

# Clemson IMPACTS

Clemson University Public Service Activities

Winter 2007



S.C. growers look to 21st century agriculture



Service-learning projects benefit communities and students



Cogongrass threatens state's forests



Muscadines show promise for cancer prevention



Report provides important child care findings



First annual cattle expo held at Garrison Arena



# Letter from the Vice President

To meet the current and future needs of South Carolina's agriculture and natural resources industries, we have refined the missions for our statewide network of research sites:

Baruch Institute of Coastal Ecology and Forest Science, Georgetown  
*Conserving natural resources in a changing landscape through innovative research*

Coastal Research and Education Center, Charleston  
*Partnering to advance health and nutrition through plant-based research and education*

Edisto Research and Education Center, Blackville  
*Strengthening traditional services in agriculture and advancing agriculture through farming technology*

Pee Dee Research and Education Center, Florence  
*Improving productivity of traditional crops and stimulating agricultural innovation through biotechnology*

Thanks to the support of the S.C. General Assembly, new scientists are now being hired to provide critical expertise needed by the state's agriculture, forestry and natural resources industries. These new scientists join a team of dedicated professionals who are committed to the success of South Carolina's citizens and agribusiness industries.

Sincerely,

John W. Kelly  
Vice President for Public Service and Agriculture

*Knowledge for living. Knowledge for life.*

**CLEMSON**  
PUBLIC SERVICE

*Clemson Impacts*, a quarterly publication of Clemson Public Service Activities, is available to South Carolina residents upon request. *Clemson Impacts* is also available on the web [www.clemson.edu/public/](http://www.clemson.edu/public/)

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## Improved crop and livestock facilities support research

By Tom Lollis

Crop and livestock research infrastructure improvements are underway at Edisto Research and Education Center, through \$1 million in funding from the South Carolina General Assembly.

“We have installed 10 new irrigation systems, which brings our total to about 300 acres of irrigated plots for row crop and vegetable research,” said Steve Meadows, resident director. “That makes Edisto very competitive for research grant funding.”

Improvements also include a peanut grading and research laboratory of around 4,000 square feet. “That will allow us to address producer needs for both post-harvest research and Extension projects,” Meadows said.

A new cattle facility of about 5,000 square feet is also in development. It will be used for the annual Edisto Forage Bull Test Sale and educational programs. New fencing and additional upgrades will support a forage-fed cattle research initiative with USDA, the University of West Virginia, Virginia Tech and Auburn University. Genetics and breeding research are part of this initiative. The new buildings should be ready by late summer 2007.

For information: Steve Meadows, 803-284-3343, ext. 270, [smdws@clemson.edu](mailto:smdws@clemson.edu)



Photo by Tom Lollis



Photo by Tom Lollis

## S.C. growers look to 21st century agriculture

By Tom Lollis

South Carolina farmers looking to the future have formed a new cooperative called the Carolina Agri-Solutions Growers Association (CASGA). Clemson Extension agent Jody Martin, coordinator of the S.C. Muscadine Initiative, has been deeply involved in CASGA's formation. The muscadine initiative includes a one-acre demonstration vineyard at the Pee Dee Research and Education Center near Florence.

The new association hopes to capitalize on growing interest in health issues with products such as nutraceuticals from muscadines and other crops already grown in South Carolina. Muscadines contain high amounts of phytochemicals such as resveratrol, which helps prevent stroke and heart disease.

“CASGA brings together purchasing and marketing efforts for botanical crops,” said Greg Hyman, the association's first president. “The new mentality is geared toward identifying the consumer before you start the product and building a profit margin into the process instead of just growing a crop and hoping somebody buys it.”

Other board members include vice president Bob Childers of Woodruff, treasurer Jim Irvin of Wadmalaw Island and Johnny Shelley of Nichols.

