



# Action in Agroforestry

October 2018 Vol. 10, No.9 Michael Gold and Hannah Hemmelgarn, editors

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## NRCS Conservation Innovation Grant Awarded

**Dr. Ranjith Udawatta and a team of colleagues from MU, NRCS and a Missouri Landowner have been awarded an NRCS Conservation Innovation Grant entitled “Ecosystem Services of Cover Crops, Riparian Buffers, and Crop Rotation with Biochar on Eroded Midwest Corn/Soybean Landscapes”**

PI: Ranjith Udawatta; Co-PIs: Sougata Bardhan, Zhen Cai, Lauren Cartwright (MO NRCS), Dr. Bill Ambrose (landowner). Funding Amount: \$75,000. Funding Source: Missouri NRCS. Duration: October 2018 to September 2021.

This project seeks to better understand the environmental and economic impacts of a farm management system which integrates three conservation practices: 1) cover crop adoption; 2) establishment of riparian forest buffers; and 3) crop rotation amended with biochar. More specifically, the project will: (1) Examine the improvements of soil health including nutrients (N and P) under cover crop practices; (2) Explore the environmental benefits of adopting a production system focused on water quality by adoption of riparian buffers, cover crops, and use of biochar; (3) Demonstrate soil and productivity benefits of the biochar application; (4) Evaluate the economic profitability of adopting these farm management systems; and (5) Promote the adoption of these conservation practices.

The multidisciplinary, multi-agency study will take place on Dr. Bill Ambrose’s Farm in Miller County, MO, and is designed to quantify soil health, water quality, land productivity, and farm economics to support the adoption of conservation practices at a watershed scale (~3-5ha). The project will promote adoption of conservation practices among neighboring landowners and farmers.

Dr. Ambrose is a recognized citizen conservationist, and was awarded a Missouri Conservation Heritage Foundation *Lewis and Clark Governor’s State of Missouri Conservation* in 2016, and is committed to help neighbors adopt better conservation. The project idea originated from Dr. Ambrose who wanted to demonstrate environmental, production, and economic benefits to other landowners and farmers in the Missouri Ozarks and the region. The project will result in a series of technical publications, fact sheets and manuscripts on the environmental, production and economic benefits of conservation practices.

# KUDOS

A dedicated project team has received the **2018 Vice Chancellor's Diversity Award** (Karen Funkenbusch, Debi Kelly, Patricia Barrett, Michael Gold, Eleazar Gonzalez, Jim Spencer, Jr., Darla Campbell, Karisha Devlin and Jeff Samborski) for the project entitled “*Missouri Outreach and Assistance for Socially Disadvantaged and Veteran Farmers and Ranchers*”.

## Funded Grants

PI: Enos Inniss (MU College of Engineering), Chung-Ho Lin. Project Title -- *Technology Assistance to Missouri Utilities to Meet DBPs Standards*. Amount: \$72,081. Funding Source: Missouri Department of Natural Resources.

PI: Chung Ho Lin, Anuradha Roy (Director, KU High Throughput Screening Laboratory), Zhen Cai, Michael Gold. Project Title -- *Explore the Economic Opportunities and Health Benefits of the Elderberry in Missouri*. Amount: \$29,500. Funding Source: USDA/MDA Specialty Crop Block Grant. This grant will examine the novel uses of the elderberry (*Sambucus canadensis*) and its byproducts in cosmetic, personal care products, nutraceutical and pharmaceutical industries.

PI: Zhen Cai, Michael Gold, Andy Thomas, Patrick Byers. Project Title -- *Establishing Missouri's Pawpaw Industry: Horticulture, Market Research, and Outreach*. Amount: \$29,751. Funding Source: USDA/MDA Specialty Crop Block Grant. This grant will examine the production and marketing of the North American pawpaw (*Asimina triloba*) by conducting production analysis, market research, consumer research and financial analysis. This project will also develop an in-depth production and marketing guide, and a financial decision support tool.

