# Clemson IMPACTS

Clemson University Public Service Activities

Spring 2005

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# Letter from the Vice President

I'm pleased to share this issue with you because it brings news about the wide scope of contributions by Clemson Public Service Activities (PSA) personnel across the state.

Because Clemson is a land-grant university, we have a three-part mission of teaching, research and public service. In fact, Thomas Green Clemson founded this university because of his personal commitment to public service.

Today, Clemson PSA researchers, Extension and regulatory personnel are at work supporting the state's agriculture and natural resource industries, protecting the health of animals and people, improving communities, guiding youth, and enhancing economic development.

In this issue, you'll see examples of our people at work in Blackville, Georgetown, Walterboro, Columbia, Simpsonville, and Sumter, as well as on the Clemson campus.

Their tireless dedication to improving the quality of life and economic well-being for our state prompted President Jim Barker to comment, "Without PSA there would be no Clemson."

Clemson PSA programs span five goal areas that touch the lives of all South Carolina citizens. Those areas are: agriculture, natural resources, economic and community development, food safety and nutrition, and youth development and families.

I hope you'll find information in this issue that addresses issues important to you. Please let us know what you think by sending your comments to the Editor at the address below.

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/*

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*www.clemson.edu/yli/*




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# Soybean rust is here

*By Tracy Outlaw*

Over the past several years, American farmers have watched the spread of soybean rust from its origin in Asia to Australia, Africa and South America. It was first recorded in Japan in 1902. It was first detected in the United States through Louisiana on November 10, 2004 and was identified in South Carolina on December 1. Fortunately, soybean rust arrived too late in the season to cause much damage to the U.S. crop. But this year's crop is at higher risk.

Clemson Extension and regulatory personnel began meeting with South Carolina growers in January. Soybean rust is caused by a fungus, Phakospora pachyrhizi. It is spread by wind-borne spores and can quickly infect an entire field of soybeans. In its native Asia and Australia, it causes periodic epidemics resulting in major crop losses.

"Controlling rust is even more difficult because it also can infect more than 90 species of legumes, including kudzu," said David Howle, assistant director of Clemson Regulatory Services. "Once it begins, this disease can move very quickly, with the potential to defoliate a field in two weeks."

In cooperation with the U.S. Department of Agriculture and agencies in other states, Clemson will establish a network of monitoring plots to detect the return of soybean rust to South Carolina, and to provide growers with early warning of the need to spray fungicides.

*Soybean rust damage*

Unfortunately, soybean rust is sometimes hard to identify. Early symptoms appear as yellowish mosaic discolorations on the upper surfaces of older leaves on the lower branches. As the disease progresses, infected leaves turn yellow, and brown or reddish lesions appear, generally on the bottom surface of the leaf.

National updates will be provided weekly by the U.S. Animal and Plant Health Inspection Service (APHIS) website http://www.aphis.usda.gov/.

*For more information: http://dpi.clemson.edu/SoybeanRust.htm or call the Clemson University Cooperative Extension Service in your county.*

# Electricity gets down in the dirt

*By Tom Lollis*

It's no shock for any good farmer that understanding the soil is essential for success. However, it may come as a shock that a little electricity may make it a lot easier to understand the soil.

Equipment tested at Clemson's Edisto Research and Education Center in Blackville can produce a map that shows exactly what types of soil are in a field, whether light, heavy or somewhere in between.

"Soil texture is important for making all sorts of agricultural decisions, whether it's applying irrigation, fertilizer and pesticides, or deciding whether or not to deep till," said Ahmad Khalilian, Clemson agricultural engineer.

Called the Veris 3100, the equipment measures conductivity of the soil using electrically charged discs. Heavy soils containing a lot of clay and organic matter are better conductors than light, sandy soils.

"This equipment allows a farmer to divide a field into zones and manage each differently for fertilizer, nematodes, weed control or irrigation," he said. By putting exactly what is needed in each zone, a farmer can save time, energy and money while being more environmentally friendly.

A test to control nematodes increased cotton yields by 7 percent and reduced the amount of chemical by 34 percent using the nematicide Temik. With another chemical, Telone, the technique increased yields by 5 percent and reduced chemical use by 78 percent.

