HEALTHY SOILS, OUR COMMON WEALTH

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WHY IT MATTERS

Soil is a finite, living resource that underpins Virginia's environment, agriculture, and communities. Healthy soils regulate water, cycle nutrients, sequester carbon, and filter pollutants.[1] These functions of healthy soils increase landscape resilience by mitigating floods and droughts, improving water quality, increasing groundwater recharge, supporting biodiversity, and maintaining productive farms.

Across many working lands, soil organic matter and structure have declined due to extractive management. These changes negatively affect farm performance and environmental outcomes. Research shows that increasing soil organic matter by just 1% can enable soils to hold an additional 16,000–20,000 gallons of water per acre, significantly improving drought and flood resilience and water availability for crops.[2] Degraded soils can lose substantial rainfall to runoff that flows directly into surface waters carrying nutrients and sediment with it.[3] Strengthening soil health is therefore essential for improving how land captures, stores, and uses water under variable weather conditions.[4]

Practices that build soil health have demonstrated substantial, measurable benefits. **Cover crops** can increase water infiltration rates by anywhere from 5% to several hundred percent depending on conditions, while also reducing erosion by as much as 90% and cutting nitrogen and phosphorus losses to waterways by 30–50%. They contribute to increases of 4–114% in organic matter, an important measure of soil health. Improvements in soil structure and aggregation enhance water-holding capacity by 10–11% and increase resilience to drought and heavy rainfall.[5] These outcomes translate into more stable yields, reduced reliance on inputs, enhanced carbon storage, improved water quality, more efficient water management, and climate resilience.[6] Soil health is not simply a conservation practice—it is a proven strategy for sustaining farm productivity while reducing costly inputs, thereby improving economic viability.[7]

CURRENT LANDSCAPE

Virginia is already widely recognized as a leader in soil health practice adoption and collaboration. Using 2022 Census of Agriculture data, Virginia ranked among the top states nationally for adoption of key soil health practices: about 438,751 acres of cover crops were reported statewide, and over half of harvested cropland acres were managed with no-till or reduced tillage—one of the highest rates in the nation.[8] Adopting these regenerative practices that build soil health creates considerable economic benefits for farmers.[9]

That momentum reflects years of farmer innovation and strong partnership among agencies, universities, conservation districts, and nonprofits. Partners in Virginia have promoted soil health through common messaging around four principles—keep soil covered, minimize disturbance, maximize living roots, and energize with diversity—and expanded farmer-to-farmer learning, demonstrations, and technical support. The **Virginia Soil Health Coalition (VSHC)** has expanded soil health messaging across the state since 2013 and was formally commended in 2026 by the Virginia House of Delegates for strengthening agricultural productivity, water quality, climate resilience, and local economies.

Virginia has policy infrastructure that already delivers soil health as a co-benefit. The **Virginia Agricultural Cost-Share Program (VACS)** supports conservation planning and pays for practices including cover crops and no-till, rotational grazing, nutrient management, and stream exclusion, all of which build soil health. For Fiscal Year 2026, Virginia announced a record $223 million for soil and water conservation. In the Chesapeake Bay Phase III **Watershed Implementation Plan (WIP)** context, the Commonwealth has also emphasized expanded use of programs like the **Virginia Conservation Assistance Program (VCAP)** and improved coordination among agencies and partners. Still, current programs are primarily designed and justified through water quality outcomes, even though their benefits extend well beyond water.

OPPORTUNITIES

Virginia has an opportunity to build on this strong foundation by treating soil health as a distinct but integrated statewide priority. One practical step would be formal recognition of soil health in state policy—such as an official framing that acknowledges soil health's role in supporting farm viability and environmental quality. This would dovetail well with existing Chesapeake Bay-focused conservation efforts and emphasize that soil health complements those efforts and deserves coordinated attention in its own right.

A second opportunity is to strengthen and expand programs that farmers already use. Virginia can explore ways to incorporate clearer soil health objectives into VACS, such as support for whole-farm planning, incentives for more diverse cover crop systems, additional planning payments tied to conservation plans that address soil health, and broader recognition of grazing and cropping systems that improve

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soil health. Recognizing, measuring, and expanding the soil health benefits of the VACS program would highlight its availability and may allow more farmers to meet eligibility requirements for the program. Healthy soils grants piloted by VSHC and its partners have demonstrated significant interest from farmers in implementing soil health management systems.

Finally, Virginia can invest in the coordination and technical capacity needed to scale implementation of soil health building initiatives. The Phase III WIP identified the need for stronger coordination among agencies assisting farmers, and the Virginia Soil Health Coalition's strategic plan[10] points to shared needs around partner alignment, research, education, and implementation support. Virginia can consider small improvements such as reducing the fee for organic matter soil testing, alongside exploring a broader state healthy soils program similar to the **Maryland Healthy Soils Program**.[11]

TOP TAKEAWAYS

Farming practices that increase organic matter content and improve soil structure are essential for simultaneously sustaining farm economic viability and environmental quality.

Healthy soils improve water quality but also provide critical climate and economic benefits. Clarifying these links can improve policy alignment and program design.

Virginia should integrate soil health into existing tools like VACS and VCAP with full funding, and pursue a future state healthy soils initiative.

ENDNOTES

1. *Soil Health.* (n.d.). Natural Resources Conservation Service. www.nrcs.usda.gov/conservation-basics/soil/soil-health
2. Bryant, L. (2015) *Organic Matter Can Improve Your Soil's Water Holding Capacity.* NRDC. https://www.nrdc.org/bio/lara-bryant/organic-matter-can-improve-your-soils-water-holding-capacity
3. Gould, M.C. and Hensel, E. (2024) *Compost can increase the water holding capacity in droughty soils.* Michigan State University. https://www.canr.msu.edu/news/compost_increases_the_water_holding_capacity_of_droughty_soils
4. Bot, A. and Benites, J. (2005) *The Importance of Soil Organic Matter.* Food and Agriculture Organization of the United Nations. https://soilhealth.ucdavis.edu/application/files/2115/4222/0652/FAO_importance_of_SOM.pdf
5. Strong (2025) *How cover crops help maintain soil health and fertility.* Western Washington Agricultural Association. https://www.westag.org/cover-crops-soil-health-fertility/
6. *Cover Crops at Work: Increasing Soil Organic Matter.* (2026). Sustainable Agriculture Research and Education Outreach. https://www.sare.org/publications/cover-crops-ecosystem-services/cover-crops-at-work-increasing-soil-organic-matter/
7. Munna, N.H. and Lal R. (2025) Impacts of cover cropping and organic amendments on soil physical quality under temperate climate. *Cogent Food and Agriculture*, 11(1) 2467452. https://www.tandfonline.com/doi/pdf/10.1080/23311932.2025.2467452
8. *2022 Virginia Census of Agriculture* (2024, February). USDA NASS https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_State_Level/Virginia/vav1.pdf
9. *Soil Health Economics.* (2025, May). Natural Resources Conservation Service. https://www.nrcs.usda.gov/sites/default/files/2025-04/SoilHealthEconomics_TriFold_2025.pdf
10. *VSHC Collaborative Strategic Plan.* (n.d.). Virginia Soil Health Coalition. https://www.virginiasoilhealth.org/_files/ugd/79d740_d5f6e60490af4a51a83da615df7988ef.pdf
11. *Maryland's Healthy Soils Program.* (2025) Maryland Department of Agriculture. https://mda.maryland.gov/resource_conservation/pages/soil-health.aspx

Blue Grosbeak on Zinnia Flowers in Leesburg, VA
Photo by Melvin Bates