ACTION IN AGROFORESTRY

monthly newsletter of The Center for Agroforestry at the University of Missouri (UMCA)

November 2011 *Michael Gold and Paige Pritchard, editors* *Vol. 2, No. 11*

Agroforestry featured in Crop Science Society of America News Magazine

An article entitled "Agroforestry: A growing science seeks to boost its practice" by Madeline Fisher, was published in this month's Crop Science Society of America (CSA) News Magazine issue. CSA News is the official magazine for members of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America. The article features interviews with current UMCA director **Dr. Shibu Jose** *and former director* **Dr. Gene Garrett**, *as well as pictures by faculty member* **Dr. Ranjith Udawatta**.

Excerpt: In the 1930's, millions of trees sprang up in America's Great Plains. As the Dust Bowl raged, the federal government embarked on an ambitious plan to plant windbreaks, or shelterbelts, which could quell the region's eroding winds and stem the loss of topsoil. The goal was to plant belts that were 5 to 15 rows wide from the Canadian border to the Texas Panhandle. World War II ended the program early, but not before some 18,000 miles of trees were planted along section lines and around farmsteads throughout the Plains.

It was the United States' first large-scale attempt at agroforestry—the planting of trees to serve agriculture—and it wouldn't last. When center-pivot irrigation became popular in the 1960s and 1970s, the trees stood in the path of the swiveling equipment, and so people began chopping them down. So many trees were removed that today only about 3% of the region's croplands are protected by shelterbelts. That could soon be changing, however. As reported in a special section in the May–June 2011 issue of the Journal of Environmental Quality (JEQ), agroforestry seems poised for new success.

Although the science is still somewhat nascent, data have been steadily amassing over the past 20 to 30 years on what integrated systems of trees and crops can do for agriculture. In tropical regions, agroforestry is known to halt desertification, reclaim degraded land, and offer food and nutritional security to families. In temperate areas, meanwhile, research has focused on agroforestry's potential to provide environmental services, including soil conservation, biodiversity, carbon storage, and improved water quality.

Just as important, yet much less known, are the economic benefits to U.S. farmers. Nebraska windbreaks, for example, can boost corn and wheat yields by 12 to 15% and soybean yields by slightly more. And by planting trees as shelter for grazing livestock—a practice called silvopasture—farmers can increase their profit on each cow-calf pair by nearly $45, according to University of Missouri research, because cattle expend less energy staying warm in winter and cool in summer.

What this means is that agroforestry—once considered "a practice in search of a science"—is now on firmer scientific footing than ever before, says Shibu Jose, director of the Center for Agroforestry at the University of Missouri. But with adoption rates still low across much of the United States and the rest of the industrialized world, the question now, ironically enough, is whether the research will outpace the practice.

"The science is developing, but how do you transfer that science to landowners? That's a whole different ball game and we have not done a great job of it," Jose says. "It's happening. But it hasn't happened at a scale or intensity yet that would really make a difference."

The full article can be found online at **https://www.crops.org/files/publications/csa-news/agroforestry.pdf**

MIZZOU Magazine spotlights UMCA biofuel initiative

The winter issue of MIZZOU magazine focuses on sustainable energy at the university. The article "Fuel in the Fields" features an interview with **Dr. Shibu Jose** about the $20,000 Mizzou Advantage grant awarded to UMCA.

The grant will help form a consortium called the Mississippi/Missouri River Advanced Biomass/Biofuel which has about 50 partners to promote the growth of the emerging bio-based economy. "What we are trying to do is have everybody, from the producer all the way to the end user, sit down at the same table to talk about the best way to make this happen and to give assurances to each other that they're going to start making it happen," Jose says. Biomass research carried out by UMCA associate faculty members Dr. Felix Fritschi and Dr. Hank Stelzer were also featured in the same issue.

