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**On the Cover**
Eric Dibble, background, and University of Georgia graduate student Jennifer Linehan use a seine to collect fish from a pool below a waterfall at the Vicksburg National Military Park in Vicksburg. (Photo by Kurt Foote)

**Back Cover**
Ekaterina Jeliazkova with the Plant and Soil Sciences Department and Extension Master Gardener volunteer Verner Essig plant roses in the new rose garden at the entrance to the R.R. Foil Plant Science Research Facility. (Photo by Marco Nicovich)

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In the Division of Agriculture, Forestry and Veterinary Medicine we work from A to Z—from asparagus to zinnias. There are research projects, outreach programs or academic areas dealing with almost every crop grown in Mississippi.

Ours is a rapidly developing state, with new industry constantly coming online. Agriculture, however, remains Mississippi’s number one industry, and our mission as a land grant university is to provide support for all aspects of that industry. The university’s support extends from the forests that feed the furniture factories in the northern areas of the state to the fertile fields of the Delta to the cattle operations of the Blackbelt Prairie down to the Gulf’s shrimp fleet.

There are 1,753 people in the Division of Agriculture, Forestry and Veterinary Medicine at Mississippi State and at its facilities throughout the state. They work hard to provide academic programs, research, Extension and other outreach programs needed by all Mississippians, whether they are directly involved in production agriculture or dependent on the food, fiber and other resources provided by agriculture. Their mission, however, could not be accomplished without the support provided by outside sources.

A key to maintaining much-needed programs is the support provided each year by the Mississippi Legislature. The funding provided by the Legislature assures that basic programs continue, and having those programs in place provides leverage to seek federal and private support to provide additional services.

There’s another type of support that is vital to our land grant mission—the support provided by the people of Mississippi. Volunteers in every county and community in the state help MSU Extension personnel, research scientists and others within the division make more effective use of resources. In some cases, such partnerships are what make research projects or educational programs possible.

The Focus section of this issue of Landmarks begins on page 16 and contains information on the partnerships that support the work of the division.

Those partnerships, combined with the dedication of university personnel, allow MSU to continue responding to the educational needs of people throughout the state.

Vice President’s Letter

Vance H. Watson
MSU SCIENTISTS
Producing Cotton’s Next Generation
By Robert H. Wells
Mississippi State University is using genetically modified plants in its cotton breeding program to create better cotton varieties for producers.

“Hopefully something great will come out of this to help the farmers,” said Peggy Thaxton, a cotton breeder at MSU’s Delta Research and Extension Center in Stoneville.

Thaxton is using the pollen from a Mississippi State transgenic cotton line developed jointly by MSU cotton breeder Ted Wallace at the Starkville campus and Monsanto, a producer of genetically modified seed, to make crosses into public cotton breeding lines.

Thaxton is primarily looking to increase the yield and fiber quality of MSU’s genetically modified, or transgenic, cotton line.

“Fiber quality is very important to me and the program for the future of the farmers,” Thaxton said. “Hopefully we’ll get some very high quality transgenic cotton lines developed so we can be competitive in the global market.”

Bill Meredith, a distinguished research geneticist and cotton breeder at the United States Department of Agriculture-Agriculture Research Service in Stoneville, agrees that current fiber qualities and yields need improvement.

“The world is changing and our primary customers are overseas,” Meredith said. “They desire fibers that are different from those released in the 1990s. To get the most for our producers, you need to improve yield and fiber quality and also make good use of transgenes.”

Other traits Thaxton will be looking to incorporate are reniform resistance, disease resistance and insect resistance.

“I hope to put traits into the transgenic cotton line that private companies don’t,” Thaxton said. “They are after yield because they have to sell their seed, but we’re more flexible in that we can work with other traits as well.”

Transgenic cotton, or cotton that has been genetically modified to contain traits artificial to the plant, is grown on more than 98 percent of the cotton acreage in Mississippi.

A recent agreement with Monsanto’s Cotton States business unit has allowed MSU cotton breeders to incorporate Monsanto’s transgenic traits into their breeding program.

“The chances for a producer to see a variety from Mississippi State are greatly improved if it is a transgenic,” said Wallace. “Cotton States allows public material to make it to the market that otherwise wouldn’t. It gives plant breeders access to technology we wouldn’t otherwise have access to.”

Wallace created MSU’s first transgenic cotton breeding line through Cotton States by sending a high-performing cotton he developed to Monsanto for trait integration.

“One of my varieties, MISCOT 8806, performed within 95 percent of the best commercial check and justified trait integration,” Wallace said. “In May of 2005, Monsanto sent me approximately 30 progeny rows of transgenic versions of the original MISCOT 8806 conventional variety to grow, observe and select the top entries for further testing.

“Performance of these entries during widespread yield trials across the Cotton Belt this summer will dictate whether or not Monsanto will attempt to market one or more of the new transgenic versions of the original MISCOT 8806 variety,” Wallace added.

The MSU transgenic is characterized by having the Monsanto patented traits of Bollgard II, which offers increased insect resistance, and Roundup Ready Flex, which offers increased weed control.

“My access to the Mississippi State transgenic breeding line as well,” Wallace said. “She is going ahead and making forward crosses with it so hopefully there will be offspring with Bollgard II and Roundup Ready Flex in them.”

Thaxton made the first transgenic crosses this winter in a greenhouse in Stoneville.

“A lot of the material that I cross with is Ted’s nectariless material,” Thaxton said. “I’m crossing with the nectarless, the short fiber content line, the smooth leaf and the high fiber quality line. Those are the main ones I’m working with.”

Thaxton said after the crosses open up, they will be planted in the greenhouse for a seed increase this summer.

“There’s going to be a lot of seed increase this year,” Thaxton said. “We’re probably also going to send some of these to Mexico next winter for a seed increase.

“We have to make sure the transgenic traits are in the plant, and that takes a lot of seed,” said Thaxton. “Hopefully in about four years, we’ll have enough seed with the transgenes in there that we can start planting yield trials.”

In addition to the transgenic breeding in the greenhouse, Thaxton also will have 30 acres of conventional cotton planted this summer in the field.

“The main objective of our breeding program is still to develop improved conventional breeding lines that will be released to private companies with better yields and fiber quality traits,” Thaxton said. “We like to work with all the useful genes, including transgenes, in a forward breeding program, but the transgenics breeding is just a side project right now.”

Support for producers, she added, is the ultimate goal of the breeding program.

“We’re such a large cotton producing area here,” Thaxton said. “We have a potential to improve the cotton variety and a chance to give back to the growers. This is something we need to do.”
Horse Arenas...

Mississippi Built Them, Now People Are Coming

By Linda Breazeale

Agricenters and horse facilities are attracting barrel racers and spectators to Mississippi by the thousands each year, and the numbers are growing.

When Bricklee Miller, manager of the Mississippi Horse Park, says “the numbers are growing,” she is talking about several important figures.

“The number of events, the number of participants and spectators, the prize money, the economic impact—all of these numbers are growing,” Miller said.

Many communities around the state have invested in facilities similar to the Mississippi Horse Park on Mississippi State University’s South Farm. Miller said she believes these investments are bringing huge benefits to their communities and to the state.
“These barrel-racing events last for three days or longer. They attract people from all over the nation who travel through much of the state and stay in our hotels, eat in our restaurants, buy our gasoline and shop in our stores,” she said. “Mississippi’s biggest events take place in Jackson, Hattiesburg, Starkville and Tunica.”

Recent listings in Barrel Horse News revealed that Mississippi had 10 divisional barrel racing events ranked in the top 75 events nationwide. Divisional races include classes for all ages, for youth and for seniors. The only states with more events than Mississippi in the top 75 were Texas with 12 and Oklahoma with 11.

