

Biomass Conservation Reserve Pilot Program Analysis

Purpose: The Conservation Reserve Program is the largest environmental program (in terms of land area) in the US. While providing significant environmental benefits (reduced erosion and chemical runoff, wildlife habitat, etc.) removing over 30 million acres of cropland from production has resulted in some negative local economic impacts and is costly to the government. These factors have raised the possibility of being able to harvest and sell material produced on CRP acres, thus decreasing some of the program costs while maintaining farm income and providing for more rural economic development. With this perspective, USDA and DOE evaluated the potential of using CRP acres to produce bioenergy crops for energy use. Bioenergy crops (switchgrass, hybrid poplar, and willow) are eligible for production on CRP acres, but cannot currently be harvested and sold.

Approach: The POLYSYS model discussed in the Bioenergy Crop Analysis was used to conduct this analysis. DOE and USDA developed two management practices to be used for bioenergy crop production on CRP acres—one to enhance wildlife habitat (wildlife management scenario) and one to produce high biomass yields while still maintaining erosion and chemical runoff benefits (production management scenario). CRP acres deemed most environmentally sensitive (i.e., riparian buffer strips, wetlands, critical habitat acres, critical watershed acres, etc.) were excluded from the analysis. These and other geographic concerns resulted in 16.9 million of the 29.8 million acres enrolled in the CRP at the time of the analysis being considered as suitable for bioenergy crop production. Farmers forfeited 25% of their existing rental payments in exchange for the right to harvest and sell bioenergy crops.

Results: The analysis estimates that on CRP acres under the wildlife management scenario and a bioenergy price of \$30/dt, 8.2 million acres of energy crops (1.1 million in switchgrass and 7.1 million in hybrid poplar with a production level of 34 million dry tons) could be harvested and sold at a profit greater than current rental rates received, thus increasing farmer income while reducing

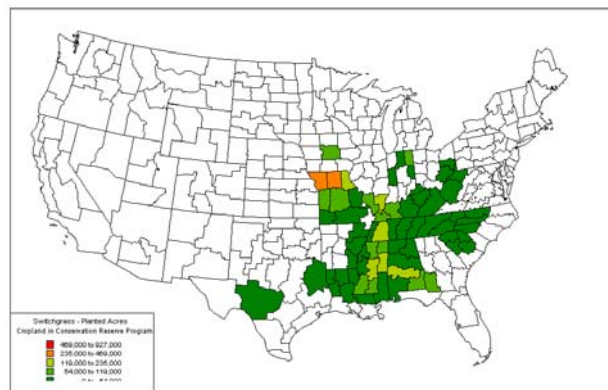


Figure 1: CRP Acres (Production Management Scenario-\$30/dt)

government costs (Figure 1). At a price of \$40/dt and assuming the production management scenario, approximately 12.9 million acres of bioenergy crops could be produced yielding about 55 million tons of production and government cost savings of \$129 million annually (Figure 2).

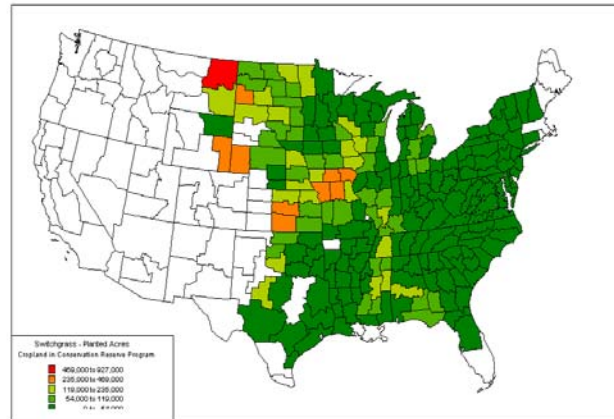


Figure 2: CRP Acres (Production Management Scenario-\$40/dt)

Conclusions:

- ◆ Modification of the existing CRP program to allow production and harvest of bioenergy crops for energy use can provide substantial quantities of biomass, maintain CRP environmental benefits, increase farm income, and decrease government costs.
- ◆ The analysis was used by US Congress to pass a pilot program on CRP acres to allow harvest and sale of bioenergy crops for energy use (PL 106-78, Section 769). The pilot program is based on the wildlife management scenario used in the analysis.
- ◆ USDA Farm Service Agency is administering the CRP pilot program. Information about the pilot program can be found at: <http://www.fsa.usda.gov/pas/publications/facts/html/biomass00/htm>.
- ◆ Energy crops are the most widely dispersed biomass feedstock providing opportunities for use in much of the US.