

From Grass To Gas: Growing Switchgrass For Energy In The Northeast

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Switchgrass has received much attention as a model perennial energy crop for the U.S. The use of native warm-season forage grasses as an energy crop may provide a cropping alternative for farmers. Attributes of switchgrass desirable for bioenergy cropping include its demonstrated high productivity across many environments, suitability for marginal land, relatively low water and nutrient requirements, and positive environmental benefits.

Currently, the costs of producing energy from switchgrass and other biomass feedstocks exceed the cost of fossil-fuel derived energy. However, the potential environmental benefits of bioenergy may offset the higher costs.

Environmental benefits include increased soil quality, soil carbon sequestration, reduced losses of soil nutrients, protecting riparian zones and surface water quality, recycling nutrients from sewage sludge and livestock manure, and increased wildlife habitat value. By using biomass-derived fuels instead of fossil fuels, there is a potential for sequestering significant amounts of carbon in the soil. Several studies have reported increases in soil organic carbon under switchgrass grown

as a biomass feedstock in the U.S.

Switchgrass can be integrated into cropping systems and could be used either as biomass feedstock or as forage for livestock. Producers knowledgeable of forage management could readily adapt these practices to switchgrass in bioenergy cropping. Forage producers already have the machinery, technology, and infrastructure in place to establish, manage, harvest, store, and transport the crop. The principal constraints to switchgrass production in the northeast are reliable and economic establishment techniques and efficient use of external nitrogen inputs. Another issue is the potential use of Conservation Reserve Program (CRP) lands as a source of biomass feedstock. In fall 2002 we began a survey of CRP and other grasslands in the northeast as part of a resource inventory.

Our research unit is conducting a research program on biomass energy production as part of an overall national effort by the USDA-Agricultural Research Service. Specifically, our research unit focuses on determining the biomass production potential of perennial grasses (for example, switchgrass), evaluating alternative cropping systems for biomass production, and evaluating the economic and environmental effects of these cropping systems. This research is primarily field-

Senate Backs Conservation Security Program

WASHINGTON, D.C. — Leaders of the full U.S. Senate and Senate Agriculture Committee agreed in February to restore full funding to the new Conservation Security Program (CSP), which was slashed by nearly one-half during final negotiations for the 2003 federal budget, to offset \$3.1 billion in weather-related crop and livestock losses over the last two years.

Senate leaders reportedly pledged that the funding cuts will not affect the program during the current farm bill,

due to expire in 2008, and they will use the "first appropriate vehicle" available to restore full funding as set forth in the 2002 Farm Bill.

The CSP would reward farmers and ranchers who practice land, water, and wildlife stewardship as part of their ongoing work, with "green payments" of up to \$50,000 per year (Reuters, Feb. 14, www.planetark.org). Full funding, estimated at \$7.7 billion through 2012,

would pay for all producers with approved conservation plans who want to participate in the program; currently, without additional funding from Congress, the program is capped at \$3.8 billion.

Opponents of the program cuts said that raiding mandatory farm bill programs to pay for natural disasters sets a poor precedent, especially since conservation initiatives like CSP may help to lessen the effects of drought and flooding.

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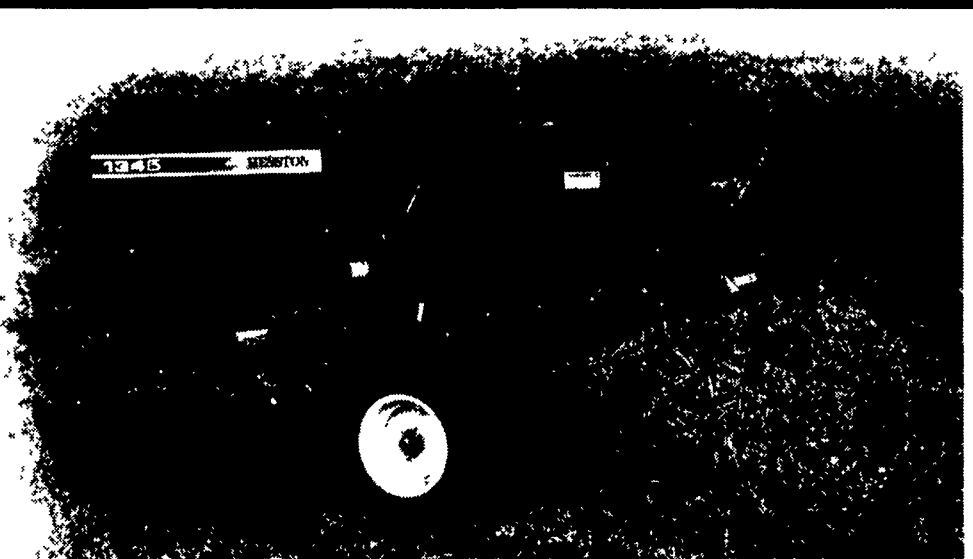
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based and will include an on-farm research component. We have established large-scale plots on a cooperating farm in Westmoreland County on which we will be investigating how seasonal harvest time and frequency affect both switchgrass biomass yield and quality as a biofuel and how these management practices affect its value as wildlife habitat. We will also measure soil carbon changes and atmospheric carbon exchange.

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