For more information: Jody Martin, 843-661-4800, [jamrtn@clemson.edu](mailto:jamrtn@clemson.edu)

## Research combats melon disease

By Tom Lollis

Melon producers have a fighting chance against one of their worst diseases, gummy stem blight, because of research at Clemson's Coastal Research and Education Center.

Anthony Keinath, vegetable pathologist, has been tracking the fungus *Didymella bryoniae*, especially as it affects watermelons, a 7,000-acre crop in South Carolina worth about \$7 million. After the use of a family of fungicides called strobilurins became widespread, Keinath found resistance to the treatment in 32 South Carolina samples of the pathogen from 2001-2005.

“Two of the 32 were from transplants, so some of the resistant isolates may have come into the state that way,” Keinath said. “The disease is being managed well with a new fungicide called Pristine, a mix of one part strobilurin and two parts of another active ingredient.”

He recommends that growers rotate the eradicator Pristine with a protectant fungicide, use healthy transplants and rotate fields out of cucurbits for two growing seasons. He also advises growers not to reuse plastic mulch from a melon crop for another cucurbit crop other than summer squash, which is not susceptible to gummy stem blight. The best procedure is to pull plastic up and disk crop debris into the soil.

For information: Anthony Keinath, 843-402-5390, [tknth@clemson.edu](mailto:tknth@clemson.edu)



Photo by Tom Lollis



# Switchgrass could extend energy supply

By Tom Lollis

Switchgrass, a native summer perennial, may one day help stretch the nation's energy supply. A prolific producer of biomass, 10 tons or more per acre for some types, switchgrass can grow up to 12 feet tall with stems as thick and strong as hardwood pencils. It can be converted to ethanol fuel; however, the current process is not as efficient as for other crops such as corn.

Nick Rigas, director of the S.C. Institute for Energy Studies at Clemson, is leading the search for more efficient ways to convert switchgrass to ethanol. Partners include S.C. Bio, the Savannah River National Laboratory and other state agencies. A search is underway for funding to build a laboratory and pilot plant for ethanol production.

Jim Frederick, agronomist at the Pee Dee Research and Education Center, will lead the production effort, in collaboration with environmental engineer Shelie Miller and entomologist Francis Reay-Jones. "We will plant between 15 and 20 acres of switchgrass in the spring of 2007," Frederick said. "Because it grows slowly at first, full production will take three years."

For information: Jim Frederick, 843-669-1912, ext. 228, [jfrdrck@clemson.edu](mailto:jfrdrck@clemson.edu); Nick Rigas, 864-656-2267, [nrigas@clemson.edu](mailto:nrigas@clemson.edu); Shelie Miller, 864-656-5572, [millers@clemson.edu](mailto:millers@clemson.edu)