*Ahmad Khalilian measures electrical conductivity in the soil to map the use of fertilizer, pesticides, irrigation and tilling.*

"On a 1,000-acre field, that would be a savings of $29,000," Khalilian said. Most farmers will be able to estimate the crop yield from each part of their field by looking at an electrical conductivity map. "If you overlay a yield map at the end of the season over the EC map, they will match perfectly."

Until this service is widely available commercially, South Carolina growers may borrow the Clemson system through their county Extension agent to conduct tests on their farms.

*For more information: Ahmed Khalilian akhlln@clemson.edu*

# Veterinarians protect people and animals

*By Peter Kent*

On January 6 a Norfolk Southern Railway train missed a switch and ran into a parked locomotive in Graniteville. It was a deadly collision, ultimately killing nine. Two cars carrying chlorine ruptured, leaking the deadly gas into the surrounding area. Emergency officials ordered a mandatory evacuation in a one-mile radius around the crash site. Residents fled, some having to leave their pets. Clemson Livestock and Poultry Health emergency responders mobilized to deal with the animals.

Animal control officers rescued 338 animals in the evacuated area and reported 27 dead. The response team provided veterinary care and timely information to residents wanting to retrieve their animals. Shelters opened, though most pets accompanied their owners.

As the lead agency in the state for animal emergencies, Clemson's Livestock and Poultry Health Division coordinates protection for livestock, pets and wildlife. It oversees animal evacuation and shelters for hurricanes and other threats, as well as carcass and waste disposal when needed.

"This has been a busy year," said Tony Caver, state veterinarian and LPHD director. "Along with Graniteville, we had to keep up with national and global situations, such as bovine spongiform encephalitis (mad cow disease), avian influenza, four hurricanes and the tsunami."

Even if the event doesn't occur in South Carolina, each incident requires some level of response – disease surveillance, tracking animals coming in and out of the state, reviewing certificates of veterinary inspections, inspecting meat and poultry processing operations, enhancing disease diagnostic capabilities and improving interagency communication.

"To prepare for the next natural or intentional disease outbreak, we're developing County Animal Response Teams and enrolling animal producers in the National Animal Identification Program," said Caver. These efforts include training, exercises, education, and mobile laboratory equipment.

*For more information: http://www.clemson.edu/LPH/*

# Clemson selected for animal co-products center

After meat is processed to become steaks, ham or fried chicken, the non-food parts are converted into a variety of products such as lard, fertilizer, soap and oils.

The process, known as rendering, represents one of the most successful and efficient recycling efforts in the world today. However, with approximately 55 billion pounds of raw rendering materials generated annually in the United States, the industry is constantly seeking to improve.

Because of our reputation for agricultural research, the industry's Fats and Proteins Research Foundation has selected Clemson as the site for an international research and education center. In the new Animal Co-Products Research and Education Center, Clemson scientists from both agriculture and engineering will seek to develop cost-saving processes and value-added products, while working to ensure biological and chemical safety.

These products, such as biodiesel fuel and new films and fibers, will provide new raw materials for other industries and improved products for consumers, as well as enable the U.S. rendering industry to be more competitive in a global economy.

*For more information: scientists Annel Greene, agreene@clemson.edu, or Paul Dawson, pdawson@clemson.edu.*

# Agriculture's value to the state economy

Agriculture and forestry provide about a $5 billion boost to South Carolina's economy each year.

"The value of South Carolina agriculture is more than what happens at the farm level," said Todd Davis, a Clemson agricultural economist. "A conservative estimate is that every dollar generated in farm revenue generates another dollar somewhere else in the state's economy."

Estimated cash receipts for South Carolina crops and livestock was $1.66 billion in 2003. In addition, delivered value of timber was $834 million in 2001, the most recent statistics available. This translates into more than $2.4 billion in farm revenues.

"That would mean the total contribution to the state's economy exceeds $4.9 billion for agriculture and forestry," said Davis.

The top agricultural products in the state and their value are: timber ($834 million); broilers ($389 million); greenhouse, nursery and floriculture ($289 million); turkeys ($172 million); tobacco ($125 million); cattle and calves ($123 million); vegetables ($88 million); eggs ($87 million); cotton ($64 million); soybeans ($62 million) and milk ($42 million).