Among the barrel-racing futurities, which are for horses that are 5 years old and younger, Mississippi had three events in the top 62. The neighboring states of Tennessee had two, Arkansas and Louisiana each had one, and Alabama did not have any ranked futurities.

“Barrel racing is a growing sport in Mississippi. We have the fourth largest number of National Barrel Horse Association members in the nation,” Miller said.

“People come from all over to these events because of the amount of money that can be won, the quality of the facilities and the reliability of the promoters,” she said. “Each time a site has a successful barrel-racing event, their future events are likely to grow bigger.”

Miller cited a report in Barrel Horse News that listed an event in Hattiesburg as the sixth largest prize payout and a Starkville event as the 10th largest payout in the nation in 2005. Mississippi’s total prize money in divisional and futurity events in 2005 was almost $849,000.

Donnie and Diane Reece of Carbon Hill, Ala., are frequent competitors at Mississippi barrel racing events. They often drive almost two hours to compete or practice at the indoor arena in Starkville. When reached recently on Donnie’s cell phone, the Reeces were driving to a futurity in Ohio.

“The Mississippi events are very popular around the country, especially during the winter months,” Donnie said. “We often compete in Mississippi at shows in Starkville, Hattiesburg and Holly Springs. They all have friendly people and very good staffs. It’s very important that the ground be in good shape.”

A professional barrel horse trainer and competitor, Donnie and his wife are hoping to sell their property in Alabama and move closer to Starkville.

“The shows in Alabama are good, but they have much smaller arenas and less money available. They typically draw a lot of local people,” Donnie said.

Mary Jane Carpenter of West Point promotes three of the major barrel racing events at the Mississippi Horse Park: the March Madness NBHA Super Show, Mississippi June Jam NBHA Super Show and the Speedfest Super Show. As the promoter, she is responsible for lining up sponsors and professional crews to ensure the events run smoothly.

“We may have 1,200 runs around the barrels during a weekend and the grounds have to be as consistent from the first racer to the last; money and safety are at stake,” Carpenter said.

Each weekend requires about a dozen staff members, including professional tractor drivers, timers, announcers, secretaries, stall crews, gate keepers, medical personnel and someone to oversee the recreational vehicle area.

“I’m a barrel racer myself, and I was traveling hours away to compete. The Mississippi Horse Park is practically in my backyard. It’s a beautiful facility, so I wanted to utilize it,” Carpenter said. “These events are reunions of friends and families. People of all ages—men, women and children—travel to different sites to compete weekend after weekend.”

Miller said she has found success for the Mississippi Horse Park by building strong relationships with promoters and encouraging them to grow their events.

“A good promoter is well organized, finds ways to have large prizes with reasonable entry fees and provides consistently good events,” Miller said. “When promoters put a lot of money into the contests, it draws more people and from greater distances.”

Miller said the recent March Madness event increased 30 percent from the year before, from 970 entries in 2005 to 1,259 this year. Contestants came from as far away as Wisconsin and New York.

“Mississippi’s facilities are bringing national recognition to the state and that means tourism dollars for all of us,” Miller said.
Mulching is a springtime ritual for many homeowners, but during spring 2006 an “urban legend” raised concerns about what might be lurking in mulch. Email accounts about the possibility of Formosan subterranean termites in mulch began circulating in early March and soon spread nationwide. Storm-damaged trees along the Gulf Coast helped trigger the stories.

During 2005, hurricanes Katrina, Rita and Wilma felled thousands of trees along coastal areas from Texas to Florida. Many of those trees, especially in urban areas, have been shredded for mulch. Trees are a common habitat for Formosan subterranean termites, and that provided the basis for concern about infested mulch.

Native to China and now established throughout Asia, the Formosan termite is thought to have entered the United States through ports, including those along the Gulf Coast, as stowaways in wooden crates, pallets and other materials. They are more destructive than native termites and have caused millions of dollars in damage along the Gulf Coast in recent years.

There are, however, safeguards in place to prevent movement of potentially infested wood products out of areas where Formosan termites have already been found. “A quarantine has been in place since 2002 against shipment of any potentially Formosan-termite-infested wood products out of the 25 Mississippi counties south of I-20,” said Mike Tagert, director of the Mississippi Department of Agriculture and Commerce’s Bureau of Plant Industry at Mississippi State University. No wood products, including mulch, railroad crossties and utility poles, that have been in contact with the ground can be legally shipped out of those counties without being inspected and certified by the Bureau of Plant Industry.

Shipment of mulch and other wood products out of the hurricane-damaged areas of Louisiana also is regulated. The New Orleans area has been a hotbed of Formosan termite activity in recent years, and the possibility that mulch from New Orleans could find its way to Mississippi has alarmed some homeowners.

“We have not had any reports of anyone trying to ship Louisiana mulch into Mississippi or any reports of Formosan termites in mulch from any other origin,” Tagert said.

Mulch from hurricane-damaged trees in Mississippi’s southern counties, he added, can be used in those counties. There are precautions homeowners should take when using mulch or any other wood product around their homes, said research entomologist Jianzhong Sun at the MSU Coastal Research and Extension Center in Biloxi.

“Cultural control is an important part of an integrated pest management strategy for subterranean termites,” Sun said. “Recommended cultural control practices include keeping plants away from structures, avoiding placing mulch against structures, keeping chemically treated soil in place, and repairing faulty or leaky plumbing around structures.”

MSU termite research also has shown that certain types of mulches are less attractive to termites.

“Our 2005 research shows that some types of mulch are repellant, distasteful or toxic to subterranean termites,” Sun said. “Our survival data from a mulch nutrition test showed that mulch from certain types of trees, including cedar and melaleuca, contribute to high mortality in Formosan colonies. An objective of Sun’s research is development of a termite-resistant mulch to prevent the spread of Formosan subterranean termites.
Alexis Londo is a mother of two, a doctoral-degree candidate and research associate at Mississippi State University. But, wait, there’s more—much more.

In 2003, Londo was asked to teach dendrology—the identification of trees—in the College of Forest Resources after the course instructor went on an academic sabbatical. In addition to taking quickly to her new classroom duties, the Bellaire, Texas, native began work on a much-needed herbarium for Thompson Hall, the college’s home on Stone Boulevard.

“I started the herbarium so students would have tangible examples to compare and contrast,” explained the doctoral student in forest biometrics. “While there is another herbarium on campus, it is used primarily by faculty researchers.”

The MSU Department of Biology also maintains a herbarium, which is an important tool in the scientific study of plants by faculty researchers, so its scientific integrity must be maintained. The Thompson Hall facility, however, is a different type of resource.

“The materials in the Thompson Hall herbarium are intended to be handled and will have to be replaced from time to time,” Londo said.

While it provides assistance particularly for those in forestry and wildlife and fisheries, the Thompson Hall herbarium is available for all students and faculty.

Thanks to Londo’s tireless efforts, the collection now contains samples and information sheets on more than 400 herbaceous and woody species of plants from Mississippi and other parts of the United States. Each sheet identifies the species of plant, locations where it occurs and a leaf sample. The herbarium also contains more than 40 examples of North American conifer cones.

“Despite all we have, the herbarium remains a work-in-process,” observed Londo, who earlier received bachelor’s and master’s degrees in forestry from Stephen F. Austin State University.

She said wildlife and fisheries associate professor Jeanne Jones currently is adding more herbaceous species to the collection. With the assistance of forest products professor Mike Barnes, these will be complemented by samples illustrating the macro and micro characteristics of various woods, she added.

Londo’s work to develop the herbarium is in addition to her staff duties with the Department of Forestry’s measurements and spatial technologies working group. There, she provides technical assistance to five faculty members while supporting teaching and research efforts for both undergraduate and graduate students.