# Spiders spin new fiber for textile industry

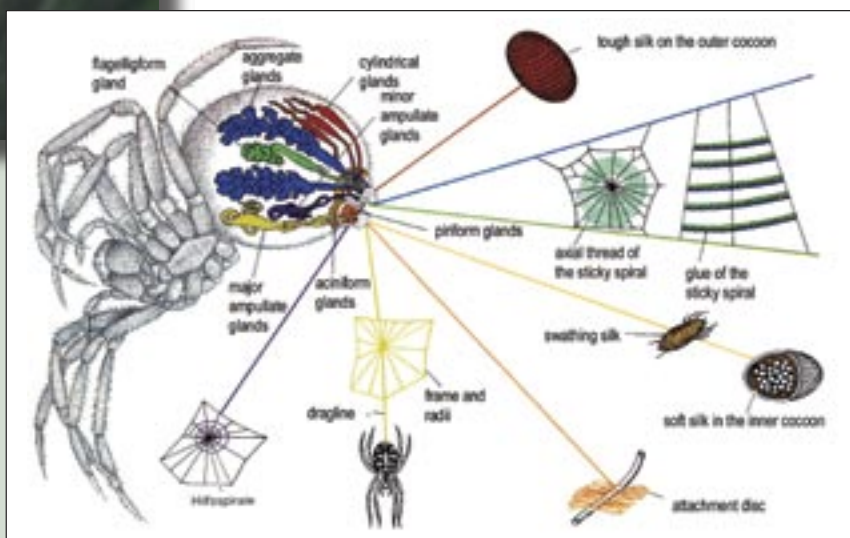
By Peter Kent

The search is on to discover how spiders can produce one of the strongest fibers known to man – spider silk. Finer than human hair, lighter than cotton, and ounce-for-ounce five times stronger than steel, the potential uses and benefits of the new material would be nearly limitless: wear-resistant clothes and footwear, stronger seatbelts, corrosion-free car panels and bumpers, improved sutures and bandages, artificial tendons and ligaments and safer bulletproof vests for soldiers and police.

Clemson Coker Chair for Genetics Bert Abbott and other genetics and bioengineering scientists are using golden orb-weaving spiders to learn how to make artificial spider silk. It is tougher, "stretchier" and more waterproof than silkworm silk.

Researchers are exploring the gene sequence that allows the spider to produce the protein that composes the silk. Using biotechnology, they have spliced the spider's silk-making gene into bacteria, which then produces the basic protein. It is part of the field of biomimetics – mimicking nature to create new materials for the fiber business. Their goal is to create a synthetic silk fiber equal to or better than its natural counterpart.

For information: Bert Abbott, 864-656-3060, [aalbert@clemson.edu](mailto:aalbert@clemson.edu)



# Knowing your neighbors reduces social isolation

By Kerry Coffey

A recent nationwide study noted that almost one in four Americans has no one to confide in. Of those who do have confidants, the number dropped from three to two during the last two decades. The study revealed that we have lost confidants from both inside and outside the family, with the largest losses coming from the ties that bind us to community and neighborhood.

The loss of community bonds is important because research also shows that child abuse and neglect most often occurs when parents and other caregivers are alone – when they lack the social and material resources needed to adequately care for children.

The national trend toward social isolation is mirrored in southern Greenville County and adjacent communities in Anderson and Laurens counties, according to social work professor Jim McDonell of Clemson's Institute on Family and Neighborhood Life. "Evidence from our research suggests that children are at greater risk for harm when families live in social isolation," he said.

Strong Communities, an institute initiative funded by a long-term grant from The Duke Endowment, strives to prevent child abuse and neglect and to reduce social isolation by creating connections among families so that every parent and every child can be confident that someone will notice and will care whenever they have cause for joy, sorrow or worry.

For more information: Clemson Institute on Family and Neighborhood Life, 864-656-6271, [www.clemson.edu/ifnl/](http://www.clemson.edu/ifnl/) and Strong Communities, 864-688-2214, [www.clemson.edu/strongcommunities/](http://www.clemson.edu/strongcommunities/)



Photo by Cindy Beasley

## Service-learning projects benefit communities and students

By Kathy Woodard

Community organizations and South Carolina citizens benefit from Clemson's Service Alliance Citizens and Scholars mini-grant program. One project, "Citizens and Scholars," engages Clemson students in collaborative community-based activities that integrate teaching, research and public service.

Elementary school children will receive help learning to read in the "Buddy Readers Project," which involves Clemson faculty and students at Clemson's Child Development Center, Littlejohn Community Center, and Kellett Elementary School in Seneca. Elderly citizens will benefit from patient care improvement studies through the "Safe and Effective Care: Emphasis on the Chronically Ill Elderly Population" project. This project matches nursing administration graduate students and faculty with community health care experts in Anderson and Greenville Counties.

Older adults who receive rehabilitation services following a traumatic event or chronic illness will be served through another project, which involves an



Photo by Cindy Beasley

interdisciplinary team of Clemson students and faculty who will conduct research on physical functioning ability and involvement in life activities. Limited resource citizens along the South Carolina coast will receive help in developing a local food marketing system through the project, "Entrepreneurship and Marketing Locally Grown Foods". This project will match a team of Clemson students, Cornell University students, and faculty from Applied Economics and Statistics with retail food executives, farmers, and officials from the Lowcountry Food Bank for a field study in entrepreneurship, marketing, and community development.

