Current projections show that 100 to 200 million dry tons of cellulosic feedstocks derived mainly from corn stover and other agricultural residues could be sustainably harvested each year and used for advanced biofuel production. The challenge is to develop and implement appropriate soil and crop management guidelines and policies that protect both soil and atmospheric resources.

“Farmers recognize soil organic matter as the lifeblood of their resource and a valuable indicator of productivity and profitability,” says Ron Alverson, a South Dakota producer and proponent of biofuels. “They also know that low-carbon-intensity markets have the potential to provide multiple incentives to improve productivity and reduce atmospheric CO$_2$ provided that [greenhouse gas] models properly account for all aspects of the production system.”

To be sustainable, the agronomic production practices developed to support a 21st century bioeconomy must be economically viable, environmentally friendly, and socially acceptable. Members of ASA, CSSA, and SSSA are well poised to help society meets those multiple demands because they understand the importance of maintaining soil resources for future production as well as the knowledge, skills, and ability to protect or enhance soil organic carbon, which is a critical component for building resilience to natural and accelerated perturbations such as drought, erosion, and a changing climate. Advanced biofuels and other bio-products will require harvest and removal of crop residues and perennial biomass, but if soil and crop management practices are not sustainable, potential changes in soil organic carbon from their removal could easily negate projected carbon intensity (CI) benefits of advanced biofuels.

The CI of advanced biofuels, which is a critical component for determining their overall sustainability, is calculated using life-cycle analysis (LCA). Currently, LCA is required by both the federal Renewable Fuel Standard (RFS2) and the California Air Resource Board (CARB) Low Carbon Fuel Standard (LCFS) to determine the CI of various biofuels as well as transportation fuels based on fossil energy. Life-cycle analysis estimates the energy and environmental effect of producing, transporting, and converting cellulosic feedstocks into advanced biofuels. Although there has been significant work conducted in terms of crop residue removal impacts on soil organic carbon through field-based studies, soil carbon modelling, and LCA, there are still research gaps that need to be addressed.

For more information about the meeting, please visit www.agronomy.org/meetings/crop-residues


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‘Crop Residues for Advanced Biofuels’ Workshop to Be Held this Summer in Sacramento

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Capitalizing on the Collective Knowledge of Society Members

To meet these needs and provide Society Members an opportunity to help influence important policy decisions, a workshop titled, “Crop Residues for Advanced Biofuels” will be held in Sacramento, CA, Aug. 15–17, 2017. The workshop will bring together agronomists, soil scientists, modeling experts, industry representatives, producers, and regulators to discuss the latest knowledge and understanding regarding crop residue management and LCA research. The ultimate goal for this workshop is to “capitalize on the collective scientific knowledge of members of ASA, CSSA, and SSSA in order...”