“If someone has a question about spatial technology, forest inventory or, of course, tree identification, they can go to Alexis for answers in all three areas,” said Department Head Jim Shepard, one of her biggest fans.

“With all she does in both her assigned and adopted roles, she truly deserves to be called ‘a dynamo,’” he added.
A petting zoo, horse and dog demonstrations, and large animal exhibits were all highlights of the College of Veterinary Medicine’s 2006 Open House. The April 7 and 8 event drew about 2,500 visitors.

“For more than 20 years, the annual open house has been a chance for the public to see what our college and veterinary medicine have to offer,” said Dr. Stanley Robertson, CVM associate professor and coordinator of the Office of Special Programs.

Robertson added that the open house is primarily a student-driven event, organized and run by first- and second-year veterinary students.
Ten-year-old steers are very uncommon since most go to market by the age of 2, but Peaches is living out his life at Mississippi State University with something that makes him even more rare. He has a 6-inch hole in his side.

The gentle steer is one of 11 fistulated steers, sometimes called “holey cows,” at MSU that are used for research and educational purposes. Peaches was on display at the MSU College of Veterinary Medicine’s annual open house. The steer braved visitors who put on long plastic gloves and put their hands through the hole in his side.

Brian Rude, an associate professor in the Department of Animal and Dairy Sciences, said the steers are primarily used for research.

“I can use those research animals and the research facilities to piggyback with teaching, both for college students and for public education and school children,” Rude said. “We try to use it as a tool to educate the public about what we do here.”

Having a steer available for children to see and touch also helps to educate them about agriculture, Rude said.

“School children today are so far removed from where food comes from, how we get it and what we do, that it is a nice way of being able to get to them, catching their attention,” he said.

Cows with holes in their sides do grab the public’s attention. “It catches people a little off guard, and that usually translates into something they are going to remember,” Rude said. “There are several benefits for these kinds of exposures, especially for younger children. It will pique some of their interests so that they choose a career in agriculture, whether it is growing crops or producing animals or maintaining their health through veterinary medicine.”

Whether for research or education, these holey cows are a valuable tool for the scientists who use them. When not on display at the open house, Peaches and the 10 other fistulated steers are used in dietary research. The fistula, or hole in the steer’s side, is fitted with a rubber stopper, or canula. The opening allows researchers easy access to the cow’s rumen, a large portion of the stomach that acts as a fermentation vat, Rude said.

Fluid taken from the rumen can be used in the lab to test digestion rates of different diets. Scientists can also leave different types of feed—stored in nylon bags in the rumen—and evaluate the amount of time needed for digestion, Rude said.

Having the fistulated steer exhibit at open house is a joint effort between the College of Veterinary Medicine and the Department of Animal and Dairy Sciences.
When scientists around the world need information on gene function in agriculturally important crops, they turn to an online database developed at Mississippi State University.

Known as AgBase, this database catalogs the functions of genes in the genome sequences of plants and animals. Dr. Shane Burgess, a College of Veterinary Medicine researcher, was the lead collaborator on the project.

Burgess said researchers around the world are sequencing genomes and coming up essentially with lists as part that make up life.

“It doesn’t help us much unless we understand what all those parts are supposed to do, how they work and how they work together in defined contexts,” Burgess said.

The next step is to understand life at this complicated genomic level. Technology today allows researchers to develop massive amounts of data quantifying how the genes in the genome are all expressed under given conditions. This work is called “functional genomics.”

In biology, the component parts are proteins, the building blocks for molecular machines inside the cells that make up an organism. Protein machines are the basis of all life functions.

“When genomes are sequenced and data sets are generated, all we end up with is the equivalent of dirty laundry lists,” Burgess said. “We want to go from the dirty laundry lists to be able to infer what was going on at the party the night before.”

To do that, each piece of information generated about gene function must be defined in a standardized fashion, the possible variations noted and information included about where in the cell these proteins are found.

“We define all these functions, as well as where they occur in the cell, using a dictionary of defined terms called the gene ontology,” Burgess said. “Some very clever people studying mice, fruit flies and yeast first came up with this ontology for describing life. Now it is a global effort that defines life in bacteria, viruses, animals, plants, in fact everything that is alive.”

Once the gene ontology terms are defined, they are given a digital code so computers can be used to help analyze the huge functional genomics data sets that define life.

AgBase is the first defined, online, mapped database for this particular genome functional information in agriculture. Burgess said it is the internationally recognized tool for modeling functional genomics data in agricultural species.

“We are the go-to place for all of agriculture for this information and computational tools that allow you to model life based on functional genomics data,” Burgess said.

Burgess said the project began as an idea in November 2004, and AgBase was launched in June 2005.

“This project would not have been possible without the excellent and multidisciplinary collaborations that we have at MSU,” Burgess said.

Burgess collaborated on AgBase with Susan Bridges, a professor in the Department of Computer Science and Engineering, and Dawn Luthe in biochemistry. Dr. Fiona McCarthy at the veterinary college and Nan Wang in computer sciences also are researchers in this project.

Bridges is responsible for the computer support of AgBase, including building the database itself and the web interface that allows researchers worldwide to use it.

“We were in the right place at the right time with the right combination of people,” Bridges said.

The long-term goal of AgBase is to serve the post-genome biology needs of the agricultural community and for biomedical and other researchers primarily using traditionally agricultural species as biomedical models.

AgBase is recognized by the international Gene Ontology Consortium as the official source of this data. Recently, AgBase has begun to be a central player for determining the names of genes in agricultural species worldwide.
By Bob Ratliff

Owning land provides individuals and families with roots, continuity and stability. Landownership also carries a responsibility to wisely manage and pass the land on to future generations.

A program at Mississippi State University—the Bulldog Forest—allows landowners to meet that responsibility while creating a lasting heritage by giving land to the College of Forest Resources.

“I was getting older and it was hard for me to manage the land,” said land donor and MSU alumnus Tom Harris. “The land was handed down to me from my father, and I wanted to give it to the College of Forest Resources for scholarships.”

Forest management professionals at MSU do a careful assessment of each donated property. The Bulldog Forest properties are used as living laboratories where forest management practices provide teaching, research and demonstration opportunities for students of all ages.

“Students learn best from hands-on experiences,” said George Hopper, dean of the College of Forest Resources. “The Bulldog Forest provides outdoor classrooms, scholarships and new technology for classrooms, as well as helping our faculty with continuing education and professional development.”

The college uses the most feasible methods for growth and harvest of timber on donated land, all with consideration of the responsibility to protect the environment.

“These sound management practices are, in turn, taught to MSU students in our forestry, forest products and wildlife and fisheries programs,” Hopper said.

A carefully planned gift of forestland can have financial benefits for the donor, including a lifetime income, a shield from capital gains and estate taxes, and income tax deductions, among others.

“I gave my land to Mississippi State for estate planning, looking to the future for me and my family,” said donor retired Col. K.D. Johnson. “I gave it now for the tax advantages instead of giving at my death when I would get no tax advantages.”

Gifts to the Bulldog Forest also are an investment in the future of students.

“My education and career were made possible because someone joined the Bulldog Forest program and gave me an opportunity to pursue my passion,” said Austin Carroll, wildlife manager for International Paper and a Mississippi State alumnus.

The College of Forest Resources and the MSU Foundation works with landowners and their professional financial planners to arrange the terms of gifts to suit individual needs.

Additional information on the Bulldog Forest is available on the Web at www.cfr.msstate.edu/bulldogforest/.
Mike Ballard and Betty Self catalog photos donated to the MSU Libraries by photojournalist Harris Barnes, opposite top.