For more information: Kathy Woodard, 864-656-0205, [ckathy@clemson.edu](mailto:ckathy@clemson.edu), [www.clemson.edu/servicealliance/](http://www.clemson.edu/servicealliance/)



# Community forest guidebook aids citizens and policy-makers

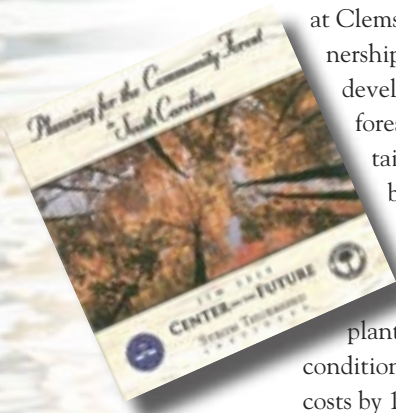
By Peter Kent

A community enriches itself when it plants trees. The Jim Self Center on the Future at Clemson's Strom Thurmond Institute, in partnership with the S.C. Forestry Commission, has developed a guidebook to help plan community forests. *Planning for the Community Forest* contains a wealth of information for residents and businesses, as well as land-use planners.

For example, 100 trees each year can remove five tons of carbon dioxide, as well as 1,000 pounds of pollutants. Trees planted around a home can reduce annual air conditioning costs up to 30 percent and heating costs by 10 to 25 percent. Each large front yard tree adds one percent to the sales price; while large specimen trees can add 10 percent to property values. Customers shop more frequently and for longer time periods in well-landscaped business districts. They are also willing to pay more for parking and for goods and services in tree-lined commercial districts.

As the state's population continues to grow, protecting our natural resources is becoming increasingly important to South Carolina citizens. This guide helps planners and citizens ensure that the issues and opportunities that could affect community well-being can be anticipated and addressed.

For more information: Donna London, 864-656-0226, [donnal@clemson.edu](mailto:donnal@clemson.edu).



## Baruch expands environmental research capabilities

Construction begins in February to build a new conference and education facility with two-way videoconferencing capabilities and to refurbish water quality laboratories at the Baruch Institute on Coastal Ecology and Forest Science. The facility will meet LEED (Leadership in Energy and Environmental Design) certification requirements set by the U.S. Green Building Council. Landscaping will demonstrate storm water management techniques and the use of coastal plants. Completion is expected in spring 2008. Architect is LS3P in Charleston.



Photo by Steve Compton

# Cogongrass threatens state's forests

By Peter Kent

Cogongrass, considered one of the worst weeds in the world, has been found in South Carolina. Clemson plant industry officials, state naturalists and botanists are seeking to identify and destroy it.

This fall, cogongrass was found in Francis Marion National Forest by Jean Everett, a biologist at the College of Charleston. It poses a danger to native plants, destroys plant life for animals and raises the potential for forest fires.

Like many destructive plants, cogongrass was introduced into the United States inadvertently, coming into Alabama in packing material from Japan in 1911. Clemson's Department of Plant Industry helps to prevent or contain plant pests in South Carolina through inspections, quarantines, controls and eradication programs.

"Cogongrass poses a special problem," said Steve Compton, regulatory agent. "The weed is attractive, prompting people to dig it up for home gardens. One variety is even offered for sale." However, the red variety, called Japanese bloodgrass or "Red Baron," is also on the federal list of noxious weeds and poses a threat to native habitats.

For more information: Steve Compton, 864-646-2134, [scompto@clemson.edu](mailto:scompto@clemson.edu).

# Laurel oak disease identified in Charleston

By Peter Kent

A deadly microorganism is killing Charleston's stately laurel oak trees. One of the victims was a 100-year-old tree in downtown Marion Park, remembered as the "the biggest, most magnificent tree in the park" by the city parks director.

