Science Societies

Federal lawmakers focus in on climate-smart agriculture

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Climate-smart agriculture refers to practices that will reduce greenhouse gas emissions and/or sequester soil carbon. The color difference between the two soils is due to no-till adoption on the right, which resulted the the capture of more carbon. Photo by Vitor Rampazzo Favoretto.

Mitigating climate change has been a clear priority for President Biden's administration since he was sworn into office. In early 2021, the USDA put out a call for feedback on climate-smart agriculture and forestry programs and policies that could be supported by the agency. Thus far, in 2022, USDA has announced increased funding and program expansion for conservation programs (e.g., CRP, EQIP, and RCPP)[1]and recently launched the Partnerships for Climate-Smart Commodities funding opportunity. Despite some criticism from Congress regarding USDA's authority to tackle climate change, the agency is sending a clear message that it is serious about reducing greenhouse gas emissions in agriculture and compensating producers for their efforts.

Climate-smart agriculture refers to practices that will reduce greenhouse gas (CO_2, CH_4, and N_2O) emissions and/or sequester soil carbon. While other practices, such as those focused on soil health, regenerative agriculture, or circular agriculture, result in similar outcomes, climate-smart practices uniquely focus on how the agriculture and food supply chain can reduce their carbon footprint and, in turn, mitigate climate change. Climate-smart practices are not targeted to increase resiliency and allow agriculture production to adapt to the impacts of changing climate conditions but rather focus on positioning agriculture to be part of global climate change solutions.

Science-Based Solutions

During the announcement for the Partnerships for Climate-Smart Commodities program, Agriculture Secretary Tom Vilsack highlighted the need for science-based solutions. “We’ve been working hard at USDA to create tools [for farmers], based on the latest science, peer-reviewed science” Vilsack said. He cited better forest management, biofuels, and expanding conservation programs as pillars to addressing climate change in addition to making farming more profitable by compensating for climate-smart practices. Based on feedback from commodity groups, agri-businesses, producers, and policymakers, USDA will use the Climate-Smart Commodities program to support large-scale pilot demonstrations across the country to measure practice outcomes that will facilitate a private market for climate-smart commodities.

ASA, CSSA, and SSSA members and certified professionals (CCAs and CPSS’s) will be critical leaders and technical advisers as climate-smart agriculture efforts evolve. The private sector is clamoring for science-backed practices and products that facilitate the sequestration of carbon in soil and other ecosystem services. Researchers have found a great number of practices and products that show promise, but too many of these are effective only at a local or regional level. For new ideas that show promise,

USDA can facilitate the collaborations and investments necessary to form networked research programs that study a variety of locally appropriate cropping systems, such as agroforestry, and soil amendments, such as locally produced biochar, for carbon storage, water filtration, reduced erosion, and other ecosystem services.

Rapid, Continuous Communication

As new practices or products are identified by these projects, there needs to be rapid and continuous communication of new information and practices to the research community, which can verify data and legitimize practices. But the communication must not stop there—it's also important to include those who can bring technical assistance directly to producers. USDA should provide ongoing opportunities for researchers to collaborate with NRCS, extension, ag retailers, and professional agronomists, such as CCAs, to establish regional standards, metrics, and testing protocols for climate-smart agricultural practices and their effects.

The ASA, CSSA, and SSSA Science Policy Office has provided feedback to USDA and Congress through every step of their efforts in climate-smart agriculture and forestry and will continue to share updates with Society members moving forward. To learn more about the Partnership for Climate-Smart Commodities program and other engagement opportunities on climate-smart agriculture, visit **www.soils.org/issues/climate_smart_agriculture**.

Carbon and Ecosystem Services Education Initiative

The Societies are launching a brand-new educational platform about carbon and ecosystem service markets. This science-based, impartial educational platform will provide producers, conservationists, CCAs, and CPSS's with bite-sized,

multimedia educational materials. By closing the knowledge gap with science-based insights, ASA, CSSA, and SSSA can help growers make better decisions and accelerate climate-smart agriculture. Keep your eyes peeled for more information before the official launch in the summer of 2022!

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