Cotton
A 50 Year Pictorial History
The Photography of Harris Barnes
In 1946, Harris Barnes, Jr., began taking snapshots of his and his wife Jamye’s first child, Harris III. Sixty years and three more children later, the Clarksdale resident has a photojournalism legacy that includes three books and hundreds of articles and photos in a variety of farm publications.


It’s accurate to say that Barnes was in the right place at the right time to chronicle the rise of modern row-crop farming, especially cotton farming.

The 1941 Mississippi State agricultural administration graduate was hired as manager of Baugh Plantation in Coahoma County following service in the Marine Corps during World War II.

“Baugh Plantation was on the cutting edge of farm technology,” he said. “In 1948, we were the first in the area to use a mechanical cotton picker and began using herbicides on cotton when they were first introduced in the early 1950s.”

Billy Connell, the son of the plantation’s owner, was also interested in another type of technology—photography. It was Connell who introduced Barnes to his first “real” camera, a Kodak Flash Phantom, in 1946.

In addition to chronicling his growing family, Barnes began taking pictures around the farm and soon found that equipment companies and agricultural publications were willing to pay for his pictures of advanced farm practices.

“I was amazed that some of them would give me $25 and $50 for a black-and-white print,” he said. “As farm manager, I was right in the thick of it and every time I saw a good picture I’d try to capture it. So thank the Lord I started saving pictures back in ’46.”

In the 1960s, Barnes began writing for *Progressive Farmer* magazine and other farm publications, which led to a successful career as a freelance agricultural photojournalist.

Pausing at an image in his *Cotton* book, Barnes noted that the combination of his years on the farm and behind the camera gave him a knack for spotting good pictures.

“My wife used to call that a turn around picture,” he said. “I’d be driving down the highway and I’d see something that would really strike me, and sometimes I’d meditate on it for five miles or so. I’d say, ‘I gotta have that picture,’ and I’d turn around.”

A recent donation to the MSU library archives will make Barnes’ historic photos available to future generations. He has provided 80 boxes of images, and more are expected.

“All are related to agriculture,” said Michael Ballard, head archivist at Mitchell Memorial Library. “Most of the material focuses on the Mississippi Delta, but other parts include images from throughout the United States and several foreign countries.”

Ballard added that portions of the Barnes Collection will enhance the Consortium for the History of Agricultural and Rural Mississippi (CHARM). A partnership between the MSU Libraries and the Division of Agriculture, Forestry and Veterinary Medicine, CHARM seeks to promote a better understanding and appreciation of the role played by agriculture, forestry and rural life in Mississippi’s development.

“Through his photographs, Mr. Barnes has done an excellent job of recording the enormous changes in Delta agriculture during the past half century,” Ballard said. “We are fortunate to have this collection in the MSU archive.”
Education, research and outreach are the primary missions of the Division of Agriculture, Forestry and Veterinary Medicine. Each of those missions requires professional and support staff, but partners outside the university also play important roles.

Individuals who endow scholarships and fellowships are partners in the education mission of the division. The research mission is carried out with the help of a range of funding partners, including industry, producer organizations and state and federal agencies. Partnerships with other universities and MSU departments outside the division also benefit both the education and research missions. Volunteer groups and local organizations are important in helping deliver Extension and other outreach programs.

The following pages contain information about the types of partnerships engaged in by the individual units within the division. The examples cited are representative of many others that support activities in the classroom, research laboratories and communities throughout Mississippi.

**Partnerships Benefit Education, Research and Economy**

**Partner:** one associated with another especially in an action. *Webster’s Collegiate Dictionary*

Education, research and outreach are the primary missions of the Division of Agriculture, Forestry and Veterinary Medicine. Each of those missions requires professional and support staff, but partners outside the university also play important roles.

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**Partnerships with an Emphasis on Students**

With 10 departments and 16 majors, the College of Agriculture and Life Sciences (CALS) provides students opportunities to discover the art and science of development in plants, animals and human beings.

“Students are our top priority,” said Associate Dean Lynn Reinschmiedt. “The partnerships formed by the college enhance opportunities for our students both inside and outside the classroom.”

Among the most long-lasting partnerships in the college are those with individuals, families and businesses that establish endowed scholarships and fellowships.

“Endowed graduate fellowships and undergraduate scholarships help attract smart, motivated students,” Reinschmiedt said. “The financial support they provide makes a powerful impact on the student recipients and helps Mississippi by making it more likely the recipients will stay in the state after graduation.”

The businesses and organizations that support student activities also play an important role in preparing CALS students for careers by providing a link between the university and the private sector. One of those links is the National Agri-Marketing Association (NAMA).

The NAMA is comprised of marketing professionals in the food and fiber industry. There are also 37 student NAMA chapters, including the MSU chapter based in the Department of Agricultural Economics. The organization provides...
student members with opportunities to explore agri-marketing careers through the national organization’s mentor program and student career fair. Student members also develop communication, marketing and organizational skills by serving in leadership positions and through NAMA’s annual marketing competition. The MSU student chapter is sponsored by the Memphis, Tenn., NAMA chapter, which provides mentoring and other support. The national organization also provides travel funds and other support for the student chapter.

“Similar organizations in the floral, food and other industries also work closely with CALS departments to provide internships and other support for students,” Reinschmiedt said. “These and other partnerships enhance the college experience for our students and help ensure their success in their chosen professions.”
Forestry Partnerships Sustain Environment, Boost Economy

Mississippi has been blessed with more than 18.6 million acres of forestland, 14,000 miles of streams, rivers and creeks, and abundant wildlife and fish populations. These natural resources provide many opportunities for our citizens in recreation and jobs, creating $15 billion in economic impact to the state each year.

Our mission is to foster sustainability, conservation and utilization of natural resources for improved quality of life for the people of Mississippi, the region and beyond.

The College of Forest Resources and the Forest and Wildlife Research Center work with more than 100 cooperators each year on projects that sustain our natural environment and add value to the state. These cooperators include government agencies, universities, private industry and non-profit foundations.

The center includes the departments of Forestry, Forest Products, and Wildlife and Fisheries, as well as numerous research institutes, including the Institute for Furniture Manufacturing and Management, the Mississippi Water Resources Research Institute, the Berryman Institute and the Wood Utilization Research Center.

“Our faculty are working hard to sustain the natural environment,” said George Hopper, dean of the College of Forest Resources and director of the Forest and Wildlife Research Center. “The spectrum of research in the center includes clean water, wildlife habitat, trees in our cities and towns, furniture, forest resources, stronger lumber, durable housing and sustainable fisheries—just to name a few.”

The Department of Wildlife and Fisheries is the research arm for the Mississippi Department of Wildlife, Fisheries and Parks. In this capacity, scientists in the department conduct research on both game and nongame species to improve wildlife and fisheries management in the state and region, and maintain a strong applied and habitat-based program on diverse subject areas.

Faculty in the Department of Forest Products work with manufacturers across the state and region to convert forest resources into value-added products. One partnership between private industry, a government agency and the university has resulted in a newly formed company, creating 140 jobs.

“The objective of our work with TimTek was to demonstrate that technology that was invented in Australia could be used to make a product from Mississippi-sourced wood,” said Liam Leightley, head of the Forest Products Department. “This wood was small-diameter material that didn’t have a market, and we are converting it to a value-added product.”

Scientists in the Department of Forestry are working with the Mississippi Institute for Forest Inventory, a state agency, to develop a complete inventory of forest resources in the state. This project is another example of adding value to the state. Once completed, the inventory will attract new wood-using facilities and help existing facilities with wood supply planning.

Adding value while fostering sustainability, conservation and utilization of our natural resources is what faculty in the College of Forest Resources and the Forest and Wildlife Research Center are striving to accomplish, Hopper added.

