

ACTION IN AGROFORESTRY

monthly newsletter of the University of Missouri Center for Agroforestry

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UMCA Biomass Efforts Gaining Speed, Recognition

The Center for Agroforestry at the University of Missouri has recognized since its inception the need for research on biofuel as the country works to limit its dependence on fossil fuels. In 1998, cottonwood clonal trial studies began at HARC to evaluate growth response and biomass production. The study aims to determine if cottonwood could work in agroforestry plantings such as buffers, while concurrently creating a biomass industry.

This research was certainly timely and now, with numerous biomass power generation facilities under construction or consideration across the state – including an upgrade of the MU Power Plant to handle greater use of renewable fuels such as biomass – UMCA is pleased to be expanding its efforts in research and collaboration in the bioenergy field.

Work with Dr. Hank Stelzer, MU Extension Forester, gauges the resources already available in the state through biomass spatial analysis. Sweet sorghum is another promising biofuel crop that can be grown on drier sites not suitable for corn production and, UMCA researchers hope, on sites prone to periodic flooding or waterlogging. Collaborative research with the Dale Bumpers Small Farms Research Center, Booneville, Ark., looks to see if sugarcane can be selected for cold tolerance north of its presumed range limit. Finally, research



supervised by Francisco Aguilar, UMCA collaborator, looks at the economic feasibility of woody biomass harvesting.

UMCA is committed to the future of biomass research. The Center has filled a postdoctoral research associate position in Biomass Feedstock Production Systems, welcoming Sougata Bardhan to UMCA. The

Center is working to create a world-class network of universities, federal/state agencies, agribusiness and farmer co-ops, non-profit organizations and corporate partners across the state and nation.

The Center and MU's efforts have been recognized recently with articles in Biomass Magazine, July issue, "University Sees Biomass as Future for Energy Generation"; Columbia Daily Tribune, June 23, "MU noted for energy efficiency: EPA honors schools for renewable use"; and on the CAFNR Web site, "The Cottonwood Solution."

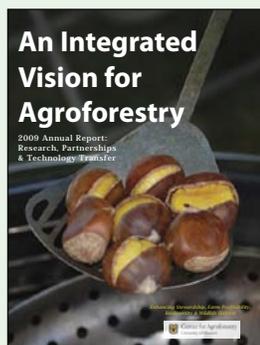
Whether aiming to make the most of biomass opportunities already in place in the region, or forging ahead researching the best possible crops to turn marginal or multi-use agricultural fields into dedicated energy plantations, UMCA is proud to be directly addressing an area of such importance to the future of agriculture and U.S. energy independence.

UMCA ANNUAL REPORT NOW AVAILABLE

The 2009 UMCA Annual Report, "An Integrated Vision for Agroforestry," is now available online and in print.

The report compiles 2009 research findings, projects initiated and the Center's vision.

See the document at <http://www.centerforagroforestry.org/pubs/annual09.pdf> or request a copy from Michelle Hall, hallmich@missouri.edu, or Julie Rhoads, rhoadsj@missouri.edu



INTERNATIONAL AGROFORESTRY CONFERENCE CALL FOR PAPERS

The 12th North American Agroforestry Conference will be hosted by the University of Georgia June 4-9, 2011, at The Georgia Center, Athens, Ga.

The conference has put out a preliminary call for papers, with a deadline of Nov. 1, 2010.

Themes for presentations include Bioenergy; Environmental Quality; Production Systems; Policy, Economics and Marketing; Social and Cultural Considerations; and Agroforestry Education and Certification. Symposium session proposals will be considered.

Presentation submission guidelines can be found at: <http://hosting.caes.uga.edu/2011NAAC>

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KUDOS

Dr. Richard Schultz was one of seven Iowa State University faculty to be awarded the title of University Professor. He was honored at the April 29 promotion and tenure reception and will be honored at a Sept. 20 convocation and awards ceremony.

Acting as change agents, University Professors have made significant contributions that have improved the university.

In research, Schultz is best known for his work on riparian buffers to reduce erosion and nitrate runoff and improve wildlife habitat and aesthetics. The Bear Creek Watershed project in northern Story County that he helped create in 1990 receives national and international recognition. Popular in the classroom, Schultz has mentored many new faculty in student-centered learning. His efforts to turn out broadly educated global citizens are many. He consistently recruits international students, believing that diversity broadens scholarship. In the past 10 years, he has developed very successful study abroad programs in South Korea and China and participated in a new Uganda-based center for sustainable rural development.

significantly greater for soils planted to VBS relative to grain crops. This work suggests agroforestry and grass buffer strips may effectively mitigate antibiotic loss from agroecosystems, in part, due to enhanced antibiotic sorption properties.

IMPACT

Students supported by **UMCA** research projects have been very successful:

* Sandeep Kumar (“Agroforestry and grass buffers for improving soil hydraulic properties and reducing runoff and sediment losses from grazed pastures”) was offered a Post-Doctoral position at The Ohio State University with Dr. Rattan Lal in the Carbon Management and Sequestration Center. He is currently working on a research project to predict soil carbon pool sizes for the Midwestern U.S.

OUTREACH

Larry Godsey, Andy Thomas and Pat Byers presented at the Comprehensive Elderberry Workshop and Farm Tour 2010 held June 17-18 at Carver Research Farm, Lincoln University, Jefferson City; and Eridu Farms, Hartsburg, Mo. The event was sponsored by River Hills Harvest. In addition, **The Center for Agroforestry** sponsored an information booth.

RESEARCH

Chu, B., K.W. Goynes, S.H. Anderson, C.H. Lin, and R.P. Udawatta. 2010. Veterinary antibiotic sorption to agroforestry buffer, grass buffer, and cropland soils. *Agroforestry Systems* 79:67-80.

The potential of veterinary antibiotics (VAs) to impact human and environmental health requires the development and evaluation of land management practices that mitigate VA loss from manure-treated agroecosystems. Vegetative buffer strips (VBS) are postulated to be one management tool that can reduce VA transport to surface water resources. Study results indicated oxytetracycline was strongly adsorbed by all soils and the VA was not readily extractable. Adsorption of both antibiotics was



Ray Glendening accepted an award from the Missouri House of Representatives and the Missouri Alliance for Historic Preservation for rehabilitating the Thomas H. Hickman House, on behalf of HARC, The Center for Agroforestry and other people crucial to the project. The ceremony was held March 3 in the capitol rotunda. In the photo above, front row, left to right: Dena Cox, Five Oaks Construction; Angie Gaebler, Susan Richards Johnson architecture firm; Elizabeth Freese, Missouri Department of Natural Resources; and Gerald Morgan, MU Campus Facilities. Back row, left to right: Al O'Bright, National Park Service; Gary Dorr, Five Oaks Construction; Nancy Bishop, HARC; State Rep. Paul Quinn; and Ray Glendening, HARC.

COMING SOON...

- July 28** UMCA Faculty/Staff Bi-monthly Meeting
2:30-4 p.m., 210 ABNR
- August 17** UMCA Chestnut Workshop Series #3
Orchard Maintenance, Weed Control, Insect Scouting, Pest Management, Disease Control
Contact Julie Rhoads, 573-882-3234 or rhoadsj@missouri.edu, for more information



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