ACTION IN AGROFORESTRY

monthly newsletter of the University of Missouri Center for Agroforestry

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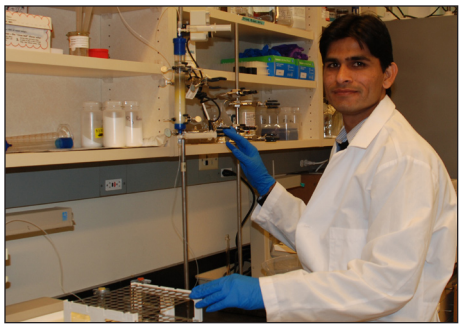
UMCA Welcomes Visiting Scholar

The MU Center for Agroforestry is hosting visiting scholar Nazif Ullah for the next six months. Nazif arrived in Columbia in late February from Quaid-i-Azam University, Islamabad, the top national university in Pakistan. He is a Ph.D. student studying biochemistry; his stay is being supported by the Higher Education Commission of Pakistan.



Shibu Jose, UMCA director, explained that the study program to visit another, developed country, is "highly competitive" in Pakistan. Nazif approached Jose about the possibility to study with him while Jose was at the University of Florida; Nazif said he decided to contact Jose due to papers Jose had published on phytochemicals and black walnut allelopathy. Although Jose has since joined the MU Center for Agroforestry, both he and Nazif said the resources at the Center for Agroforestry are better suited for Nazif.

Nazif's research looks at bioactive phytochemicals in plants indigenous to Pakistan. His extracts should soon be arriving from Pakistan, for analysis in MU's labs. For now, he is helping with similar research alongside UMCA's Chung-Ho Lin, looking at bioactive phytochemicals in Eastern redcedar.

"I am glad to learn that the analytical techniques developed at our Center can help to explore and identify value-added natural products from the highly diversified flora in Pakistan," Lin said.

Nazif has been training to work on a wide array of instruments – such as GC-MS/MS, gas chromatography-tandem mass spectrometry, which identifies different compounds within a test sample – that will aid his research; equipment that he had only heard of in Pakistan.

"We can learn the theory, but not hands-on," Nazif said. "In Pakistan, it's still a developing country; we don't have sophisticated labs. I'm here to learn about the kind of research going on and to gain hands-on experience with the state-of-the-art equipment."

Nazif plans to work as a faculty member or scientist in Pakistan when his Ph.D. is complete. This research opportunity will make him better prepared and qualified when looking for a position, he and Jose agreed.

Jose said hosting Nazif is the first step of many in welcoming more international researchers and students to UMCA for training, collaboration, etc.

"We would like to enhance the international dimension of our program and training international visiting scientists fits in with our strategic vision for the future," he said.

TWO POSTDOCTORAL RESEARCH ASSOCIATE POSITIONS AVAILABLE THROUGH UMCA

The MU Center for Agroforestry is looking to fill two postdoctoral research associate positions, one in Biomass Feedstock Production Systems and one in Silvopastoral Systems. The first position will examine the production ecology of biomass feedstock systems that combine woody perennials with annual or non-woody perennial plants. The other will coordinate an established and innovative silvopasture program focused on understanding forage-tree-livestock interactions.

For both positions, interested applicants should send (1) a letter of interest; (2) resume; and (3) names and e-mail addresses of three references to Dr. Shibu Jose, H.E. Garrett Endowed Professor and Director, Center for Agroforestry, University of Missouri, Columbia, MO 65211. E-mail: joses@missouri.edu. Closing date: April 1, 2010, or until suitable candidates are found.

For more information on the positions and application process, see the "What's New" box at http://www.centerforagroforestry.org

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OUTREACH

Ken Hunt, Mark Coggeshall, Bill Reid and Jerry Van Sambeek attended the Missouri Nut Growers Association Annual Meeting and Nut Show Feb. 5-6. Hunt gave a short report on a promising new pecan cultivar and displayed pecans and chestnuts grown at the Horticulture and Agroforestry Research Center. Reid and Coggeshall presented information on recognizing and monitoring for pecan scab and the thousand canker disease. Attendees had the opportunity to sample cooked Chinese chestnuts and cookies made with northern pecans and eastern black walnuts as part of the Nutty Cookie Contest. Results from the nut show that included entries from both HARC and the Southwest Center will be published in the next MNGA Newsletter.

RESEARCH

Kumar, S., S.H. Anderson, and R.P. Udawatta. 2010. Agroforestry and Grass Buffer Influences on Macropores Measured by Computed Tomography under Grazed Pasture Systems. Soil Science Society of America Journal 74:203-212.

The objectives of the study were to compare differences in macropore and coarse mesopore parameters measured by computed tomography (CT) within agroforestry buffer (AgB) and grass buffer (GB) systems associated with rotationally grazed pasture (RG) and continuously grazed pasture (CG) systems, and to examine relationships between CT-measured pore parameters and saturated hydraulic conductivity (Ksat). Intact soil cores were collected from the four treatments at five soil depths. Five equally spaced images were acquired from each core and were analyzed with Image-J software. The CT-measured soil macroporosity was 13 times higher for the buffer treatments than the pasture treatments for the surface 0- to 10-cm soil depth. Buffer treatments had greater macroporosity than RG or CG treatments. The Ksat values for buffer treatments were five times higher than pasture treatments. Soil bulk density was 5.6% lower for the buffer treatments than the pasture treatments. This study illustrates the benefits of agroforestry and grass buffers for maintaining soil pore parameters critical for soil water transport.

KUDOS

Dusty Walter presented to the Governor's Appointed Expert Panel in November 2009 on the design, installation and potential of vegetative environmental buffers to remove odor-causing particulate from the air. If acceptable to the Panel, Premium Standard Farms is likely to put similar buffers around another 18-21 hog production facilities in north Missouri.

IMPACT

Iowa State University studies on land uses and effects on bank stability (and therefore sediment production) show streams with riparian forest buffers reduce the length of eroding stream bank from around 40 percent for row cropped and intensively grazed areas to less than 15 percent, well within the limits of about 20 percent found in healthy streams. This translates to a seven- to nine-fold reduction in both sediment and phosphorus contribution to the stream channel from properly buffered streams. ***The research is sponsored by the MU Center for Agroforestry.***

COMING SOON...

March 20	Woodcock Workshop 1 p.m., Allen Research and Education Farm, Laurie For more information, go to http://www.centerforagroforestry.org/events/WFDay.pdf
March 23	UMCA Chestnut Workshop Series, workshop #1 Site Selection, Planting, Graft Planning & Pruning
May 4	UMCA Chestnut Workshop Series, workshop #2 Grafting

Both chestnut workshops will be at the Horticulture and Agroforestry Research Center, New Franklin. Contact Julie Rhoads, 573-882-3234 or rhoadsj@missouri.edu, for more information.

The MU Center for Agroforestry Marketing/Socio/Economic research cluster was enthused to see Missouri black walnuts being sold in a local grocery store this fall and winter, alongside other nuts from across the country. The Center works with Hammons Products Company on various projects, from nut cultivar research to marketing.

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