“We work closely with all of our partners to achieve this goal,” he said.
To accomplish its mission, The Mississippi Agricultural and Forestry Experiment Station must cooperate with other universities, government agencies, businesses, commodity groups and other agricultural stakeholders.

“Producer organizations at the local, state, regional and national levels play an important role in helping our research scientists carry out their work,” said MAFES Associate Director Reuben Moore.

Among the groups providing ongoing support for research are the Mississippi Soybean Promotion Board, the Mississippi Rice Promotion Board, and the Mississippi Cotton Incorporated State Support Committee. Producer check-off funds for soybeans, rice and cotton provide significant research funding.

At the local level, regular meetings with producer advisory committees provide MAFES personnel with input to help guide future research.

“In addition, farmer participation in on-farm field trials adds a real-world aspect to many MAFES projects,” Moore said. “MAFES scientists have off-station projects on farms in virtually every area of Mississippi. Producer participation in the research ranges from providing just the land for a project to performing most normal farming practices.”

MAFES also has extensive collaborative relations with other state and federal agencies, which enhance productivity and applicability of research on and off campus. Facilities and personnel of the USDA Agricultural Research Service and other federal agencies, for example, are strategically co-located to augment the total research effort. Such partnerships establish the communication links needed to avoid costly duplication of effort.

The branch station is one of the strongest tools agricultural researchers have in their efforts to find new and more efficient ways to produce food and fiber. There are, however, projects that need the type of setting found only on an actual working farm.

MAFES scientists have off-station projects on farms in virtually every area of Mississippi. Producer participation in the research ranges from providing just the land for a project to performing most normal farming practices.

Variety evaluations are among the research projects conducted with cooperating producers.

Lee County farmer Keith Wiseman is one of the cooperating producers for variety evaluations. His farm has been the site of soybean trials. Participating in the research, he said, has taught him a lot about soybean varieties.

“There are a lot of soybean varieties out there, but I’ve learned that just because they’re on the market doesn’t mean they’re going to perform well on my farm,” he said.

The results of the variety research are made available through the Mississippi State University Extension Service, and Wiseman said the variety information is part of a management program that has helped him increase his average yields.

“I used to think a 20-bushel-per-acre average yield was good and 25 was great,” he said. “Now, there have been times when I’ve broken through the 50-bushel-per-acre level.”
The Mississippi State University Extension Service has partners in all of Mississippi’s 82 counties and in practically all communities in the state.

“Our mission is to provide educational programs and information of benefit to Mississippians,” said Virgil Culver, MSU-ES state program leader. “To carry out that mission, we rely heavily on the help of adult volunteers for most of the programs delivered at the local and state level.”

Partners at the local level also include county boards of supervisors, which provide office facilities and support programs in each county.

Support from producer organizations and from individual producers assists Extension personnel in providing educational programs, field days and other activities for producers of almost every agricultural product in the state.

Extension is constantly adapting to respond to needs, especially in the area of health education. In 2005, MSU-ES began facilitating Health is Academic in 40 Mississippi elementary schools. The goals of the program are to assess current school health situations, develop and approve a school wellness policy and implement the approved policy. The program is funded through grants from the Mississippi Department of Education’s Office of Healthy Schools with support from the Bower Foundation.

Another Extension program to bring more health education to Mississippi also began in 2005. The Extension Body Walk program is an interactive learning program to teach kindergarten through fifth grade students how to make good nutrition and physical activity part of their daily lives. Sponsoring partners include Blue Cross and Blue Shield of Mississippi Foundation, the Mississippi Rural Health Corps, the Mississippi Attorney General’s Office, and the Partnership for a Healthy Mississippi.

The 4-H Community Pride Program, in partnership with Chevron Texaco, provides mini-grants for youth to serve their communities. Through the program, adult Community Pride volunteers learn cooperative skills such as planning, resource development, grant writing, media relations, and communication. Community members, local organizations and corporations often join the effort.

Each year, Extension’s Rural Medical Scholars Program pairs high school students interested in careers in medicine with doctors for five weeks during the summer to give the students a brief taste of what it’s like to be a medical doctor in Mississippi.

“These and a host of other Extension programs and activities help thousands of Mississippians of all ages improve their economic wellbeing, learn about healthy lifestyles or just get more enjoyment out of life,” Culver said.

Professional photographer Wayne Rawson of Meridian is one of hundreds of 4-H adult volunteers in Mississippi. (Photo by Jim Lytle)
Diverse Partnerships Enhance CVM Experiences

Veterinary medicine is a diverse field, with careers ranging from small animal practice to national security.

Just as diverse are the partnerships that help MSU’s College of Veterinary Medicine give its students opportunities to learn about all aspects of the profession.

The partnerships usually benefit both the students and the outside partner. That’s the case with CVM’s partnership with the humane societies in nearby Starkville and Columbus.

“The humane society receives no-cost spay and neuters,” said Dr. Phil Bushby, CVM’s academic program director. “The adoption rate of the spayed and neutered animals is significantly greater than those not spayed or neutered, and the students get a positive educational experience.”

At the other end of the animal care spectrum, a partnership with the Jackson Zoo in the state capitol provides CVM students with hands-on experience with exotic animals while assisting the zoo with its animal health program.

A partnership with Iowa State University brings students from the midwestern school to MSU and takes CVM students to the Midwest to expand their knowledge of the beef cattle industry.

Another partnership takes recent CVM graduates to the nation’s capitol to learn about the U.S. Department of Agriculture’s Food Safety and Inspection Service. Called D.C. Track, the partnership gives participants experience at the Washington, D.C., headquarters of the agency responsible for protecting the nation’s food supply. The three-month internships began in 2005.

CVM’s faculty and professional staff also gain valuable experience through partnerships, including those with federal and state agencies, livestock and aquaculture producer groups and other schools.

Scientists in CVM’s Department of Pathobiology and Population Medicine are part of the USDA’s Food Safety Research and Response Network, which includes more than 50 food safety experts from 18 colleges and universities. Teams of researchers study different food safety pathogens in each major agricultural commodity and also serve as response teams at the request of federal and state agencies during episodes of food-related illnesses.

In the aftermath of 2005’s powerful hurricanes, CVM personnel assisted with a variety of animal health needs in storm-damaged areas as part of the Mississippi Board of Animal Health’s Animal Response Team.

“Medical science, either human or animal, involves complex opportunities in disease diagnostics, therapeutics and prevention,” said CVM Interim Dean Gregg Boring. “The partnerships that help CVM carry out its teaching, research and outreach activities in those complex areas can be characterized by the Chinese proverb ‘Many hands make a big task small.’”
Thousands of visitors come to the Vicksburg National Military Park each year to see the location of one of the Civil War’s pivotal battles. Most stay within the well-manicured areas surrounding monuments and artillery emplacements that dot the 1,800-acre site.

There is, however, a wilder side to the park.

“Most of our visitors don’t know that two-thirds of the park is in its natural state,” said Kurt Foote, the National Park Service natural resource program manager. “In a lot of ways, it’s a natural park.”
The forested areas along the high bluff overlooking the Mississippi River contain limestone formations, streams and even waterfalls. For the past decade, Eric Dibble of Mississippi State’s Forest and Wildlife Research Center has been collecting information about conditions within the park’s streams and the natural habitats along their paths.

An ongoing study by the associate professor is providing the National Park Service with comprehensive, science-based information about existing stream conditions and the presence of bank-side flora and fauna. It is believed to be the first ecological evaluation of the streams since the park was established in 1899.

Dibble initiated this study in 1995 while working as a research biologist at the U.S. Army Corps of Engineers’ Waterways Experimental Station, also in Warren County. One day while visiting the popular tourist destination, he struck up a conversation with a park ranger.

“I asked the ranger if there had been any studies on the small streams around the park,” Dibble recalled. “When the reply was ‘no,’ I volunteered to conduct a general survey. The rest is history.”