*For more information: http://cherokee.agecon.clemson.edu/ext_pubs.htm*

# Coastal development study planned

*By Peter Kent*

Clemson environmental researchers have a rare opportunity to study coastal development through an agreement with Mandalay Limited Partnership. The agreement allows long-term studies of a new residential, resort and commercial community in Georgetown County.

Clemson's Belle W. Baruch Institute of Coastal Ecology and Forest Science will establish the research program on the Arcadia East property, a 3,500-acre tract located east of Highway 17. Plans for the multiphase development include three golf courses, single-family residential communities, a retirement community, a commercial center, village center and a 250-room hotel resort complex. The tract was a part of Arcadia Plantation.

William Conner, Clemson's forest wetland specialist at the Baruch Institute, will be the lead scientist for the project. The long-term research agreement gives Conner and other scientists a chance to document changes in the environment associated with conversion of forested land to residential and commercial use. Possible environmental changes include overland and subsurface flow of water, water quality, vegetation species composition and growth, quality and quantity of wildlife habitat and wildlife species.

Lucille V. Pate, owner of the Arcadia property and chief executive officer of Mandalay, championed the Clemson agreement. Mrs. Pate's goal is to develop Arcadia East in a manner that maximizes conservation of the area's natural resources and preserves its unique character. She sees the agreement as "the perfect complement to our goal of developing this portion of Arcadia in a manner that preserves its natural beauty and provides a healthy environment for the native wildlife."

George Askew, director of Clemson's Baruch Institute, views the agreement as "a chance to look at the environment before, during and after a large-scale development that is designed to be environmentally friendly and to establish a basis for educating other developers and land managers that have similar environmental concerns."

*For more information: http://www.clemson.edu/baruch/*

# Citizen guides inform about public issues


To better inform citizens about state and local government issues, Clemson's Strom Thurmond Institute of Government and Public Affairs has produced two award-winning booklets called citizen guides.

The Thurmond Institute conducts applied research and public service programs to enhance civic awareness of public policy issues and to improve the quality of national, state and local government.

The two publications are written to inform ordinary citizens about public policy issues and provide them with the information and tools they need to take action. They provide background information on the issues and close with a summary called "What Can a Citizen Do?"

Both publications have received the S.C. State Library's Notable State Document Award. This award recognizes state governmental publications of outstanding merit and usefulness to the citizens of South Carolina. It is presented to just 10 recipients selected out of nearly 3,500 publications submitted to the library each year.

"The Thurmond Institute books are really commendable. They do a lot of research," said Elaine Sandberg, government documents librarian at the State Library.

The first booklet, Paying for Government in South Carolina: a Citizen's Guide, won the award for 2003. The second, Local Governments and Home Rule in South Carolina: a Citizen's Guide, won for 2004. Both were written by Holley Hewitt Ulbrich and Ada Louise Steirer.

*For more information: http://www.strom.clemson.edu/publications/ or call 864-656-4700.*

# Mentoring builds dreams

*By Kerry Coffey*

Sadly, one out of every 32 adults in South Carolina is under some form of supervision – house arrest, probation or imprisonment – because of a criminal conviction. Although this statistic is startling, even more unnerving is the number of families and children affected by incarceration.

"Children of incarcerated parents are three to four times more likely to become juvenile delinquents, and may be at increased risk of entering prison themselves," emphasizes Robin Kimbrough-Melton, research professor at Clemson's Institute on Family and Neighborhood Life and director of the National Center on Rural Justice and Crime Prevention. "These children are also more likely to exhibit behavioral, emotional health, and educational problems."

Unfortunately, the prison population is on the rise. Nationally, the number of children with an incarcerated parent increased more than 100 percent from 1991 to 1999. Also, the number of women entering the criminal justice system more than tripled since 1985. All these facts mean that often children are left without their parents, creating stressful and sometimes impoverished situations.

To address these challenges, experts from several Clemson Public Service Activities units are implementing a mentoring program, called "Building Dreams," for children of prisoners in five South Carolina counties.

"This mentoring program brings together community groups, faith-based organizations and several Institutes at Clemson University in ways that may have not happened otherwise," observes Howard Brown, director of applied research at Clemson's Youth Learning Institute. "Opportunities to help children not only bring out the best in individuals, but often build bridges between groups."