Steve Jeffers, a Clemson plant pathologist who specializes in diseases of ornamental plants and trees, is working with Charleston arborists to find a cure. The problem first was identified by Brian Milleman of B&B ArborCare on Johns Island. Jeffers diagnosed the disease as *Phytophthora* root rot and trunk canker, which is caused by *Phytophthora cinnamomi*, a fungus-like organism that lives in the soil.

"Based on research done in California on a similar oak disease, I recommend arborists try Agri-Fos Systemic Fungicide to protect trees on an experimental basis," said Jeffers. "This can be applied as a trunk spray if used with the surfactant Pentra-Bark." Further research is needed to determine if live oaks or other native oak species also are susceptible to the fungus-like pathogen.

For more information: Steve Jeffers, 864-656-7157, [sjffrs@clemson.edu](mailto:sjffrs@clemson.edu)



Photo by Steve Jeffers



Photo by Austin Jenkins

# Researchers use forests to aid development

By Peter Kent

Properly managed timber lands can help lessen the impacts of urban development and protect South Carolina's water resources. The preservation of forested areas allows for rainfall to naturally infiltrate the soil; while urban developments, unless built with open spaces, have the potential to increase stormwater runoff.

"Impervious surfaces often associated with urban development include rooftops, driveways, parking lots, sidewalks and roads," said Dan Hitchcock, biosystems engineer at Clemson's Baruch Institute of Coastal Ecology and Forest Science.

"These surfaces lead to increased stormwater runoff that carries heat and pollutants into rivers, lakes and marshes," he said. "It's very important to realize that South Carolina depends on rainwater that infiltrates into the soil to recharge our aquifers and provide drinking water."

Hitchcock's research assesses potential water quality and quantity impacts in coastal areas due to converting forests to urban uses. He also studies the impacts of impervious surfaces in developed areas, as well as land uses and management practices.

For more information: contact Dan Hitchcock, 843-546-1013 ext. 236, [dhitchc@clemson.edu](mailto:dhitchc@clemson.edu).

# Conservation tillage may help fight global warming

By Tom Lollis

Conservation tillage – disturbing the soil as little as possible – may help reduce atmospheric carbon related to global warming, according to research by scientists at Clemson and the USDA Agricultural Research Service.

"Helping prevent soil erosion, increasing rainwater infiltration and improving soil quality are still the top reasons to convert to conservation tillage," said Jim Frederick, Clemson agronomist. However, some Midwestern farmers receive about \$1.70 per ton of carbon dioxide on the Chicago Climate Exchange, a voluntary greenhouse gas emission and trading system. That amounts to about \$1 per acre. "It's too expensive for South Carolina farmers to be certified at the moment, but it could work one day for larger acreages," Frederick said.

"It takes five to eight years to build up appreciable amounts of organic carbon under conservation tillage," said Jeff Novak, a USDA-ARS scientist. "This is a long time, but a little patience can go a long way in improving soil quality while reducing greenhouse gas CO2 emissions."

For more information: Jim Frederick, 843-669-1912, ext. 228, [jfrdrck@clemson.edu](mailto:jfrdrck@clemson.edu); Jeff Novak, 843-669-5203, ext. 110, [jeff.novak@ars.usda.gov](mailto:jeff.novak@ars.usda.gov)



## Smelling your way to weight loss?

By Peter Kent

In the battle of bulging waistlines, it would be helpful if aromas could reduce feelings of hunger. Unfortunately, a Clemson study found that dieters will have to still count calories.

Food scientists Felix Barron and Liz Halpin led a student research project that studied the effect of certain food aromas – including peppermint, banana and green apples – on calorie consumption and weight gain in laboratory rats.

Six rats in the test group were exposed to the aromas in the morning and in the afternoon

before they ate. Six rats in the control group were not exposed to the aromas. After eight weeks, the weight change in both groups appeared to be cyclic and not related to the aroma treatments.