Following the second and third years of his efforts, Dibble said the park service was “finding funds to continue the project to maintain their database on fauna and water quality.”

Today, through the collaborative and continuing efforts among MSU, the NPS and, most recently, the federal Gulf Coast Cooperative Ecosystem Studies Unit, Dibble’s survey enables officials to anticipate future environmental changes that might affect the park’s water courses.

“This has been the longest data study conducted at any national park, and it has been a good baseline to identify what normal readings are in the park,” Foote said. As an example, if there are spikes in the readings caused by various pollutants, we can compare them with the baseline readings and prove if there are outside components that are a violation of regulations.”

Water quality and habitat are measured from sites in three drainage systems within the park’s boundary. Other field assessments include the measurement of distribution and abundance of fishes, invertebrates and aquatic vascular plants that currently inhabit the streams.

“Special attention has been paid to identify and address management concerns relative to the presence of rare, threatened and/or endangered, and exotic species,” said Dibble.

The ability to measure environmental changes resulting from long-term climatic impacts has been among additional benefits of the scientific examinations.

As an example, Dibble cited data indicating significant water-temperature increases in two streams over the 10-year span. The possible cause: a combination of climatic impacts on air temperature and landscape disturbances resulting from drainage that increased sediment loads, he said.

“This investment has been good, not only because the information gathered provides immediate evaluation of the ecology and environmental condition of the streams, but because new data serves as a reference to assist in future decisions for stream management,” Dibble said.
PRODUCERS FOCUS ON RESEARCH, EDUCATION NEEDS

By Bob Ratliff

Nowhere is Mississippi State University’s role as the “People’s College” more evident than in the North Mississippi Research and Extension Center Producer Advisory Council.

For more than 50 years, representatives of agricultural producer groups in 27 northeast Mississippi counties have met annually to discuss their needs and to tell those needs to MSU research scientists and Extension professionals.

The 2006 meeting brought together more than 100 members of the committee, representing 11 commodity groups. Each group met to discuss their specific needs among themselves and with MSU personnel with responsibilities in their commodity area. Following those meetings, a representative of each commodity group presented a report to the entire council.

“The council meeting is a chance for producers in this part of the state to communicate with each other and with the university personnel who work with the crops they produce,” said Joe Street, head of the North Mississippi Research and Extension Center in Verona.

Research conducted by scientists with the Mississippi Agricultural and Forestry Experiment Station and educational programs conducted by the MSU Extension Service are always major topics at the annual meeting. The producers also pick up profitable ideas from each other.

“Ideas for packaging peas and beans for sale at local farmers’ markets were a hot topic in the fruits and vegetables group this year,” said Shelaine Wise, county Extension director in Prentiss County.

The vegetable and fruit group report was given by Ralph Hanskiewicz of Union County, who noted that programs are needed to attract more young producers. The producers also asked for work toward an agricultural tourism association in the state and discussed the need for an additional producer group for the council.

“There is a need for a honey bee group because pollination is so important for our crops,” Hanskiewicz said.

Chris Hussey of Lee County reported that the turf group discussed the need to educate the public about their industry. The turf producers also requested promotion of higher industry standards and more weed control research.

The swine report was given by Byron Wilson of Chickasaw County and included a request for a swine research facility and more research with the management and use of swine waste.

John Scott Edmondson of Calhoun County said growers need research and guidelines for organic sweet potato production. The sweet potato producers also requested additional work with “skin-set” chemicals, which help prevent damage during harvest.

Consumer demand for landscape plants that are easy to maintain was one of the topics discussed by the ornamental producer group, according to Pete Poland of Lee County. The ornamental growers also requested regular updates on ornamental research and more information about container recycling.

Asian Soybean Rust was a major topic in the grain crops group. Ben Harlow of Monroe County reported that producers need soybean rust management information, including nozzle type and size for use in applying fungicides. The growers also requested evaluation of insecticides for use in soybeans in conjunction with fungicides.

Continued landowner education programs are a priority for the forestry group, according to Don Whitehead of Lafayette County. The forestry group also requested increased market development and alternative fuels research.

The need for a state equine specialist and for enforcement of existing laws and regulations concerning horses were discussed in the equine group, according Beverly Jones of Oktibbeha County. The group also asked for an updated economic impact study of the horse industry in the state.

Jeremy Graham of Pontotoc County reported the dairy producers would like to see research with parasitic wasps and other alternative fly-control methods. The producers also requested additional heat stress research and research with handling and use of animal waste.

Cotton producer Keith Morton of Tippah County said his group discussed the need for plant bug monitoring and information on plant bug control in hill areas of the state. The growers also requested a feasibility study of precision agriculture practices for use with cotton.

The beef producers report was given by Jacob Megehee of Noxubee County. He noted that the producers would like to see more health and nutrition research, especially projects dealing with anaplasmosis and improving fertility in beef cattle. The beef producers also requested more help with marketing issues.

“There are a lot of opportunities out there, but we’re going to have to change the way we do business,” Megehee said.

“We have to look and see what the ultimate judge—the consumer—wants to buy.”
Introduces ‘SWEET’ New Ice Cream Flavor

Sweet potatoes are great baked or in pies, but fans will soon have a new way to enjoy one of their favorite foods.

The Mississippi State University Dairy Processing Plant is adding sweet potato to its list of ice cream flavors.

MSU has a history with ice cream production going back to the 1940s, and the campus plant currently churns out 15 flavors. Most are the standards, including chocolate, vanilla and strawberry, but sweet potato will join muscadine ripple as the second flavor unique to MSU.

Mississippi is the nation’s third largest sweet potato producing state, so it’s only natural for MSU to add the flavor to its ice cream lineup, said Benny Graves, sweet potato specialist with the Mississippi Department of Agriculture and Commerce’s Bureau of Plant Industry.

“We’re excited about the possibilities for this new product,” he said. “Many of our growers have had the chance to sample the ice cream, and their reaction has been very positive.”

The idea for producing an MSU sweet potato ice cream came out of research funded by the Mississippi Sweet Potato Council.

“The growers’ association funds research to find-value added products for sweet potatoes,” said Patti Coggins, director of the Garrison Sensory Evaluation Laboratory. “We were working with adding sweet potato to several different foods, including yogurt. It was quite good and led to the idea for a sweet potato ice cream for sale on campus.”

The food scientists at the laboratory tried several recipes, including mixtures containing sweet potato puree with various combinations of pecans, coconut and marshmallow. Taste tests were conducted in the laboratory and at the 2006 North Mississippi Producer Advisory Committee meeting in Verona, where more than 100 committee members sampled and evaluated the new flavor.

The winning combination, which contains toasted pecans and marshmallows, will go on sale in the MSU Cheese Store this summer.

A search of the Web and cookbooks will produce recipes for sweet potato ice cream, but Coggins said the MSU product will be the first available for retail sales.

“It’s a good product, high in nutritional value,” she said. “We would like to work with a food product company interested in producing sweet potato ice cream commercially.”

Work with other food products containing sweet potatoes is continuing on the MSU campus.

“Sweet potatoes are one of the most nutritional foods, and even though we eat a lot of them in the South, they are underused nationally and in other countries,” Coggins said. “The juice blends well and can be used to add nutritional value to other foods, including fruit drinks.”

Mississippi farmers grow sweet potatoes on about 16,000 acres each year, and in 2005, the crop contributed a record $57 million to the state’s economy.

Above: Student worker Tim Satow serves freshman Meredith Minetree a sample of sweet potato ice cream at the MSU Bakery. (Photo by Marco Nicovich)
By Emily Cole

Several Mississippi growers are responding to consumer demand for food grown without the use of any chemicals, and organic fruits and vegetables are cropping up across the state.