The mentoring program is made possible through a grant from the U.S. Department of Health and Human Services. Clemson experts from the institutes and the Sumter County Extension office are collaborating with Angel Tree Ministries and numerous community partners in this effort.

Community partners are Clarendon County: Ministerial Alliance; Darlington/Lee Counties: Center Baptist Church; Greenville County: Augusta Road United Methodist Church, Cedar Grove Missionary Baptist Church, Eastminster Presbyterian Church, Reedy River Missionary Baptist Church, Shady Grove Baptist Church, and Valley Brook Community Outreach Church; Pickens County: Caring Communities of Pickens County; and Sumter County: Sumter Citizens.

*For more information or to become a mentor: www.clemson.edu/ifnl.*

# Landmark initiative protects children

*By Kerry Coffey and Sharon Crout*

Residents of southern Greenville County and adjoining areas of Anderson and Laurens counties are joining Clemson's Institute on Family and Neighborhood Life to keep children safe.

Called Strong Communities, this is the most comprehensive community initiative in the nation for the prevention of child abuse and neglect. It is building systems of care for families of young children through a coalition of more than 100 churches and nearly 50 civic groups, businesses, schools, public agencies and municipal governments.

Since Strong Communities began in spring 2002, some 3,000 individuals have volunteered their time and talents to keep children safe. Based at The Golden Strip Center in Simpsonville, volunteers represent all ages and ethnicities, with almost as many men as women.

"The Strong Communities ideas are powerful!" said Dr. Gary B. Melton, director of Clemson's Institute on Family and Neighborhood Life and leader of the initiative. "The desire for a safe community transcends the usual divisions of ethnicity, religion, politics, class, gender and age."

Strong Communities has already made great strides in increasing connections among people. "We are excited by this program's potential not only to help children and families in the Golden Strip area, but to serve as a model for similar programs across the nation," said Rhett N. Mabry, director of the Child Care Division of The Duke Endowment. The endowment is providing support for this initiative.

Larry Turner, volunteer and manager of Aladdin Manor Apartments in the Gantt community noted, "We're either going to be part of the problem or part of the solution. I want to be part of the solution. For seven years I have been looking for an organization to help, and Strong Communities is that organization."

*Belmont Fire Chief Anthony Segars and his firefighters support the initiative by wearing Strong Communities pins on their uniforms. The idea has been adopted by other public safety agencies in the area.*

*For more information: www.clemson.edu/strongcommunities*

# Protecting South Carolina's streams and lakes

*By Tom Lollis*

Construction contractors are learning to protect the state's valuable water resources through Clemson Extension training programs. These programs teach best management practices to prevent erosion on construction sites and to keep sediment out of streams and lakes.

"If sediment is not contained, it can reduce water clarity, smother aquatic habitat and carry pollutants into surface water," said John Hayes, Clemson professor of agricultural and biological engineering.

One program, S.C. Clear Water Contractor, teaches construction industry and state agency personnel the practices needed to comply with federal and state regulations on construction site runoff.

A second program began last fall at the request of the S.C. Department of Health and Environmental Control (DHEC). This program certifies inspectors to ensure that erosion prevention and sediment control practices are in effect on construction sites greater than one acre, as required by federal regulations. Clemson University is the only organization in the state providing the training needed for certification.

The inspectors' program teaches the most effective erosion and sediment control practices for various types of terrain. Instructors use digital video to teach inspectors how to review grading plans and use actual grading plans to teach best management practice details and how to conduct effective field inspections.

"We don't have the capacity to educate every single person in construction in the state," said Cal Sawyer, Clemson Extension water quality coordinator. "That could be tens of thousands of people. By educating the inspectors, however, Clemson connects to every regulated construction site in the state."

*Cal Sawyer inspects a construction site for compliance with erosion prevention practices to water quality in the state's streams and lakes.*

Dwayne Creel, DHEC's manager of the Stormwater, Agricultural and Dams and Reservoir Safety Permitting Section, agrees. "This is a perfect example of state agencies working together. Clemson organized the coursework and written certification exam with the help of DHEC, the office of Ocean and Coastal Resource Management and the S.C. Department of Transportation."