Clemson Public Service personnel are committed to helping South Carolinians combat obesity. Other research is exploring ways to understand the link between genetics and nutrition, as well as providing public information on healthy lifestyles and calorie-conscious cooking.

For more information: Felix Barron, 864-656-5694, [fbarron@clemson.edu](mailto:fbarron@clemson.edu), or Liz Halpin, 864-656-5704, [ehalpin@clemson.edu](mailto:ehalpin@clemson.edu)



Photos by Debbie Dalhouse



## Muscadines show promise for cancer prevention

By Tom Lollis

Muscadines have potential as a medicinal plant that could be useful in the prevention of gastric cancer, according to research by Clemson food scientist Xiuping Jiang.

She conducted a year-long study funded by the S.C. Research Authority through the S.C. Nutrition Research Consortium. The study examined the effect of muscadine skins and seeds on the pathogen *Helicobacter pylori*, which causes ulcers that can lead to gastric cancer.

“Some epidemiological studies show a relationship between the pathogen infection and consumption of wine,” Jiang said. Her study showed that muscadine skin extract has stronger antimicrobial properties than extracts from muscadine seeds or skins from regular wine grapes.

The muscadine skins, which were freeze-dried, helped retard the growth of the pathogen and reduced its ability to attach to gastric cells. Her advice: Eat more muscadines, including the skins.

For more information: Xiuping Jiang, 864-656-6932, [xiuping@clemson.edu](mailto:xiuping@clemson.edu)





## Genetics research seeks answers to health questions

By Peter Kent

South Carolina is above the national average for birth disorders. To address this challenge, Clemson University and Greenwood Genetic Center have embarked on an initiative to find causes and cures for birth disorders and susceptibility to premature birth, hypertension, obesity and diabetes.

Effective action will depend on research to identify the genetic errors that cause these conditions. In January, bioinformatics researcher Liangjiang “LJ” Wang joined the research team. Bioinformatics uses computers to solve life science problems, such as determining genetic and protein sequences.

“A better understanding of nutrition and genetics can lead to ‘functional foods’ that address specific health needs. For example, phytochemicals in plants can enhance the function of genes that protect against hypertension, diabetes and cancer,” said John Kelly, Clemson vice president for public service and agriculture.

For more information: Richard Hilderman, 864-656-3586, [hilderr@clemson.edu](mailto:hilderr@clemson.edu)



## Cryovac Chair leads research in packaging science

By Peter Kent

Kay Cooksey has been named to

the Cryovac Endowed Chair in Clemson University’s packaging science department. A professor in the department since 1998, she is the third person to hold the prestigious post. Her first presentation in her new leadership role was keynote speaker at the Society of Plastics Engineers’ conference in December 2006.

“Overall, my vision is one of opportunity, growth and fulfillment,” said Cooksey. “It’s an opportunity for me to put more emphasis on research that could benefit our students, department, college, university and industry. The growth of our research program and recognition as a leader in this field will help us fulfill our goal to be the best packaging program in the world.”

Cooksey holds a B.S. in food science from Purdue University, an M.S. in industrial mechanical technology (emphasis in packaging) from Indiana State University and a Ph.D. in foods and nutrition from the University of Illinois.

For more information: Kay Cooksey, 864-656-4613, [kcookse@clemson.edu](mailto:kcookse@clemson.edu)

## Chef survey shows bigger isn’t always better

By Peter Kent

Eating away from home has become a way of life for many Americans. This means that restaurant chefs have more control over what’s on our plates. And many chefs are less interested in counting calories than in pleasing the customer.

Clemson food scientist Marge Condrasky collaborated on a nationwide survey of 300 chefs that found only 16 percent considered counting calories important in their work. The purpose of the study was to determine chefs’ opinions regarding portion sizes and other food appeal factors. When asked what influences portion size, chefs responded:

- 70% presentation
- 65% cost
- 52% customer expectations
- 16% calories

What most of the chefs considered a regular-sized portion was, in fact, a large portion. Condrasky sees the study results as an opportunity to work with chefs on blending nutrition and food science with culinary arts in the new field of culinology to create foods that are good to eat and good for you.

