The Biochar Research Network Act (S.2450/ H.R.4764)
DATE: 7/25/25

What:

Biochar is a stable and carbon-rich material with promising economic and environmental potential. Biochar research is performed in the U.S. at research institutions including Iowa State University, Cornell University, and the Pacific Northwest National Laboratory. Currently, biochar application is not a common practice used on farms because of the lack of information on how biochar is produced, the types of biochar available to farmers, and how biochar benefits crops under diverse soil types. Science-based, region-specific, and cost-effective information on biochar production and application is needed to help producers, land managers, and businesses make decisions with maximal impact on increased productivity and emissions reduction.

The National Biochar Research Network Act supports research for enhanced biochar production and application for crop productivity and emissions reduction by:

- Establishing a national biochar research network of not more than 20 research sites or facilities.
- Incorporating the following innovations into the research network:
    - Impact of types of biochar on carbon sequestration, emissions reduction, plant growth, and soil health when applied to different soils and conditions.
    - Process efficiencies of producing biochar and co-products like biofuels.
- Generate data to refine how biochar can be used in specific regions and how it is produced from different feedstocks.

Why it matters:

Biochar is a carbon-stable material produced by pyrolysis, which heats up biomass in the absence of oxygen. The resulting biochar is able to store carbon for hundreds to thousands of years. Many sources of biomass can be used for biochar production, including bioenergy crops like switchgrass, forest residue inadequate for timber production, and agricultural waste, like corn stover. Biomass is added to a pyrolysis reactor, which heats it up to high temperatures (400-1000°C) without oxygen, to produce biochar, bio-oil, and syngas. Biochar can be added to agricultural working lands by sprinkling it on top of the soil or mixed with fertilizer before applying it to soil. Biochar can increase the ability of soil to take in carbon, reduce nitrous oxide emissions, increase crop yields, and improve soil health. The Biochar Research Network Act

establishes a research network across the U.S. to understand the impact of various types of biochar, across soil types, application methods, and geological regions, to reduce costs and increase yields for farmers and reduce emissions. The research will prioritize understanding biochar's impact on soil carbon sequestration, crop production, and resilience to extreme weather events.

WHAT'S NEXT:

To meet global emissions reduction goals, the U.S. must find ways to develop and deploy innovative agricultural technology. The Biochar Research Network Act supports American innovation, ensuring farmers have access to tools that enhance productivity, minimize input costs all while reducing emissions

ORIGINAL SPONSOR:

S.2450
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Sen. Heinrich (D-NM)

H.R. 4764
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