returned to Mississippi and managed the family plantation. He later became a captain for American Airlines, where he worked for 29 years until his retirement. In McGeary’s later years, California became his home. He resided in Marina Del Rey for a number of years.

“Willis was always very adventurous, and he loved flying. He even took the first flight on a Concorde jet that went around the world,” recalled Joy Andresen McGeary, his wife of nearly 18 years.

Although his adventures took him away from Mississippi, McGeary wanted to ensure his legacy in his home state would be perpetually sustained.

“My husband wanted to leave the plantation and farmland to MSU because he felt the university would be good stewards of the property and because of his genuine fondness and appreciation for the school,” Andresen McGeary said.

By gifting the land in this manner, alumni and friends like McGeary can take comfort in knowing their family legacy will be competently managed by the MSU Foundation real estate team.

Mississippi State University accepts gifts of real estate and timberland through its Bulldog Properties and Bulldog Forest programs. Individuals who wish to support the university, but are unable to make large cash gifts, are encouraged to consider these giving programs through the MSU Foundation and gain tax advantages.

“Mississippi State University is extremely grateful to Willis McGeary for allowing us to transform his treasured possession into a valuable resource for the students, faculty and programs of the university,” said Jud Skelton, director of real estate giving.

“The gift is remarkable, not only for the level of generosity, but also for the investment in future generations and the demonstration of confidence he placed in Mississippi State,” he continued.

Gifts of real estate and timberland can help individuals achieve financial, philanthropic and estate-planning goals. Because of carefully laid plans, the McGeary name will continue to be associated with Mississippi as part of the state’s leading university.
Campers at the 4-H Science, Engineering and Technology Camp in New Albany enjoyed cooling off courtesy of the local fire department. (Photo by Scott Corey)