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third Thursday

THE UNIVERSITY of TENNESSEE UT
INSTITUTE of AGRICULTURE

March 2009

Extension awards, page 2

Joe DiPietro

Budget update

In late February the deans and I had the opportunity to present the budget challenges and ongoing needs of the Institute to a couple of key groups: the Tennessee House Agriculture Committee and the UT Board of Trustees.

I presented our budget challenges, and the deans discussed issues of concern to their units. Particularly of concern were funding of the CVM's Large Animal Hospital renovation; a possible reconsideration of Extension's role in investigating farm animal abuse cases; and consolidation of some of our AgResearch activities. Members of the House Ag Committee are very supportive and understanding of our needs.

At the trustees' meeting we also presented our budget reduction plan and gained approval from the board for a UTIA Voluntary Retirement Incentive Program for staff. The deans and I believe this program will be of assistance in dealing with budget reductions while minimizing the impact on services to our students and clients across the state. We also presented information to the trustees about the need for the Large Animal Hospital renovation and our intentions to close the Buford Ellington 4-H Center.

We face difficult times and decisions. The encouraging news is that the Institute has support among our state legislators and within the university system. This gives us the tools we need to make decisions that will lessen the impact of budget reductions. We are keeping the communication channels open with our key constituents, ensuring that they know about the challenges we face, and we are receiving good support in return.

I deeply appreciate your commitment and the contributions you make day in and day out that advance the Institute and help those we serve.

All the best, Joe

Grants & Contracts

Like the rest of the Institute and UT, *Third Thursday* is making changes to reduce expenses. Grants and Contracts listings, for instance, will now appear on the Web rather than on paper. You can view a .pdf document containing the fourth quarter 2008 results at http://tinyurl.com/abzdnp.

Institute Innovators Honored

Seven researchers from the Institute of Agriculture **have been honored for being issued patents from the U.S. Patent and Trademark Office** (USPTO). Their discoveries have the potential to transform the lives and lifeways of the people of Tennessee, the region, and nation. The process for receiving a patent is lengthy and difficult. Fewer than 10 percent of the discoveries made at UT are eventually granted patents from the USPTO. As a result, the scientists responsible for the research that makes it through this process are among the most innovative and dedicated in the university system. Read about their achievements at the Institute's Web site.

From left are Vice President Joe DiPietro with researchers ***Bob Trigiano, Bob Conger (emeritus), Mark Windham, Alan Windham, Melvin Newman, John Wilkerson****, Tom Klindt representing AgResearch, and* ***Shigetoshi Eda****.*

What's news

» **Congratulations to Emily Osterhaus, Bedford County 4-H Family and Consumer Sciences Extension agent.** She's the recipient of **Epsilon Sigma Phi**'s Jesse Francis Scholarship, which will help support her graduate study at UT Martin, where she's earning a master's degree in family and consumer sciences.

» Epsilon Sigma Phi's team award went to **UT Extension's Family and Consumer Sciences' Money Crunch Educational Team**, comprised of **Dena Wise, Ann Berry, Beth Bell, Rita Casey, Amy Elizer, Jane Gault, April Martin, Sunny Rae Moorehead, Betty Neilson, Mary Kate Ridgeway, Christopher Sneed,** and **Patricia Whitaker**. The project delivered worksite financial and investment education to young employees in Tennessee, Florida, Kansas and Kentucky, engaging local Extension educators and employers in program delivery.

» **Extension Specialist and Plant Pathologist Professor Alan Windham has been awarded the Porter Henegar Memorial Award for outstanding contributions to environmental horticultural research by the Southern Nursery Association** (SNA). He has authored or co-authored more than 50 papers at this conference for more than 24 years and served as section editor for the proceedings of the research conference. He was also an invited speaker for the SNA Techshop for many years where he taught workshops on disease diagnosis. His participation in the **UT Dogwood Working Group** and patent for the flowering dogwood "Appalachian Joy" also factored in the win. Past recipients of this award from UTIA include **Will Witte**, 2000, and **Mark Windham**, 2001.

