Stability and vulnerability of organic carbon in diverse agroecosystems and management options: Programs, outcomes and opportunities at USDA/NIFA

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In the last several years, the topics of climate change and greenhouse gases and carbon cycle have gone in and out of vogue in terms of high priorities for research in the US government but the importance of understanding organic carbon dynamics continues due to its strong relevance to climate, nutrient efficiency, water availability and resilience of agroecosystems to extreme events of both drought and excess water. Lately, soil health is an important initiative within USDA and NIFA in particular, and related to that is the increasing understanding of the importance of understanding how microbial communities function and their role in carbon balance as well as greenhouse gas emissions from soils in order to influence through management, assess, and predict and via models, the processes controlling carbon dynamics. Current and recent solicitations for research grant proposals from NIFA both via single agency (NIFA) and interagency and even international programs have led to important new findings. Some of these and new opportunities, reports, and recent advancement will be described in this presentation.