Elements of a Credible Accounting System for Sequestering Carbon in Soil. (S05-west144641-Oral)

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Abstract:

A number of techniques can be used to measure or estimate changes in soil organic carbon (SOC) that may accompany a change in land management. In agricultural systems, changes in SOC can also occur from inter-annual changes in weather and from short-term changes in agricultural management that become necessary to maintain crop yields. Any commitments to sequester carbon as a climate mitigation strategy are likely to include obligations for transaction costs, the risk of not sequestering the intended amount of carbon, and the risk of emitting existing or accumulated carbon. Hence, commitments are likely to have a time dimension and require an accounting approach that balances both scientific integrity and economic incentives for carbon sequestration. Review of empirical relationships in the U.S. among land-use change, agricultural practices, and changes in SOC suggests a number of best management practices (BMPs) for sequestering carbon in agricultural soils. Techniques for measuring, monitoring, and accounting are assessed for their ability to accurately estimate changes in SOC that occur from both the implementation or abandonment of BMPs and for their ability to address critical issues in carbon accounting.

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