More than 1,000 inspectors and 800 construction professionals have been trained in these programs since 2003. Jason Gillespie, stormwater management director for Greenville County, has seen a striking difference in erosion control measures as a result of these programs. "Ignorance of the law is no excuse, but until these programs, it was a reality on a lot of sites," he said.

*For more information: www.ces.clemson.edu/t3s/cepsci*

# Protecting homes through pest control training

*By Tracy Outlaw*

If you've ever called on a pest control service to rid your home of termites, rats or other pests, you've benefited from Clemson's public service programs.

Since 1949, Clemson has sponsored the Pest Management Professionals School in conjunction with the South Carolina Pest Control Association. More than 500 participants attended the most recent session in Columbia, SC.

"This three-day training is for technicians and managers to improve the quality and safety of urban pest management in South Carolina," said Jackie Ellis, training instructor in Clemson's entomology, soils and plant sciences department.

Nationally-recognized experts taught classes on bedbugs, inspections, cockroaches and wildlife pests. Attendees also learned about new pest-management techniques, materials, and health and safety regulations. Clemson trainers included entomology faculty, Regulatory Services personnel and Extension agents.

The school has built up a strong regional and national reputation, attracting professionals from North Carolina, Georgia, and Tennessee, as well as South Carolina. In our state alone, there are more than 3,000 employees in the pest control industry.

"Because of the research, continuing education, and certification provided by Clemson PSA, our state's citizens can have confidence that they are getting a safe and proper pest control treatment," said Tom Fortson, a 40-year veteran of the pest control industry in South Carolina. "Many states have emulated Clemson's public service programs for the pest control industry, viewing it as one of the best in the nation. From my professional perspective, Clemson PSA helps homeowners protect one of their most valuable assets: their homes."

Larry Rowlett, a pest control operator from Columbia, said, "This school allows us to see other pest control operators and to talk about mutual problems and successes. It increases knowledge for all and helps us better serve our customers. It's a win-win situation."

*For more information, contact Jackie Ellis at 864-656-5048 or jells@clemson.*

# Naturalist tracks down the big ones

*By Peter Kent*

It's Bill Jordan's job to track down champions. Through Spanish Moss-shrouded swamps and into manicured, gated communities, Jordan seeks his quarry – not that they are trying to elude him, but they do sometimes disappear.

Jordan is field coordinator for the South Carolina Champion Tree Program, headquartered at Clemson. He is looking for leads on where to find the state's biggest trees. He has found that nearly every search has a story; but not every story has a happy ending.

"Often, when I found the location of a previous champion, the area was totally different, usually because of residential or commercial development," said Jordan. "The majestic tree that once grew there was probably bulldozed by people who had no idea of its designation."

A champion tree is one that is judged to be the largest of its species, according to a standard measuring formula. To be eligible, a tree must be native to or naturalized in the continental United States, including Alaska but not Hawaii. Hybrids and minor varieties are excluded.

Part of the American Forests national program, the South Carolina Champion Tree project is a cooperative initiative between the S.C. Forestry Commission and Clemson's forestry and natural resources department.

For more information or to nominate a tree: www.clemson.edu/champtree/SouthCarolinaChampionTree.htm

# Burning the forest a little so it doesn't burn a lot

*By Tom Lollis and Stephanie Beard*

Fighting fire with fire has gained new meaning in forest management. A generation ago, Smokey Bear cautioned people to prevent forest fires. Now, the S.C. Prescribed Fire Council encourages forest landowners to use prescribed fire as the most effective and economical protection against devastating wildfires.

Prescribed fires reduce accumulated leaf litter, dead limbs and brush that can fuel wildfires. The state's ecosystems require regular burning to remain healthy, said Stephanie Beard, outreach and education coordinator for the council. Controlled burns improve the growth of longleaf pine and provide open areas needed to grow food for bobwhite quail, wild turkey, white-tailed deer and wildlife.

Currently, about 500,000 acres are burned each year in South Carolina; but that is only about half the acreage that could benefit from prescribed fire.

"We burn the woods at one-year or three-year intervals, either in the winter or spring," said Chuck Gresham, a forest scientist at Clemson's Baruch Institute of Coastal Ecology and Forest Science in Georgetown. Of nine research treatments, the annual growing season burn is the most intense management technique and also the most effective for hardwood control.