» **Joanne Logan**, associate professor of **Biosystems Engineering and Soil Science**, was featured in the UTK Centripetals lecture series. Presented by University Studies, the lecture series highlights interdisciplinary presentations and discussions. Logan discussed "Community Waters: The Acequia culture of Southwestern U.S."

Grantsmanship and journal articles: Who's the chicken and who's the egg?

Bill Brown

by Bill Brown
Dean, UT AgResearch

A faculty member's program is like a huge 5-ton flywheel. Two observations are very clear as we look at faculty programs today compared to yesterday. First, the flywheel is much heavier than it was 10 or more years ago. Second, university administration does not have the resources to provide the initial push to get the flywheel moving as it once did.

A faculty member's main objective is to get his or her flywheel rotating on the axle as soon and as fast as possible and to maintain the rotation for as long as possible during his or her career. As a new assistant professor begins his or her career, in many cases a small amount of start-up funding is provided to help get the flywheel moving. This initial funding and effort might result in an abstract presented at a scientific meeting and/or serve as support to a grant proposal with the faculty member as lead or co-PI. The flywheel inches forward. While attending the scientific meeting, potential collaborators are met and/or the scientist learns of a multi-state project that could be joined. Grant proposals are prepared with care and funded with the faculty member as a PI, co-PI or collaborator—the flywheel advances further. Journal articles are published, and the scientist's name becomes recognized. The flywheel picks up steam.

Based on results published in the refereed literature and papers presented by the faculty member and his or her students, the scientist is funded with additional awards and perhaps funded and/or re-funded with a federal grant. The flywheel has almost made a complete turn. The faculty member's program becomes known throughout the country and attracts exceptional graduate students and post-docs who help to advance the program. These students, in turn, are placed in highly respected academic and industry jobs, further advancing the individual's and the institution's reputation.

The faculty member volunteers to serve his or her professional society and the network of influence grows. Additional refereed papers are published, students are trained and placed, intellectual property may result from the work, and the scientist is beginning to be thought of as a leader in the profession. Young scientist awards follow, grant/contract activity increases, and the flywheel picks up speed. The faculty member volunteers to serve on various grant peer review panels and at some point is asked to serve as a panel member or panel chair. A faculty member's research program depends greatly on his or her reputation for productivity and quality.

The flywheel is really turning now and with continued effort it can continue spinning for an entire career. Each turn builds upon work done earlier, compounding the investment of effort. At some point there is breakthrough; the flywheel's momentum works in the faculty member's favor. Continued effort is required or the flywheel will slow or stop, requiring a much greater effort to restart as compared to the sustained effort needed to keep the momentum. In most cases, there is no one large, defining push that caused the flywheel to move so fast. So, what is most important: journal articles or grantsmanship? Are journal articles the chicken or the egg? Is grantsmanship the chicken or the egg? The answer is that they are both. Each builds upon the other and represents the pushes in a consistent focused direction resulting in a spinning flywheel for the faculty member and stature for the institution.

Research Profile: The East Tennessee AgResearch and Education Center

We interviewed Center Director **John Hodges** and Associate Director **Bobby Simpson** about what ETREC offers AgResearch scientists.

Describe your location and general facilities.

The East Tennessee Research and Education Center (ETREC) consists of six different units located in Knox and Blount counties with a combined total of 1,968 acres:

- **Holston Unit**: Comprehensive weed science and management program, biofuel crop production, wheat breeding, forages, and beef cattle management. Three cattle handling facilities.
- **Blount Unit**: A base herd of approximately 150 Angus cows. Twenty three-acre paddocks are available for forage and grazing studies.
- **Cherokee Unit**: The Johnson Animal Research and Teaching Unit (JARTU), the Lindsay Young Beneficial Insects Laboratory, and the Cherokee Woodlot. The JARTU is a modern animal research and teaching facility that contains over 46,000 square feet of conditioned space.
- **Plant Sciences Unit**: Highly fertile river bottom soils are a feature here. Current emphases include soybean and corn breeding, row crop and forage variety testing, turfgrass management, greenhouse studies, and other studies specific to biofuel production. Recent additions include large forage/sample dryers and coolers for processing and storage of seeds.
- **Organic Crops Unit**: Twenty-one acres of research plot land for organic vegetable production. Of this, 14 acres are currently in the "certified transitional" stage for organic production.
- **Little River Animal Environmental Unit**: Plans are underway to construct a new 200-cow dairy research facility. Collection of baseline data is underway for water quality and runoff, soil fertility, and air quality. Current studies include aquatic and wildlife species and a human dimensions survey relating to the public's perception of agriculture.

