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UT INSTITUTE OF Agriculture

News for Employees, Students & Friends

February 2006

UT POISED TO HELP NATION MEET ENERGY GOALS

In the State of the Union address, President George W. Bush challenged the nation to replace more than 75 percent of our oil imports from the Middle East by 2025.

A critical component of his proposal was a pledge of support for “additional research in cutting-edge methods of producing ethanol, not just from corn but from wood chips and stalks or switchgrass.” The national Sun Grant Initiative developed by a network of land grant universities is working to make that goal a reality. The Tennessee Agricultural Experiment Station, as one of five regional centers for the federally funded initiative, is poised to help the nation meet the president’s ambitious energy goals.

“Working closely with farmers, industry, local community leaders and public interest groups, we believe that the efforts

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ALCOA, TWRA ASSIST NEW GRASSLAND CENTER

The Institute’s newly established Mid-South Center for Native Grassland Management has received a \$50,000 gift from the Alcoa Foundation to fund environmental stewardship research and education in Blount and Knox counties. The project’s goals include educating landowners and conservation professionals in using native grasses and associated vegetation to stabilize soil and improve water quality and wildlife habitat.

The center has also received start-up funding from the Tennessee Wildlife

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4-H’ER WINS BIG WITH POSTER

A Tennessee 4-H’er took a common childhood nightmare and turned it into a poster designed to save lives. And the effort landed Andrew Swisher, 13, of Anderson County as the national winner of the U.S. Environmental Protection Agency’s Radon Action Month Poster Contest.

In Swisher’s winning entry, a child cowers in fear as a grinning monster peeks out from under the bed. The poster asks “Is Radon Hiding Under Your Bed?”

“If there was a deadly gas in your house, you’d check under your bed, too,” Swisher told a *News Sentinel* reporter.

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UT co-sponsored conferences on nanotechnology and forest research ahead, State’s beef herd grows faster than U.S. herd, Details inside



National EPA Honors—That’s what 4-H’er Andrew Swisher received for his poster about radon. In Washington, D.C., EPA Deputy Commissioner Marcus Peacock, left, presented the 7th grader with the award.

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WINNING POSTER, from page 1

The poster urges home check-ups for the naturally occurring gas, which can cause lung cancer if found at high levels. **Winter is the best time to test.**

Swisher, his parents, and **Anderson County 4-H Program Assistant Kathy Johnson** received expense-paid flight to Washington, D.C., where Swisher was honored at an awards ceremony at EPA headquarters on January 27. **Anderson County Extension Agent Sarah Vaden** was also instrumental in the contest.

The Tennessee Radon Contest is conducted through a **partnership of UT Extension and the Tennessee Department of Environment and Conservation.** Swisher won the state competition in both 2004 and 2005.

FOREST, NANOTECHNOLOGY EVENTS AHEAD

The Department of Forestry, Wildlife, and Fisheries and the Forest Service Southern Research Station are hosting the **15th Central Hardwood Forest Conference** in Knoxville Feb. 27 through March 1.

The conference will have 85 oral presentations and 44 poster presentations about current forest research in the central hardwood region. More information is available at <http://fwf.ag.utk.edu/central/>, or by contacting **Wayne Clatterbuck**, wclatterbuck@utk.edu, or (865) 974-7346.

The **Tennessee Forest Products Center** is co-sponsoring the **2006 International Conference on Nanotechnology for the Forest Products Industry.** The event occurs April 26-28 in Atlanta and will focus on **nanoscience and engineering and its role in advancing wood products, pulp, and paper.**

Nanotechnology is the manipulation of materials measuring 100 nanometers or less in at least one dimen-

AS FIELD DAYS CONTINUE, RECS EXPAND THEIR MISSION

by *Roland Mote*,
Assistant Dean, Tennessee Agricultural Experiment Station

Research and Education Centers (RECs) play a critical role in the Tennessee Agricultural Experiment Station's (TAES) research/technology development mission. Formerly known as branch experiment stations, our 10 RECs are strategically located throughout the state to **conduct key applied research, provide "on the ground" verification of research findings, and serve as UT's presence** in research involving multiple states.