The use of fire as a management tool began thousands of years ago with Native Americans. Early European settlers adopted their techniques. In fact, periodic burns were a normal part of forest management until the late 1920s when the Smokey Bear campaign began.

But forests eventually burn, whether the fire is prescribed or not, Gresham said. Lightning or people burning debris can ignite dangerous and costly wildfires such as the ones experienced around the country in recent years.

The S.C. Prescribed Fire Council is seeking to prevent wildfires in South Carolina through controlled burns. Members include the state Forestry Commission, the Department of Natural Resources, Clemson University, other state and federal agencies, and private organizations.

*For more information: www.clemson.edu/rxfire/ or fire@clemson.edu*

# Coalition addresses children's health

*By Marilyn Peters*

Walterboro community leaders have formed a coalition to promote healthy lifestyles for children and their families by improving dietary choices and increasing physical activity. Led by Clemson Extension and FitLife, Colleton Medical Center's fitness center, the group seeks to prevent weight problems and related chronic diseases.

Called the Coalition Organized to Address Children's Health (COACH), participants include school teachers and administrators, diet and fitness experts, community members, students from K-12, the local news media, and representatives from Clemson Extension, South Carolina State University Extension, S.C. Department of Health and Environmental Control, S.C. Department of Social Services, Lowcountry Area Health Education Center, and Colleton Recreation Center.

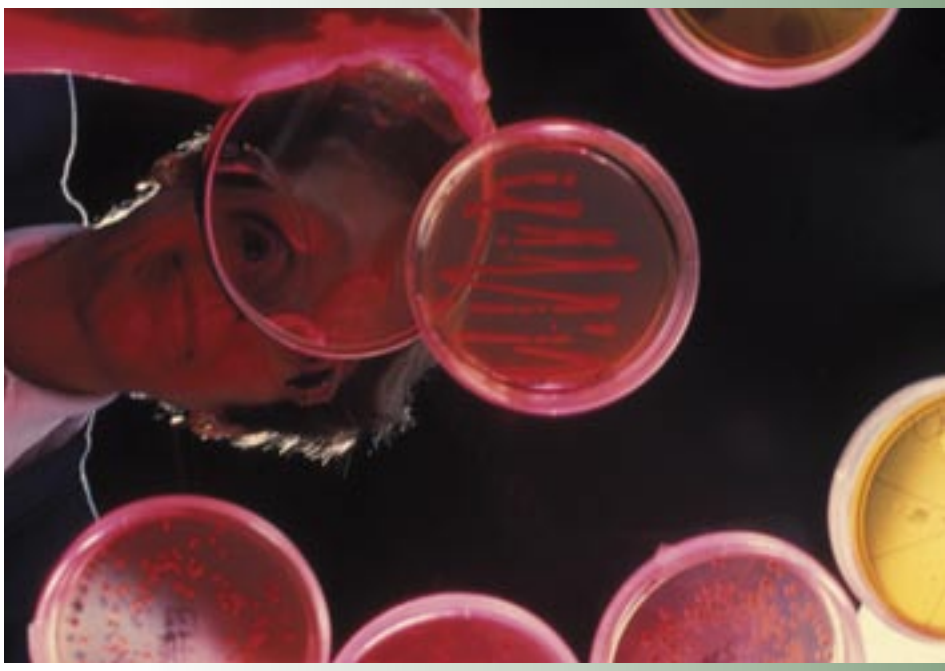
"COACH members are distributing educational materials to parents, speaking to Parent-Teacher Organizations and training older students to coach younger ones," said Marilyn Peters, Clemson Extension agent for Colleton County and a coalition leader. "They're also promoting increased physical activity for students through noncompetitive sports and activities, walking trails and special events."

One of the coalition's primary goals is to improve the nutrition environment, particularly at schools. Efforts include healthier snacks and beverages in vending machines and concession stands and breakfast for all K-12 students in Walterboro.

"As a result of COACH projects and collaborations, we're seeing a new and heartening interest in healthy lifestyles and healthy environments for children in this community," said Stacey Price, FitLife instructor and a coalition leader.

The group was formed as a result of the Children and Weight Summit held in 2003 by Clemson University, the University of South Carolina, the Medical University of South Carolina and South Carolina State University.

