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U.S. Department of
Transportation



Project Title: **Testing and Breeding of New Switchgrass Cultivars for Increased Biomass Production in Oklahoma, Arkansas, Texas and Kansas**

DR. YANQI WU

Rationale

Switchgrass has substantial potential to provide lignocellulosic feedstocks for conversion to biofuels. It is essential to develop new cultivars (synthetics and hybrids) with improved biomass yield by breeding and selection. Numerous investigations have indicated significant cultivar by location interactions for biomass yield in switchgrass. Multiple environment (location and year) evaluation of new cultivars is warranted.

Project Goal

To continue the established switchgrass regional trails of the OSU switchgrass breeding program.

Objectives

1. Continue five established field trials in the south-central United States.
2. Continue a switchgrass cultivar testing network across a precipitation gradient from eastern Arkansas to western Oklahoma and across a temperature gradient from Central Texas to northern Kansas.
3. Develop inbreds by selfing selected plants

Expected Outcomes

- a) Two breeding populations advanced from generation C3 to C4, and one from C0 to C1, respectively in 2014
- b) 10 SL-NL inbreeding and crosses made in 2011
- c) Data on persistence and biomass yield of new synthetics and major commercial cultivars at eight locations in 2011-13



PI: Dr. Yanqi Wu
Oklahoma State University
Plant and Soil Sciences

Co-PI: Dr. Charles West
University of Arkansas
Crop, Soil, & Envi. Sciences

Co-PI: Dr. Gopal Kakani
Oklahoma State University
Plant and Soil Sciences

Co-PI: Dr. Vara Prasad
Kansas State University
Agronomy

Co-PI: Dr. James Muir
Texas A&M University
Stephenville Agricultural Experiment Station

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