For more information: Marge Condrasky, 864-656-6554, [mcondra@clemson.edu](mailto:mcondra@clemson.edu)





Photo by Jean Dickey

# You go, girls!

By Allison Caldwell

Statistics from the Department of Juvenile Justice (DJJ) report a steady growth in the number of girls being arrested, detained and placed on probation, running counter to trends for boys. In 2000, girls accounted for 28 percent of all juvenile arrests, up from 19 percent in 1990. Clemson's Youth Learning Institute and DJJ are joining forces to provide hope for these girls through the new Center for Girls Advocacy.

"The creation of this center supports our goal of developing innovative programs for diverse populations," said Jorge Calzadilla, institute director. "The natural next step is to develop initiatives that focus on boys, which are already being discussed."

The center, slated to start in spring 2007, will connect innovative programming, advocacy, policy analysis, research and evaluation on behalf of girls. Programs and research will focus on five core strategies: health, nutrition and wellness; gender identity; economic development; collaborative learning; and relationships. It will serve as a resource and research hub to address issues such as teen pregnancy, high school dropout rates and poor self-esteem.

"We know that what works with boys doesn't necessarily work with girls," said Susan Alford, who will lead the new center. "We want to focus on girls earlier in life, hopefully preventing them from ever becoming involved in the juvenile justice system."

For more information: Youth Learning Institute 864-878-1041, [www.clemson.edu/ylij/](http://www.clemson.edu/ylij/)

# Report provides important child care findings

By Kerry Coffey



For the first time, information is available on where "at risk" children in South Carolina are receiving preschool care. A report released by Clemson University's Institute on Family and Neighborhood Life is based on a survey of 1,211 state households and includes information on 668 children ages birth through five.

"This is the first data of its kind for South Carolina," said researcher Janet Marsh, author of the report. "We now know where children are – whether in formal child care settings, informal settings such as with family members or friends, or parent

care. We are particularly interested in the care patterns of low-income children because this group is least ready for school and most likely to eventually drop out."

The report provides a clear picture to education and business leaders about the care of the state's youngest citizens. It can serve as a valuable tool in setting direction and creating programs to serve the needs of children and families.

This and other reports are available at [www.clemson.edu/ifnl/](http://www.clemson.edu/ifnl/). Look for "Areas of Interest/Child Care." Findings on children birth-12 and 6-12 are also on the website.





## Corn maze highlights agriculture

Agriculture was the theme for the 2006 corn maze constructed at the Pee Dee Research and Education Center near Florence. "The Pee Dee region is the hub not only for tourism in South Carolina, but also for row crop production," said Jim Frederick, a Clemson agronomist who designed the maze with technician Sue Griggs. "Making sure the public knows where their food and fiber products come from is very important to the future of agriculture in South Carolina," Griggs said. *For more information: Jim Frederick, 843-662-3526, ext. 228, jfrdrck@clemson.edu*

## New scientists join Pee Dee center

By Tom Lollis

Two new scientists have joined the Pee Dee Research and Education Center in Florence. Entomologist Francis P.F. Reay-Jones brings expertise in row crops, including tobacco and soybeans. Horticulturist Dara Park specializes in water issues that impact the turfgrass industry and is part of a team of Clemson experts who address water quality in South Carolina

