



The
MINNESOTA
PROJECT

SUSTAINABLE AGRICULTURE COALITION

Promoting Sustainable Cellulosic Bioenergy Crops With the Conservation Security Program

2002 Farm Bill – The Conservation Security Program (CSP) as created in the 2002 farm bill provides an excellent foundation as the “go-to” program to help farmers and ranchers establish new cropping systems for sustainable cellulosic feedstocks for ethanol, biodiesel and biomass energy systems. CSP is a working lands conservation program in which farmers who meet conservation standards can sign 5-10 year contracts to receive technical assistance and financial incentives that encourage even higher conservation performance. CSP rewards solutions to resource concerns on the entire farm – all in the context of producing products for the market.

A New CSP is Coming – After its first three years of implementation, CSP is ensuring excellent conservation on some 16 million acres of farm and ranchland. However, past Congressional funding restrictions have led USDA to limit CSP implementation to farmers in about 15% of the nation’s watersheds. Limited funding has also led to program restrictions, reduced payments, and unpredictable sign-up periods. Efforts are underway to ensure that in next farm bill CSP will be open to all farmers in a predictable manner, and be made more simplified and transparent, with sufficient funding.

CSP Already Addresses Energy – CSP is a comprehensive conservation program that already includes energy as one of its primary goals. Enhancements are now offered for on-farm energy conservation, on-farm use of biofuels, as well as production of renewable electricity from wind, solar, hydro, geothermal, or methane. New enhancements related to establishing and managing perennial cellulosic biofuels should be added.

Cellulosic Crops – CSP is designed to reward multiple conservation benefits, and could add provisions to encourage soil conserving perennial energy crops, in systems that might include mixed grass and other species, woody vegetation, or forage also suitable for haying and grazing. Incentives to maximize wildlife habitat, carbon sequestration, water quality, and other environmental benefits can be integrated within a CSP contract.

Current CSP Rewards – The CSP program has already built in payments that would reward the inherent environmental benefits of perennial cellulosic crops. Such crops would improve soil quality and carbon sequestration, as reflected in the Soil Conditioning Index which is used to gauge the health of farmland. The index estimates the organic matter or soil carbon of a field, and is a basis for CSP eligibility as well as factor in enhanced payments for extra performance. The crops could be managed in ways to earn wildlife enhancement payments, such as for delayed mowing to protect nesting birds. Corn and soybean production, whether for ethanol or biodiesel or not, can also reach improved conservation performance in CSP, with incentives for conservation tillage, nutrient management, integrated pest management, limited residue removal, resource-conserving crop rotation, and other desirable environmental practices and outcomes.

Biomass energy crops might be included in farming systems such as long term crop rotations, cover crops, and other conservation practices already related to perennial grass pastures and grazing. The energy crops could be located such that streams and wetlands would be buffered for cleaner runoff. In addition, CSP can compensate farmers for participating in research, demonstration and pilot projects. It can reward farmers who help in assessment and evaluation of the conservation performance of energy crop systems. It is critical that farmers and scientists work together to learn the best species, planting methods, management, and harvesting methods for these new cellulosic feedstocks.

New CSP Rewards for Cellulosic Crops – Several provisions could be added to the statute, to regulations, or to implementation guidelines by the Natural Resources Conservation Service (NRCS):

- Create an enhancement payment for planting perennial species for cellulosic energy by assisting with establishment costs such as land preparation, seeding, management, and foregone income. Practices could include use of native species, diversified species, delayed forage harvest, and eliminated soil tillage. The highest payment should reward conversion of annual crop acres to perennial crops. Payments could be higher for the establishment period and lower when harvest begins. Alternatively, the Environmental Quality Incentives Program could share the seed and labor costs, while CSP rewards the long term conservation benefits.
- Reward farmers who participate in a regionally defined resource conservation plan tailored to meet the feedstock needs of demonstration cellulosic processing plants or energy facilities. This can build on the never-used CSP provision to reward high levels of farmer participation in watersheds by creating incentives for participation in a “cellulose-shed,” thus building up a critical mass of feedstocks around future ethanol facilities.
- Define habitat requirements for cellulosic crop enhancements regionally or locally. Water quality requirements should minimize impacts of fertilizers and pesticides. Carbon sequestration should be maximized by requiring use of perennials, thereby eliminating tillage and encouraging deep roots.
- Reward farmers who participate in research and demonstrations of cellulosic crops. Participation with scientists, extension, or nonprofits would result in maximizing learning and sharing of findings.
- Create an enhancement for actual cellulosic energy production from perennial cellulose, whether burned, gassified, or fermented. This could be modeled on the current CSP reward paid per 100 kilowatt hours of renewable electricity produced by farmers. This would reward those who make it all the way to marketing their cellulose for energy, a big challenge in the first couple of years but needed to encourage faster introduction of cellulose into the market.
- Because of the dangers of depleting soils due to overly aggressive removal, it is recommended that CSP not reward harvest of annual crop residues, such as corn stover or wheat straw, for cellulosic ethanol.

Interaction with the Conservation Reserve Program – If land is already coming out of CRP due to landowner choice, a low environmental benefits index, or low rental rates, the landowner should get an automatic opportunity to enroll in CSP if they keep the land in perennial cover, including cellulosic energy crops. This could include the option of replanting to better energy seed mixes for cellulosic purposes, while retaining or improving high wildlife values.

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