



PennState

**AGRICULTURAL AND
BIOLOGICAL ENGINEERING**

Spring 2018 Seminar Series

"Impacts of Vegetative Buffers and Winter Crops on Water Quality and Profitability of Small to Midsize Farms in Pennsylvania"

Presented by Kyra Sciaudone, BRS M.S. Graduate Assistant

Fulton et al. 2015 describes reducing the cost of cellulosic biofuels, and thus biomass, as being critical for a low carbon energy future to be achieved. The purpose of this research was to contribute to the state of knowledge on energy crop feedstocks that will eventually be used for this purpose, considering economic and environmental factors. This research provides an analysis of alternative feedstocks including winter rye, switchgrass, and willow on farms within the Mahantango Creek Watershed in Pennsylvania. This analysis can help develop a more complete picture of the tradeoffs between water quality and farm income when energy crops are integrated into agricultural landscapes.

"Geospatial Landscape Analysis for Livestock Manure Management in Western Pennsylvania"

Presented by Gourab Kumer Saha, ABE M.S. Graduate Assistant

Development of a regional-scale decision-support framework is essential for sustainable manure management and reducing excessive nutrient loading in Pennsylvania (PA). As Western PA has more nutrient deficient lands compared to Eastern PA, the state wants to explore the opportunities of developing new animal agriculture there. The goal of this study is to conduct geospatial analysis and develop tools for sustainable manure management in Western PA. The objectives aimed to develop a framework for identifying environmentally feasible areas for manure utilization in Western PA, develop tools to delineate a manureshed (area needed to accommodate manure from a specific livestock operation, and quantify the improvement in soil health, land productivity, and stream water quality following the manureshed delineation.

Wednesday, April 4, 2018

12:00-1:00 PM

304 FOREST RESOURCES LAB