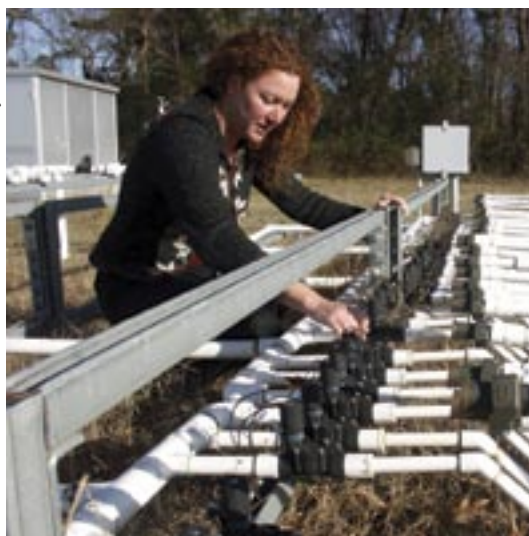
Reay-Jones, a native of Oxford, England, earned a BS in biology and a graduate degree in population and ecosystem biology from the Université de Bordeaux. He earned an MS in plant technology from the Université d'Angers/ Institut National d'Horticulture and a PhD in entomology from Louisiana State University. He held post-doctoral research positions at LSU and Texas A&M prior to joining Clemson.



Reay-Jones

Park earned a BS in biological sciences and an MS in environmental sciences from Florida Atlantic University, and earned a PhD in soil and water science from the University of Florida. Prior to joining Clemson, she was a turfgrass/water management biologist at the University of Florida's Ft. Lauderdale Research and Education Center.

*For more information: Francis Reay-Jones, 843-662-3526, ext. 208, freayjo@clemson.edu; Dara Park, 843-662-3526, ext. 206, darap@clemson.edu*



Park

## Pesticide Regulation names new department head

By Tracy Outlaw



Joseph P. Krausz has been named head of Clemson's Department of Pesticide Regulation. This unit regulates South Carolina's pest control industry, including licensing

pesticide dealers and applicators, registering pesticide products, performing quality assurance analyses of pesticide formulations, protecting farm workers from pesticides, and preventing pesticides from entering the groundwater system.

Since 1989, Krausz served as associate head of the Department of Plant Pathology and Microbiology at Texas A&M University. He served as Extension plant pathologist at Clemson's Pee Dee Research and Education Center from 1978-1986, and as head of the Honduran Foundation for Agricultural Research from 1986-1989. He earned his BS from the State University of New York-New Paltz, and his MS and PhD in plant pathology from Cornell University.

*For more information call Joseph Krausz, 864-646-2150*



Photo by Diane Palmer

## First cattle expo held at Garrison Arena

The first annual S.C. Cattle Expo was held at the Garrison Arena this fall, bringing together cattlemen and equipment vendors. Harold Hupp, Clemson Extension animal scientist, led two days of seminars on best management practices for beef and dairy producers, including the use of electronic identification for record-keeping and ultrasound to determine meat quality. "We want to bring world class seminars to the beef and dairy producers," said R.D. Morrison, a member of the Pickens County Cattlemen's Association and coordinator of the event.

*For more information: [www.clemson.edu/garrison/](http://www.clemson.edu/garrison/)*



# *Expeditions* provides new insights into nature

By Dana McCullough

From Lowcountry marshes to Caribbean rainforests, amazing discoveries abound on *Expeditions with Patrick McMillan*, a new nature series produced for SC-ETV. Clemson naturalist Patrick McMillan explores environmental issues with co-host Nancy Neal and a guest expert. From the Valley of Desolation in Dominica to the secret lives of bats in the Nantahala Mountains of North Carolina, this is no average walk in the woods.

"We are very excited about premiering *Expeditions*," said ETV President Maurice "Moss" Bresnahan. "ETV has a long tradition of nature programming and *Expeditions* is the next chapter in this impressive legacy."

McMillan hopes that this series will show the connection between humans and our world. "Virtually every drug ever developed has its origin in plants and animals. If we're destroying natural resources faster than we can research them, we're doing ourselves a disservice," he said.

The series provides science-based insights to enhance environmental awareness and conservation practices. It is produced by Clemson Video Productions and airs Sundays at 7:30 p.m. on SC-ETV.

For more information: [www.clemson.edu/expeditions/](http://www.clemson.edu/expeditions/)

Photo by Marshall Wells



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