*For more information: Marilyn Peters mptrs@clemson.edu*



# Food safety: Surface appearances can be deceiving

*By Diane Palmer and Debbie Dalhouse*

When it comes to food safety, surface appearances can be deceiving. What you can't see on the surface of a kitchen counter, the skin of an apple or on your hands can make you sick. In February, Clemson brought together more than 130 experts to discuss preventive measures at the national conference, Food Safety from the Surface Up.

"This conference focused on the impact of food surfaces on consumer food safety," said Susan Barefoot, chief conference organizer and chief operating officer for the Clemson Experiment Station. She was joined in the planning effort by Clemson food safety scientists, members of the Carolinas Association for Food Protection and members of a U.S. Department of Agriculture team of food safety scientists from universities across the country.

Presenters from universities, industry and the USDA led discussions on cleaning and sanitizing surfaces of all types, including ingredient and product surfaces, environmental and equipment surfaces, and surfaces such as hands, uniforms and footwear.

"For many raw and ready-to-eat foods, the majority of microbial contamination occurs on outer surfaces," said Joseph Eifert, associate professor and Extension specialist in the Department of Food Science and Technology at Virginia Tech.

Clemson food scientist Paul Dawson discussed post-process treatments for ready-to-eat meats; plant scientist Jim Rushing discussed agricultural and post-harvest practices to protect fruits and vegetables; food scientist Xiuping Jiang discussed the impact of manure as a fertilizer for organic produce; and packaging scientist Libby Hoyle led a panel discussion on communicating the food surface safety message.

*For radio interviews from the conference: http://cufan.clemson.edu/psaradio/RS050309FFT1a.asx*

# New Horizons offers a brighter future

*By Pam Bryant*

Keeping teen mothers and their children together within the foster care system is often difficult. Foster homes that welcome teenage girls cannot always accommodate their children so, many times, the infant and the mother are placed in separate foster homes.

To keep them together and help the young family succeed, Clemson University's Youth Learning Institute formed a partnership with the S.C. Department of Social Services. This collaboration developed the New Horizons Family Center at Clemson's R.M. Cooper 4-H Leadership Center near Summerton.

The center provides a group home where teen mothers in foster care can live with their children in a safe, nurturing environment. At the center, the young mothers learn vital parenting and life skills while completing their education.

"Helping teen mothers become self-sufficient and self-confident is our goal," said Jorge Calzadilla, executive director of the Youth Learning Institute. "With the support of DSS and Clemson University, we have the opportunity to provide a positive home environment where mother and child can bond and have a chance for a brighter future together."

New Horizons can accommodate six teens and their children. "Young mothers at the center must have a desire to parent their children, be willing to continue their education, participate in activities designed to strengthen parenting skills and create a positive environment for their children," said Sharon Williams, director of the program.

After only two years of operation, New Horizons already has celebrated successes. Two young women have completed high school, pursued higher education, and are living independently with their children. Another is completing her senior year at a local high school and plans to attend college. Recently, she won first place in the school science fair and was recognized by the district superintendent at a school board meeting.

The young mother has also been given the chance to work in the dining facility at Camp Cooper. She said of her experience at New Horizon, "The fact that I can be here with my child and get help with the day-to-day responsibility of going to school and working, really means a lot. I'm learning about my child and what I need to do to care for her. I'm getting ongoing training and learning skills to prepare me for the real world."

*For more information, contact Sharon Williams sharonw@clemson.edu.*

# 4-H members reach out to military kids

*By Diane Palmer*

South Carolina 4-H clubs are helping children of military families live a somewhat normal life while their parents are deployed in the war on terrorism.

"Operation Military Kids offers positive youth development programs while their parents are away," said Barbara Brown, Clemson Extension agent and program liaison. "We also work to mobilize communities to offer broad-based support for the families and youths of deployed military members, especially National Guard and Army Reserve families."

More than 10,000 South Carolina Army and Air National Guard are serving in support of the war. Currently, more than 2,800 troops are deployed abroad while others are preparing to go overseas for the second time.

"Many people ask what they can do to help with the war on terrorism," said Brown. "This is something we can all get involved with." Hero packs are prepared by 4-H members for children of deployed military parents. "The youth whose parent is serving in the war on terrorism is also a hero because he or she also has to sacrifice due to the war."