For further information, please see the entire article online at http://mizzoumag.missouri.edu/2012-Winter/features/fuel-in-the-fields/index.php

ACTION IN AGROFORESTRY

Kudos

UMCA Research Associate Professor **Dr. Johann Bruhn** has participated in two Burgundy truffle meetings held in Nancy, France. At the annual *Tuber Aestivum/Uncinatum* European Scientific Group meeting, Dr. Bruhn presented the paper "Studies of Bacteria Isolated from *Tuber aestivum* (syn. *T. uncinatum*) Truffles and Mycorrhizas," co-authored by **David Emerich** (MU Biochemistry) and colleagues from Sweden and Italy. Dr. Bruhn also participated in the First European Week of the Burgundy Truffle. On November 12, Dr. Bruhn was inducted along with **Christina Wedén** (Uppsala University) and **Gerard Chevalier** (President of TAUESG) into the Gotlands Tryffel Akademi in Visby, Sweden. Dr. Bruhn returned from Europe full of fresh ideas for truffle cultivation studies in the Central USA.

Forestry graduate student **Phillip Mohebalian** presented his Masters Defense, "Consumer Preferences for Elderberry Products," on Oct. 31st. **Dr. Francisco Aguilar** served as thesis supervisor.

Research

Dr. Shibu Jose was the track chair for agroforestry sessions at the Society of American Foresters Annual Convention in Hawaii in November. As track chair, he was instrumental in organizing four different agroforestry sessions: two focused on temperate agroforestry and two on tropical agroforestry. He also gave an invited talk on "Agroforestry Systems for climate change mitigation, food security and rural prosperity."

Associated faculty member **Dr. Francisco Aguilar**, gave a presentation entitled "Preferences for Outdoor Recreation in Private Forests, Public Parks, and Agrifarms" at the Society of American Foresters Annual Convention in Hawaii. His students/postdocs **Dr. Michael Goerndt, Shane Botard, Dr. Nianfu Song** and **Marissa Jo Daniel** also gave presentations at the convention.

Dr. Shibu Jose, and co-author **Dr. Ranjith Udawatta** gave an invited talk on "Agroforestry's Role In Greenhouse Gas Mitigation In the United States" in a symposium organized by the Canadian Society of Soil Science at the ASA, CSSA, SSSA International Annual Meeting in San Antonio, TX in October. Dr. Udawatta had several talks at the ASA, CSSA, SSSA conference.

COMING SOON...

Dec. 2	UMCA Chestnut Roasting Booth Columbia Living Windows Festival The District, Columbia MO 9th St. and Broadway
Dec. 2-4	MU Forestry Club Christmas Tree Sale
Jan. 11	2012 UMCA Research Symposium The University of Missouri Memorial Union JW Auditorium 10:00 a.m. - 4:00 p.m.
Jan. 12	13th Annual Review The University of Missouri Memorial Union Stotler Lounge 7:30 a.m. - 2:30 p.m.
Jan. 12	2012 UMCA Advisory Board Meeting The University of Missouri Memorial Union Stotler Lounge 2:45 p.m. - 6:00 p.m.

Outreach

The MU Center for Agroforestry was invited to present at the Northeastern Silvopasture Conference held in Watkins Glen, NY on November 7th and 8th, 2011. Three presenters from UMCA covered the broad topic of silvopasture design, implementation, economic potential, and environmental impacts. The three presenters were **Dr.'s Dusty Walter**, **Larry Godsey** and **Gene Garrett**. Dr. Walter's talk covered the benefits of appropriate livestock husbandry, pasture management, forest management, and how to successfully integrate these components to form a viable silvopasture practice. Dr. Godsey's talk followed and provided information on silvopasture economics by looking at three case studies. Dr. Garrett closed with a talk on the ecosystem services potentially provided by the silvopasture practice and tree buffers on the farm. There were approximately 110 participants and a majority of those were farmers wanting solutions to creating more productive grazing systems. The conference was a huge success and reinforced that there is real potential, and need, for the silvopasture practice.

The MU Forestry Club will be holding their Christmas tree sale from Dec. 2-4 at Faurot Field gate 3. They will have balsam first ranging in size from 4-8 feet, priced at $7/ft. They will also be selling bundles of firewood. For more information contact Peter Noble at 573-823-2342 or pjnrkb@mail.missouri.edu.

The Center for Agroforestry at the University of Missouri
203 ABNR 573-884-2874
www.centerforagroforestry.org
Shibu Jose, Ph.D., Director

The Center for Agroforestry
University of Missouri
A Global Center for Agroforestry, Entrepreneurship and the Environment