Rick Snyder, a vegetable specialist with the Mississippi State University Extension Service, said interest in organic food is slowly gaining momentum in Mississippi, and the demand stems from health awareness in America.

“Organic growers are filling a niche in the demand for produce,” Snyder said. “People are more health conscious and are eating more and more fruits and vegetables, especially those without any chemicals on them.”

The growing consumer demand has led to increased interest from growers and the government. The U.S. Department of Agriculture recently enacted regulations defining what is and is not considered organic. To be considered organic, produce must be grown without pesticides or chemical fertilizers, said Snyder.

Mississippi’s Department of Agriculture and Commerce started an organic certification program in 2005 to regulate this agricultural niche.

“Growers can’t grow produce and claim it’s organic unless it’s certified,” Snyder said.

Guy Feltenstein, director of the Division of Fruits and Vegetables within the Department of Agriculture and Commerce, said growers with land that has been chemical-free for the past three years can apply to become a certified organic grower.

“We have had a tremendous number of inquiries lately, primarily about vegetables,” Feltenstein said.

As part of the certification process, a team from MDAC takes soil samples, interviews the grower and checks the area for possible chemicals. The Organic Certification Board then reviews the application, and the applicant can be certified if the soil tests show no chemicals. Snyder is one of the six members of this board and said that six applicants had been granted organic grower certifications by early March.

Those six certified growers and many home growers are successfully producing organic blueberries, watermelons, squash, tomatoes and pecans. Concentrated in the southern half of Mississippi, organic growers’ crops are usually sold in their local areas, Snyder said.

Organic grower Amy Phelps of Pearl River Blues Berry Farm in Lumberton has grown blueberries since 2000 without using any chemicals. This year, she plans to branch out into other crops, including sweet corn and tomatoes.

Phelps, a former environmental journalist with The Washington Post, said the hardest part of growing organically is confirming the source of every product she uses on her crops.

“There are a lot of questions you have to ask,” Phelps said. “You’re always looking for the source. For example, there is free mulch available from Katrina debris, but I can’t use it because I can’t guarantee the source. I really want to know where my supplies come from.”

Despite the challenges, Phelps and her husband Alan love helping people make better food choices.

“I can tell people to pick anything out of the field and eat it – don’t even worry about washing it,” she said. “By not putting chemicals on it, people can pick and eat and say ‘Wow! I’ve done something good for myself today.’”

Organic growing is a challenge. Proving that it can be done in Mississippi is one of the greatest rewards, said Phelps, who is president of the Gulf South Blueberry Growers Association.

Mississippi’s soils, pests and plant diseases do not make an organic farmer’s job easy. The hot and humid climate allows weeds to grow quickly and diseases to thrive, Snyder said.

“Growers have to come up with alternative methods for controlling insects, weeds and diseases in the field,” he said. “They have to be observant so they can get them under control quickly. There are some biological controls for insects, and elements like copper can be used to control bacteria.”

The higher prices consumers are willing to pay for certified organic goods can offset the higher cost of production.

Snyder said the profit potential of satisfying the organic market niche is one reason some growers get into organics, while others choose to grow their crops without chemicals because they believe it is how crops should be grown.

Organic growers interested in becoming certified should contact Kevin Riggin, state organic coordinator, at (601) 359-1138 or kevin@mdac.state.ms.us.
Two pets and more than a quarter of a century of relationships with Mississippi State University’s College of Veterinary Medicine have cemented a bond between a Germantown, Tenn., couple and the college.

James and Linda Johnson received college educations at other institutions, but the education forged by their pets’ illnesses have led to a lifetime commitment as voluntary spokespersons on behalf of the CVM.

“Mississippi State University veterinary medicine students have an unparalleled sense of commitment and compassion. It is truly an uplifting experience to visit CVM,” Linda said. “The more I have learned how extremely important veterinary medicine is to society, I realize we just don’t give them enough credit.”

The Johnsons first became supporters of MSU when James was serving as president of the Mississippi Seedsmen Association in 1979 and later as president of the Mississippi Agricultural Chemicals Council in 1984. Through these associations, he was friends with the late Dr. Louis Wise, former vice president of MSU’s Division of Agriculture, Forestry and Veterinary Medicine. That relationship promoted an interest in the development and success of the College of Veterinary Medicine.

When their much-loved pet of 19 years became seriously ill, the Johnsons’ appreciation of the CVM was elevated to a more personal level. Then-intern Susan Simmons, impressed them with her concern for their poodle, Rusty. Simmons discovered that her patient had gastric ulcerations.

The care given to Rusty prompted the Johnsons to honor a friend and owner of Clarksdale Animal Medical Clinic by establishing the Dr. Gerry Grant Humane Award at MSU.

Simmons, who practices veterinary medicine in Greenville, credits people like the Johnsons with enabling MSU to attract outstanding professors and students.

“If the Johnsons are impressed with students from Mississippi State, it’s because of the teachers,” Simmons said.

The Johnsons had another opportunity for personal insights into the CVM clinic when their new pet, Teddy B, became ill. Linda originally attributed the symptoms to his arthritis medicine, but the onset of seizures eventually resulted in a diabetes diagnosis.

A decade after establishing the Dr. Gerry Grant Humane Award, MSU CVM graduate and Grant’s son, Dr. Craig Grant, provided medical care to Teddy during his diabetic treatments.

The younger Grant was pleased to assist his former elementary school principal in her dog’s care. “I probably hadn’t seen Mrs. Johnson in 10 years. It’s a comfortable feeling to know that people have that MSU connection with you. I always enjoy having ties to my home state and to my school,” he said.

Teddy B required two insulin injections every day, each morning and each evening, at the same time each day. His food intake had to be closely monitored and stress levels kept to a minimum.

“Whether in a pet or a person, diabetes is a horrible disease. To compound the problem with a pet, there is no current procedure available to monitor glucose levels daily. Teddy would go to the clinic every three to four weeks for a glucose curve. For a pet like Teddy who was clinically difficult to stabilize, this is unacceptable,” Linda added.

Teddy B died May 18, 2004, after 14 years of providing companionship to the Johnsons, but his spirit remains a part of the Johnsons’ lives as well as those CVM students and others who provided care. Because of the profound sense of caring at CVM, James and Linda made a commitment to the Pegasus Partners Endowment.

In honor of Teddy B, the couple has established the James C. and Linda B. Johnson Annual Scholarship, awarded annually to a CVM student who is perceived as having a caring and compassionate attitude toward animals and individuals, and has shown promise for an outstanding career in veterinary medicine.

“James and I have felt for a long time that we should help educate young people and help take care of little animals,” Linda said. “Remembering or honoring a pet with a gift to CVM as well as including CVM in estate planning will ensure a bright future, not only for CVM, but for the well-being of society in general.”
Division Scientists Receive Research Honors

Nine representatives of the Division of Agriculture, Forestry and Veterinary Medicine received Ralph E. Powe Research Awards at the university’s annual spring research awards banquet.

Named in honor of the former MSU research vice president who died in 1996, the Powe award recognizes faculty researchers making significant contributions to the economic welfare or cultural growth of the university, state and nation. The 2006 honorees include:

Faculty Research Award, William Kingery, professor, plant and soil sciences; Research Support Staff Award, Eugene Columbus, senior research associate, agriculture and biological engineering; Graduate Student Research Award, Ashley Pollard, food science, nutrition and health promotion; and Undergraduate Student Research Award, Marcus McGee, animal and dairy sciences.

Faculty Research Award, Stephen Grado, professor, forestry; and Research Support Staff Award, Curt Collins, research associate I, forestry.