Roland Mote

Although many things have changed in the 99 years since a Research and Education Center was first established away from the UT campus in Knoxville, **field days continue to be an important means for transferring results of applied research** to clientele. The field day schedule for 2006 includes events at seven of the 10 RECs for a total of nine field days and four special events. The latest information on a variety of topics including turfgrass, gardening, vegetables, beef, and tobacco will be addressed. This year will also see the return of the ever-popular Milan No-Till Field Day.

While the long-standing tradition of field days continues to be an integral part of the culture, **Research and Education Centers are undergoing significant change.** As the pace of research output quickens, RECs are making adjustments to more rapidly evaluate new developments and technology. The staff at RECs are learning to work with scientists to become involved at the earliest stages to assist each researcher in determining the most rapid and effective means of evaluating and developing a new technology.

During the past several years, **RECs have been repositioning to meet the rapid change occurring in all land grant universities.** Until recently TAES received sufficient formula (appropriated) funding to support REC activities. However, reductions in real levels of public funding have necessarily resulted in the need to secure extramural funds. To remain viable, RECs secure partnerships with entities outside UTIA. These include other units and organizations within UT, other research institutions such as ORNL, and the private sector. To consolidate community support, RECs have engaged in a campaign to increase public awareness of **their contribution to the lives of citizens, communities, and economies—in Tennessee and well beyond.**

Staff members of the RECs are dedicated to increasing their leadership in creating and transferring technology from TAES research for the benefit of the state, region, and nation. We can, therefore, expect the tradition of field days to continue for quite some time, along with the many other important contributions of these valuable centers.

sion. A nanometer is a billionth of a meter: 80,000 times thinner than a human hair. Already it is considered the most promising breakthrough toward productivity growth since the Internet became part of the workplace. **For the forest products industry, nanotechnology repre-**

sents a significant catalyst for reinventing and revitalizing an industry facing unprecedented competitive pressures and economic challenges. More about the conference and a nanotechnology fact sheet are available at www.tappi.org/06NANO.



FRESH LOOK FOR INSTITUTE'S OLDEST BUILDING

The Institute's oldest building is sporting a new look these days, and it has nothing to do with changes to Morgan Hall's architecture. Instead, the fresh appeal comes from a **new landscaping plan designed by Associate Professor Garry Menendez** of the De-

partment of **Plant Sciences** and implemented by a Knoxville-area landscaping firm. Menendez guided improvements to the lawn and beds at the building's front entrance several years ago. At that time funds were insufficient to extend the design to the sides of the building. Last fall **Institute deans** provided additional funds to complete the work.

Mike Keel, left, and Garry Menendez revitalized Morgan Hall's landscaping.

partment of **Plant Sciences** and implemented by a Knoxville-area landscaping firm.

Gone are the overgrown trees and shrubs that surrounded the 1921-era building. In their place are beds of geometrically laid mondo grass. Rock structures and pansies add accent. Also present are red chokeberries, pink diamond hydrangea, feather reed grass, and encore azalea.

"We're very pleased with Garry's work," said **General Services Director Mike Keel**.

"The views from offices inside Morgan are no longer restricted. There's also improved visibility on the western side of the building so that pedestrians are more visible to drivers coming up Morgan Circle.

"The greatest improvement," Keel noted, "is the view of Morgan Hall itself. The new design really shows the beauty of the building."

GRASSLANDS, from page 1

Resources Agency (TWRA) and a grant from the **Natural Resources Conservation Service** to establish a new faculty position. Much of Alcoa's gift will be used to establish a program to help **landowners in Blount and Knox counties develop stream buffers and field borders using native grasses and associated flora**. Wildlife, including threatened songbirds, need the cover provided by the grasses and other vegetation to thrive. The Alcoa gift will also fund research and demonstration plots on TWRA wildlife management areas as well as sponsor summer internships for UT Wildlife and Fisheries Science students.