What can your Center offer faculty in terms of land and infrastructure resources?

Equipment for small scale plots is available. An irrigation system covers approximately 150 acres of plot area. Ten greenhouses are maintained. Plot combines and forage harvesters are equipped with automatic weight and moisture monitoring. At the Organic Crops Unit, trickle irrigation is available and three high tunnels have been constructed. ETREC has over 600 acres of pasture and hay land to support beef and forage research. Covered working facilities are available with wet-laboratory space located in close proximity to these facilities. Capabilities are present for the collection and transfer of embryos, and pens are available for controlled nutrition trials. The JARTU consists of over 20,000 square feet of environmentally controlled housing space for large and small ruminants, swine, poultry, and aquatic species. It also houses a feed mill for formulation of research rations. A small dorm-room space is available to facilitate the collection of data on a frequent and/or overnight basis.

Tell us about current research and extension projects currently underway at your Center.

One of the newest developments is the allocation of 12 acres for research and demonstration work in the area of weed control in pastures and hay fields. Just a few examples of other ongoing projects include a trial studying the effect of E+ tall fescue on fertility in bulls; weed control in switchgrass; validation of weed control systems (in corn, sweet corn, soybeans, wheat, and sunflowers) that are economical and environmentally sustainable; forage and agronomic crop variety trials; mowing and plant growth regulation in fairways; optimal mowing practices for athletic fields; study of cover crop combinations in organic systems; heirloom tomatoes; evaluation of high tunnels for season extension of vegetable production; and continued efforts in the breeding, development, evaluation, and selection of new soybean, corn, and wheat varieties.

Describe one or two recent success stories that have come from your Center.

1) Outside mesocosms have been developed and utilized to quantify infection rates in American bullfrog tadpoles exposed to cattle feces that was inoculated with E. coli 0157:H7. Tadpoles are prime candidates as spill-over hosts or reservoirs of zoonotic pathogens in aquatic environments. Results from this research effort have advanced the understanding of the threat of amphibians as sources of E. coli 0157:H7 in the environment.

2) In 2004, 15 acres were designated to turfgrass management research. The turfgrass program has grown to one of the leading research sites and programs in the nation. Information generated from this area continues to be a valuable resource to the turfgrass industry in Tennessee.

A multidisciplinary, multi-institution study at ETREC is evaluating the viability of American bullfrogs in spreading E. coli O157 among cattle.

Campaign update: Thank you to the Margaret Finley Shackelford Trust

The **Shackelford Trust has contributed more than $1,500,000 to the University of Tennessee Institute of Agriculture since 1999**. Established from the **Margaret Finley Shackelford estate**, the trust fosters and preserves wildlife and its habitat. Mrs. Shackelford's particular interest in hardwood species fit very well with the Institute's hardwood seed orchard program.

The Institute would like to thank the Shackelford trustees for their latest contribution of $175,000 for the Margaret Finley Shackelford Hardwood Seed Orchard Project. According to **Scott Schlarbaum**, professor of Forestry, Wildlife, and Fisheries who oversees the **UT Tree Improvement Program**, the donations from the Shackelford Trust have made it possible to establish genetic tests and plantings from 19 hardwood species on the Ames Plantation.

Hardwood species are selected to provide timber, habitat, and/or mast for game and nongame wildlife. In addition, conservation plantings for two rare Tennessee hardwood species, butternut and sand post oak, are being established. These plantings will eventually be converted into seed orchards that will provide locally adapted and genetically improved seed to the Tennessee State Nursery. The resulting seedlings will be used to reforest and enrich species plantings in west Tennessee.
–Rhodes Logan

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THE UNIVERSITY of TENNESSEE UT
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101 Morgan Hall
Knoxville, TN 37996-4505