May 6, 2022

The Honorable Tammy Baldwin, Chair
Senate Appropriations Subcommittee on Agriculture
709 Hart Senate Office Building
Washington, DC 20510

The Honorable John Hoeven, Ranking Member
Senate Appropriations Subcommittee on Agriculture
338 Russell Senate Office Building
Washington, DC 20510

The Honorable Sanford Bishop, Chair
House Appropriations Subcommittee on Agriculture
2407 Rayburn House Office Building
Washington, DC 20515

The Honorable Andy Harris, Acting Ranking Member
House Appropriations Subcommittee on Agriculture
2334 Rayburn House Office Building United States
Washington, DC 20515

Dear Chair Baldwin, Ranking Member Hoeven, Chair Bishop, and Acting Ranking Member Harris,

The organizations and companies listed below appreciate the House and Senate Appropriations Committees' support for soil carbon sequestration and soil health in FY2022 and strongly recommend the Committees build on this work by increasing funding for key research on soil carbon sequestration. While there is significant interest in harnessing agriculture as a climate solution, additional soil carbon research and development is needed to reinforce and expand its benefits for farmers and ranchers, rural communities, and the climate.

By harnessing new technologies and embracing practices that increase soil carbon storage, US farmlands have the capacity to become a potent tool for addressing the excess CO_2 emissions in our atmosphere. Agricultural soils in the US are capable of storing an amount of CO_2 equivalent to 13% of our national emissions — helping to not only prevent the worst effects of climate change but also enhance soil health and bolster agricultural resilience. With more than 915 million active acres of farmland, soil carbon has the potential to be one of most rapidly deployable solutions at our disposal.

Despite this massive opportunity, there remains significant scientific uncertainty around the efficacy of agricultural practices that store carbon in soils and how to optimally store carbon across different geographies and types of operations. The most acute unknown when it comes to soil carbon storage is accurate measurement. Accurately measuring soil carbon today is arduous, costly, and labor intensive, and for regular and precise soil carbon measurement, farmers and ranchers require innovations that can be implemented with ease. In order to work, these innovations rely on a lot more data than is currently available. Tactical federal investments in improved monitoring, reporting, and verification (MRV) technology and data collection and management can remove these barriers, unlock new solutions, and help deliver the climate and on-farm benefits of soil carbon sequestration.

Many companies, including the ones below, are designing technologies to improve farmer resilience and bottom lines, but they rely on the government for foundational research, data collection, and extramural research grants. To support this important work, the National Academies of Sciences outlined recommendations to fill these research gaps in their report, *Negative Emissions Technologies and Reliable Sequestration: A Research Agenda.* With these recommendations in mind, alongside experts with academic, policy, and industry stakeholders, we make the following recommendations for appropriations in FY2023.

The US Department of Agriculture (USDA) Agricultural Research Service (ARS) should receive $25,000,000 for salaries and expenses for the Long-Term Agrosystem Research (LTAR) Network, including

- $10,000,000 for long-term coordinated research on soil carbon dynamics to understand soil carbon fluxes across time and depths and the relationship between soil carbon increases and factors such as management practices, climate, and soil type;
- $10,000,000 to hire a dedicated data management team to coordinate soil carbon data collection and management efforts across all LTAR sites; and
- $5,000,000 to audit existing soil carbon sampling protocols and develop best practices for future sampling by USDA and other agencies.

Available funds should be evenly distributed across the 18 sites in the LTAR Network.

USDA Climate Hubs should receive $15,000,000, including

- $5,000,000 for synthesis and translation of soil carbon dynamics research in coordination with the LTAR Network;
- $6,000,000 for development, testing, and deployment of region-specific best practices for soil carbon storage in range- and cropland systems; and
- $4,000,000 to summarize and translate advancements in soil carbon measurement tools, technologies, and techniques to farmers and ranchers.

Available funds should be evenly distributed across the 10 Climate Hubs.

USDA NIFA Agriculture and Food Research Initiative (AFRI) should receive $20,000,000 for development and commercialization of soil carbon measurement tools and technologies.

USDA NIFA Sustainable Agriculture Research and Education (SARE) program should receive $60,000,000, including

- $2,000,000 for soil carbon dynamics research on topics including soil carbon chemistry, plant-microbe interactions, soil carbon dynamics across soil depths, and microbial soil carbon transformation and stabilization;
- $2,000,000 for development, testing, and deployment of region-specific best practices for increased soil carbon storage in range- and cropland systems; and
- $12,000,000 for on-farm soil carbon demonstration trials accompanied by robust MRV.

USDA Conservation Technical Assistance (CTA) should receive $5,000,000 for assessment, field testing, and verification of the effectiveness of soil carbon measurements tools in real agricultural contexts.

Funding for these programs can unlock agriculture's climate-mitigating potential and spur new economic opportunities for farmers. We appreciate your consideration of these requests and are available to discuss them in greater depth.

Sincerely,