## Publications

Zhentian Lei, Clayton Kranawetter, Barbara W. Sumner, David Huhman, Daniel J. Wherritt, Andrew L. Thomas, Charles Rohla and Lloyd W. Sumner. 2018. Metabolomics of Two Pecan Varieties Provides Insights into Scab Resistance. *Metabolites* 8:56-66. doi:10.3390/metabo8040056

Danh C. Vu, Zhentian Lei, Lloyd W. Sumner, Mark V. Coggeshall, Chung-Ho Lin. 2018. Identification and Quantification of Phytosterols in Black Walnut Kernels. *Journal of Food Composition and Analysis* <https://doi.org/10.1016/j.jfca.2018.09.016>

Ali Hosseini Taleghani, Teng Teeh Lim, Chung-Ho Lin. 2018. Degradation of Veterinary Antibiotics in Swine Manure via Anaerobic Digestion. Conference Proceedings. 2018 American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting. 1801460.(doi:10.13031/aim.201801460) <https://elibrary.asabe.org/abstract.asp?aid=49531&t=2&redir=&redirType=>

Thi Ho, Chung-Ho Lin, Felix Fritschi. 2018. A Plant Growth Inhibitor N-trans-cinnamoyltyramine in Rice and Its Synthesis. Conference Proceedings for the 8<sup>th</sup> World Congress of Allelopathy. [https://wca2017.sciencesconf.org/data/pages/book\\_wca2017\\_en.pdf](https://wca2017.sciencesconf.org/data/pages/book_wca2017_en.pdf)

# UPCOMING EVENTS

**Webinar: Silvopasture Research on the Eastern Coastal Plain of North Carolina**  
*October 24, 2018 | 11:00am CST | Live at <https://agroforestryinaction.wixsite.com/>*  
In this “Agroforestry in Action” webinar, Dr. Alan Franzluebbbers, Ecologist with USDA-ARS, will share information about ongoing silvopasture research plots in Eastern NC. Franzluebbbers focuses on potential benefits to soil health in silvopasture systems. To register, visit <https://agroforestryinaction.wixsite.com/agroforestryinaction>

## **2019 NRCS Environmental Quality Incentives Program: Signup Period Open**

*November 16, 2018 Deadline | USDA Natural Resources Conservation Service*

Farmers and forest landowners should plan ahead and sign up now for USDA conservation funding. Talk with your NRCS regional staff, or contact Lauren Cartwright, EQIP Program Coordinator, to learn more about NRCS support for agroforestry practices in Missouri. More information at <https://www.nrcs.usda.gov/wps/portal/nrcs/mo/programs/financial/eqip/>

## **Nutshell Discussion with Jason Fischbach on the Hazelnut Industry**

*October 23, 2018 | 6pm CST | Online event from the Savanna Institute*

Jason Fischbach of UW-Extension-Bayfield County will share his knowledge of the hazelnut industry in the upper-Midwest and the current status of hazelnuts. This online discussion is free and open to the public. Register at [www.savannainstitute.org/events.html](http://www.savannainstitute.org/events.html)

## **2018 Annual Missouri Forage & Grassland Council Conference**

*October 29-30, 2018 | Capitol Plaza Hotel & Conference Center, Jefferson City, Missouri*

This year's MFGC conference features speakers addressing profitable, multispecies grazing, genetics, and networking. Complete agenda and registration available at <https://mofgc.org/conference/>

## **Benefits of Agroforestry in Transitioning and Organic Systems**

*December 4, 2018 | 2:00pm CST | Live webinar at [www.conservationwebinars.net](http://www.conservationwebinars.net)*

This webinar presented by USDA Natural Resources Conservation Service, will feature Bart Lawrence, USDA Forester, and Richard Straight, USDA National Agroforestry Center Technology Transfer Leader, who will share how trees and shrubs can provide benefits for organic systems.

## **6th Annual Perennial Farm Gathering**

*December 7-8, 2018 | Savanna Institute | Lussier Family Heritage Center, Madison, Wisconsin*

If you're interested in perennial crops and pastured livestock, come learn what farmers, scientists, and others are discovering - what's working and what needs more work. More information and registration at <http://www.savannainstitute.org/perennial-farm-gathering.html>

## **10<sup>th</sup> Annual UMCA Agroforestry Symposium**

*January 31, 2019 | 8:30am - 6:00pm | Bond Life Sciences Building, MU Campus, Columbia, MO*

If you're interested The 2019 Agroforestry Symposium, "Innovation to Entrepreneurship: Fostering a Culture of Research Translation" will feature keynote speakers Dr. Kelly Saxton, Associate Vice President for Research, Technology Transfer and Innovation Partnerships at University of Michigan, and Dr. Rodolphe Barrangou, Associate Professor at North Carolina State University. This event is open to the public, but advance registration is requested. Register at [goo.gl/iywnii](http://goo.gl/iywnii)



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