

USDA, NRCS
PLANT MATERIALS
PROGRAM

POINTS
OF
INTEREST

- Switchgrass used as Bio-Fuels
- Agro-forestry Study

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Switchgrass Used as Biofuel?

Switchgrass may one day help ease the heartburn that the American motorist have been experiencing every time they go to the gas pump to fill up. The ability to use energy crops produced on America farms as a source of renewable fuels is a concept with great relevance to current economic and environmental issues. In the near future, switchgrass may provide an answer to this problem.

Development of a substantial capacity to use perennial crops and forage crops such as switchgrass for biofuels could benefit our agricultural economy by providing an important new source of income for farmers. Biofuel production from perennial cropping systems would help reduce loss of agricultural soils, reduce our dependence on imported oil supplies, and lower



greenhouse gas emissions and other toxic material in the atmosphere.

American produced ethanol may help reduce imports of oil by 1.5 billion barrels a year. Corn which has been used to produce ethanol must first be converted to sugar and the sugar is fermented into alcohol for marketing as ethanol. Cellulose material, which can be produced directly from switchgrass, may be directly converted into ethanol and this requires less energy to produce.

The Booneville Plant Materials Center (PMC) initiated a study using three cultivars of switchgrass, irrigation, and

fertility rates to determine the optimum combination of these three variables to maximize the production of switchgrass.

This study will be beneficial from the standpoint of answering some questions relative to the production and harvesting of switchgrass. Historically, switchgrass has been produced for the leaf portion of the plant which contains the higher nutritive quality. Switchgrass production for ethanol focuses on cellulose and fiber production. This study will also provide an opportunity for tours and demonstrations in the near future.

If you would like to have additional information, please call the Booneville Plant Materials Center at 479-675-5182.

Mission Statement of NRCS

The mission of the Natural Resources Conservation (NRCS) Plant Materials Program (PM) is to develop, test, and transfer effective state-of-the-art plant science technology to meet customer and resource needs. NRCS PM activities are consistent with the objectives of the current United States Department of Agriculture (USDA) and NRCS Strategic Plans (Exhibit 539-1), namely to provide timely and effective vegetative solutions for identified resource needs.

PMC Agroforestry Study

The Booneville Plant Materials Center has initiated a new study to examine the possibility of growing native warm-season grasses in an alley cropping practice association with pine trees. Alley cropping is defined as the planting of trees at wide spacing which creates alleyways in which agricultural crops may be produced.

Alley cropping is an agroforestry practice which places trees within agricultural cropland systems. The purpose is to enhance or aid in income diversity both in the short and long range. For landowners who wish to add economic stability to their farming income, this practice is especially attractive. It protects the soil from erosion, water from contamination, and improves wildlife.



The pine trees are planted in four different row spacings (distance between each row) which are called treatments. The distance between the trees within the rows is similar. Each treatment or row spacing has approximately the same number of trees on a per acre basis.

Native warm-season grasses, such as big bluestem, Indiangrass, switchgrass, and eastern gamagrass are planted between the rows. Data on tree growth, forage dry-matter production and quality will be evaluated.



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