Awards to College of Veterinary Medicine personnel included Faculty Research Award, Shane Burgess, associate professor, basic science; Research Support Staff Award, Michael Dewberry, research program manager, basic science; and Graduate Student Research Award, Michael Rybolt.
On the agricultural programs:

I’ve said that I want to do a bottom-up strategic review to assess our strengths, capabilities and emerging capabilities. I did come with some prejudices, and one is what I heard many years ago about the strength of the agricultural programs here. My view hasn’t changed any and maybe has even strengthened since I’ve come here.... Clearly, we are providing great services to the state of Mississippi. Whether you’re talking about the agricultural programs, research support for virtually all agricultural activities or the youth programs and other educational activities of the MSU Extension Service, this university has its fingerprints all over the state, which is an aspect of a land grant school. A question we do need to ask ourselves is “do we have this sized right?”

On how the strategic review will be used:

I anticipate the strategic review will identify areas where we have emerging capabilities and where we can take a leadership role. There will be areas with gaps and where we can improve. Those will require resources, and they will have to compete with other areas. At the end of the day, we will let everyone put their case for resources forward, and we’ll make decisions based on what is best for the state of Mississippi and best for the United States of America. If an area competes favorably it will get the resources it needs; if it competes less favorably, it will have to wait.

On encouraging investment in the university:

The measure of a nation’s greatness has a direct relationship to its willingness to invest in the education of the young men and women who will one day lead that nation. Fortunately for the United States, we have made that decision and agreed to invest in our youth and educate them so they will be the next great generation. You have to find those people, corporations and agencies that are willing to support you and convince them first you are going to put resources to work educating the people of the state of Mississippi or into research that will benefit the state and nation. Investors in the university also have to have confidence in what we are providing, so we have to hire faculty with national reputations and young people who can become national leaders in research and teaching. Give them a fair salary and provide them with the opportunity to do research and to teach.

On student recruiting:

We have a character we should be very proud of. Other schools have their character, but if you want to be an expert in the agricultural field or forestry, you want to come here. If you want to be a great engineer, we have an incredible engineering school. Our character may have to constantly change somewhat to meet the demands of the workforce and develop those capabilities necessary for society, but for the most part we have our own character, and I believe it is very attractive to a lot of young men and women.

To attract those students, however, is not a passive activity. It must be done with enthusiasm. You recruit both the individual coming to school and their parents. If mom and dad feel good about their son or daughter and feel someone will pay personal attention to them, worry about their safety, their moral well-being, of course see to the thing that they send them here to do, which is develop a skill to join the workforce, then they are more likely to support their son or daughter coming to this institution.

You also have to capture the individual and make them feel like if they come here they will be treated in a respectful way as a young adult. So you recruit at both those levels, and you retain at both those levels as well. Not only do you retain the student, you have to work to retain the mother and the father by remaining true to your word.
Supporting local humane shelters is how most individuals who care deeply for animals ensure the welfare of animals in their communities. For Marcia Lane of Columbus, support for the Columbus/Lowndes Humane Society has been a long-term priority.

Lane, a California native, grew up riding her bicycle down famed Sunset Boulevard. She now calls Mississippi home and shares 15 acres in Lowndes County with two steers, two fillies, three turkeys and several dogs and cats. Love of animals led to her support for the local humane society and the scope of her support recently expanded with the establishment of an endowed professorship in the College of Veterinary Medicine.

The Marcia Lane Endowed Professorship in Humane Ethics and Animal Welfare will help the college develop a collaborative relationship with animal sheltering organizations throughout Mississippi and the surrounding region.

"Marcia Lane’s generous support provides the college an opportunity to recruit an outstanding veterinary medicine educator and leader," said Keith Gaskin, director of development for the College of Veterinary Medicine. "The holder of the endowed professorship will provide leadership in enhancing the college’s support of spay/neuter programs and in the development of educational programs for school children focused on the proper care of animals and the problems caused by pet overpopulation."

Another long-term goal, he said, is the establishment of an internship and residency in shelter medicine for CVM students in association with the Columbus/Lowndes County Humane Society and other regional animal shelters.

The Lane fund is an open fund in the MSU Foundation that may be increased through additional contributions. For more information about giving to the College of Veterinary Medicine, contact Keith Gaskin at 662-325-3815.
Seal’s Love of Forests Continues at MSU

In the early 1900s, Leo Seal worked summers at Weston Lumber Co. in Logtown in Harrison County for $3.00 a week. His goal was to save enough money to attend Mississippi A & M College.

Seal accomplished his goal in 1911, graduating with a degree in civil and mining engineering. His love for natural resources, however, compelled him to return to Weston, where he became land manager for the company’s 100,000 acres. Seal worked for Weston until called to service in Mississippi’s 155 Infantry Regiment during World War I.

Throughout his career with the lumber company, Seal understood that reforestation was key to sustaining the forest. He urged Weston’s owners to begin a reforestation program, pointing out that if they continued their ‘cutting’ program they eventually would not have a timber source for the mill. The owners were not impressed with the idea.

Seal resigned from his job with Weston in 1919 and began a career with Hancock County Bank, which is today’s Hancock Bank. Even though his career path forked from natural resources, Seal pursued the idea of creating a sustainable forest. He was one of the first ‘tree farmers’ in Hancock County and actively promoted reforestation, selective thinning, and maintaining fire-breaks. He even offered cash rewards to prevent malicious setting of forest fires.

His love for reforestation also prompted him to have the bank purchase a mechanical tree planter at the end of World War II. The planter was made available at no cost to any Hancock County landowner who would plant seedlings.

Seal was honored as Forester of the Year for Mississippi’s three coastal counties in 1962.

To continue the legacy that Seal began in reforestation and sustainability, his son, Leo Seal Jr., created the Leo W. Seal Sr. Memorial Forestry Scholarship in the College of Forest Resources at Mississippi State in 1966.

Leo Seal Jr. followed in his father’s footsteps, choosing a career with Hancock Bank. Today he is chairman of Hancock Holding Company and has many interests at Mississippi State, but he is always mindful of his father’s love of forests.

For more information about giving to the College of Forest Resources, contact Jeff Little at (662) 325-8151.

A new home is planned for one of MSU’s most vital and unique academic departments.

A new 40,000 square-foot, $11 million building for the Agricultural and Biological Engineering Department will be located on the site of the old “Tin Gym” next to McCarthy Gymnasium. The new building will house offices, modern classrooms and state-of-the-art laboratories. The location is near the Bagley College of Engineering and the College of Agricultural and Life Sciences, which share responsibility for the department.

The Agricultural and Biological Engineering Department attracts some of the best and brightest students from across the South, and a new building will help the program continue to recruit high-caliber students. Currently, freshmen entering the program have the highest ACT scores of all entering freshmen in Mississippi.

The department prepares students to enter medical school, to research and develop new energy sources, to manage agricultural enterprises and to pursue a variety of careers dealing with natural resources and ecosystems. On-going research in the department includes projects in the areas of biomedical engineering, environmental engineering, precision agriculture, agriculture systems, remote sensing, and biomass-based energy. Graduates of the program are pursuing careers as successful surgeons, patent attorneys, biomechanical product developers and managers of agricultural businesses.

The State of Mississippi has appropriated $9.5 million in funds to assist with the project and fund-raising efforts are under way for the remaining $1.5 million. Groundbreaking is scheduled for May, with completion of construction expected in 2008.

Gifts of any size are needed to make the facility a reality, and all contributions will count toward the university’s State of the Future campaign. Donors will be acknowledged through the MSU Foundation’s appropriate recognition societies. Naming opportunities in the building exist at various levels for donors who wish to leave a lasting mark at Mississippi State University.

For more information or to receive a brochure on naming opportunities, please telephone Jud Skelton, director of development, at (662) 325-0643 or email jskelton@foundation.msstate.edu.