NCEL Fact Sheet

NATURE-BASED CLIMATE SOLUTIONS: SOIL



Overview

Agriculture has the potential to both mitigate and contribute to climate change. Agriculture contributes 10% of U.S. emissions, particularly from nitrous oxide. At the same time, good land use practices currently absorb 12% of our emissions. By improving agricultural practices, we can reduce existing emissions and enhance our soil's ability to sequester carbon. Healthy soils practices can reduce emissions from poor soil management. States are increasingly finding ways to support farmers as they improve soil health.

Legislation

- Massachusetts' H 5250 (sections 4-8, 13, 73) directs a state-wide accounting of carbon in natural and working lands. It also sets goals for land-use carbon sequestration and the development of accompanying policies.
- Minnesota's HF 701 would provide direct payments to farmers
 who implement soil-healthy practices, prioritizing awards based on
 scientific understanding of carbon sequestration potential. The bill
 includes equity provisions to prioritize socially disadvantaged, small-,
 and mid-sized farmers.
- New York's A 2042/S 4707 follows up on a pilot program. The legislation would establish a tax credit for farmers who maximize carbon sequestration potential through a carbon farming land management strategy.
- Washington's SB 5947 created a grant program for farmers who
 engage in healthy soil practices, including carbon sequestration. The
 law directs the development of a carbon equivalency metric through
 partnership with state public universities.

KEY POINTS

- → Tilling and soil disruption emits greenhouse gases, as does overuse of fertilizers. Healthy soils have naturally diverse microbiomes, which act as <u>carbon fixers</u>. Soil management can thus increase or decrease emissions.
- The <u>same agricultural practices</u> which promote healthy soils have the potential to sequester carbon. These include managed grazing, perennial cropping, no-till farming, cover cropping, silvopasture, and compost usage.
- → It is difficult to quantify how much carbon is sequestered in soil. Scientists differ on the potential of soil carbon sequestration to limit climate change. Legislators can address this issue by requiring a baseline assessment of soil carbon concentrations, including a clear accounting standard, and providing technical support to farmers.

Other Resources

- The <u>State Healthy Soil Policy Map</u> is a useful crowdsourced depository of policies
- Izaak Walton League report <u>State & Local Soil</u> <u>Health Strategies</u>
- Environmental Law Institute <u>article</u> Legal Pathways to Carbon-Neutral Agriculture
- The USDA's <u>COMET-Planner</u> evaluates the carbon sequestration potential of farming practices based on location