South Carolina is one of 15 pilot states in the national program. Operation Military Kids is a statewide effort to create community support networks; deliver recreation, social and education programs; help military kids cope with the stress of knowing their parents may be in harm's way; collaborate with schools to ensure that staff are attuned to the needs of military students; educate the public on the impact of the deployment cycle on soldiers, families, kids and the community as a whole; and become a part of the ongoing 4-H program where there are military families.

A spring break camp was held for about 50 youth in March at Clemson's R.M. Cooper 4-H Leadership Center near Summerton. Some had no military connection and others whose parents are in the Guard and Reserve or stationed at the state's military bases (Shaw AFB, Charleston AFB, Beaufort Navy/Marine Tri-Command, and Ft. Jackson).

*For more information: http://www.usda-army-ydp.org/omk/*

# Bavarian artist creates natural sculpture

*By Christine Drais*

Using bamboo stalks and nearly 80 tons of pine logs harvested from Oconee County pine plantations, Bavarian artist Nils Udo created the latest nature-based sculpture in the S.C. Botanical Garden at Clemson.

"Nils Udo was one of the first contemporary nature-based artists to emerge during the early 1970s," said Ernie Denny, program facilitator for the Garden. "He has accumulated an impressive body of work in Europe, Japan, India and North America. We were elated that he was chosen to contribute to the Garden's nature-based sculpture program."

Throughout the month of February, Udo was on the Clemson campus, touring the Botanical Garden, selecting a site, developing his design and then creating the sculpture with the help of students and other volunteers from the University and the community.

"In my art, I seek to achieve absolute purity. Every non-natural element is ruled out as impure. No materials are used other than those found in each natural space," Udo said of his work. His yet to be named creation for the Garden is at the edge of the wildflower meadow leading to the visitor center. It resembles a gigantic bird nest about 35 feet in diameter.

A video of this process was produced for SC-ETV. Videos of previous sculpture projects are available at the Garden Gift Shop, including artists Chris Drury (2002) and Yolanda Guiterrez (2003). The Garden's sculpture program is made possible by funding from the National Endowment for the Arts.

*For more information: http://www.clemson.edu/scbg/*

# Clemson forestry programs earn national award

Clemson's Master Wildlifer and Master Tree Farmer programs have earned the national Private Forestry Education Award for 2004. The award, sponsored by the National Woodland Owners Association and the National Association of Professional Forestry Schools and Colleges, recognized these programs for delivering the most benefit for family forest landowners.

The programs use innovative satellite broadcasts to reach more than 10,000 participants across the South. Master Tree Farmer reaches 6,500 participants in 14 states to teach sustainable forestry and land management. Master Wildlifer reaches 4,800 participants in 12 states to teach land management for wildlife habitats. Each program meets for seven three-hour sessions and includes extensive educational materials and a field trip.

*For more information: www.clemson.edu/extfor/*

# Ducks Unlimited selects Clemson demonstration site

Clemson's Waterfowl Demonstration and Research Site was selected by S.C. Ducks Unlimited to highlight Upstate waterfowl projects for the 2006 South Carolina Waterfowl Stamp and Print.

At times, more than 1,300 ducks have used the Clemson site to feed and rest during migrations. The 15-acre site located at Fant's Grove near Garrison Arena was set up in 1991 with Public Service and Agriculture funds to show farmers how to use fallow fields near water sources to earn off-season income from sportsmen. The project was refurbished in 2002 and has spawned more than half dozen private projects in the area.

Here, Spartanburg wildlife artist Rodney Huckaby scouts the landscape for the image he will use on the Ducks Unlimited prints to raise money for wetlands and waterfowl conservation projects.

# New website helps peach growers

Peach growers now have 24-hour access to information through a website created by Clemson fruit scientist Desmond Layne with support from the S.C. Peach Council.

"Growers can search the database for performance evaluations on 300 varieties of peaches and nectarines, and use the data to make management decisions for future planting," said Layne.

The site also includes information on nursery suppliers, orchard culture and management, and plant protection from diseases and pests. It links to the online Southeastern Peach Grower's Handbook and the Southeast Regional Peach Newsletter, as well as to Layne's articles in trade publications.

*For more information: http://www.clemson.edu/hort/Peach/*

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