Cooperating partners include the **Blount County Soil Conservation District Little River Water Quality Forum** and the **Knox County Soil Conservation District**.

WHERE'S THE BEEF? HERE. STATE'S BEEF HERD GROWS FASTER THAN THE U.S. HERD

Statistics for the state's beef industry in 2005 are in, and experts say they paint a **rosy picture for the state's beef cattle industry**.

In 2005 the inventory of cattle and calves in Tennessee grew to 2,240,000 head, a 3 percent increase, while the nation's cattle herd increased only by 1.7 percent. Tennessee's herd ranks 14th in the nation.

The state's beef cow herd totaled 1,110,000 head, also a 3 percent increase from the January 2005 level, compared to only a 1 percent increase in the U.S. cow herd. Tennessee continues to rank ninth in the number of beef cows.

In 2005 the state experienced a **3 percent decline in its dairy herd** which numbered 70,000 head; however, the U.S. dairy herd increased by 1 percent.

"The growth in the cow herd is not surprising, given the record level of-

prices for feeder calves," says **Emmit Rawls, Extension livestock marketing specialist**.

"Cow calf producers respond to profitable times by culling fewer cows and adding more beef replacement heifers to their herds."



Tennessee ranks fourth in the number of operations with beef cows, behind Texas, Missouri and Oklahoma.

The number of steers weighing more than 500 pounds was up 9

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NATION'S ENERGY, from page 1

of the Sun Grant Initiative, including those led by the University of Tennessee, **will make crucial contributions toward meeting the president's challenge for energy independence,**" said **Buddy Mitchell, UT interim vice president for agriculture.**

With help from research and development, U.S. farmers have excelled in establishing corn and ethanol as a reliable domestic source of fuel over the past several decades. Now, **universities and federal laboratories are developing new technologies for using agricultural wastes, crop residues, and new dedicated crops for the production of bioenergy.**

Native grasses such as **switchgrass and fast-growing trees**, such as hybrid poplars, promise to be even more useful and efficient as sources of biomass energy. Producing fuels from these U.S.-grown fibers will be an essential component of the nation's "next generation" energy technology.

"We are already **proceeding with a \$1 million effort** to study the production of switchgrass and alternatives for converting its stored solar energy into useful fuel," said **Dr. Thomas Klindt, interim dean of the Tennessee Agricultural Experiment Station.**



The nationwide increase is typical when the cow calf business is profitable.

BEEF HERD, from page 3

percent in Tennessee and the number of non-replacement heifers was up 13 percent. Rawls says this may

"We recently appointed **Dr. Tim Rials, director of the Tennessee Forest Products Center, to also oversee our Sun Grant efforts,**" Klindt said. "Dr. Rials' experience with state and regional industry will be directly applicable to converting biomass to alternative uses, including fuels."

"**The president's goals are a 'win-win' for everyone,**" adds Mitchell.

reflect some increase in the number of calves in stocker and backgrounding operations in the state.

"Either buying or retaining lightweight calves from the fall, when prices are usually low, into the next winter and spring is usually a profitable production and marketing alternative," he said. "These inventory changes indicate more producers may be doing just that."

The 2005 Tennessee calf crop was estimated at 1,060,000 head, a 4 percent increase, while the U.S. calf crop was up 1 percent. Cattle on feed in the nation were estimated to be up 3 percent and the number of feeder cattle outside feedlots was up 1.7 percent (near 475,000 head) from January 2005.

"**Investing in bioenergy research and education supports American farms, ranches and forests, creates jobs in rural communities, and benefits the environment.**"

Mitchell agrees that real investments must be made now. "We will need time to get new bioenergy technologies fully operational to meet the president's challenge by 2025," he said.

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