

# Unlock THE BENEFITS.

Farmers who manage their land in ways that improve and sustain soil health benefit from fewer inputs, sustainable outputs, and increased resiliency. Healthy soils benefit all producers – from large, row-crop operations to small, organic vegetable farms.

## Healthy soils lead to:

- **INCREASED PRODUCTION** – organic matter increases and soil organisms flourish, both of which improve soil structure, aeration, water retention, drainage and nutrient availability.
- **INCREASED PROFITS** – tillage reduction or elimination means fewer passes over fields, and healthy soils rely less on fertilizers and pesticides.
- **NATURAL RESOURCE PROTECTION** – healthy soils hold more water for use by plants. The soil's water-holding capacity reduces runoff that can cause flooding and increases the availability of water to plants during droughts. By holding more water, nutrients, and pesticides, healthy soils reduce nutrient and pesticide losses to lakes, rivers, and streams. Groundwater is also protected because there can be less leaching from healthy soils. Additionally, fewer trips across fields with farm machinery mean fewer emissions and better air quality.



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Originally established by Congress in 1935 as the Soil Conservation Service (SCS), NRCS today has become a conservation leader for all natural resources, ensuring private lands are conserved, restored, and more resilient to environmental challenges, like climate change. Seventy percent of the land in the contiguous United States is privately owned, making stewardship by private landowners absolutely critical to the health of our Nation's environment. NRCS works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems.



# unlock your farm's potential



# Unlock THE BASICS.

Healthy, fully functioning soil provides an environment that sustains and nourishes plants, soil microbes and beneficial insects. Managing for soil health is one of the easiest and most effective ways for farmers to increase crop productivity and profitability while improving the environment. Positive results are often realized immediately and last well into the future.

Soil is made up of air, water, decayed plant residue, organic matter from living and dead organisms, and mineral matter, such as sand, silt, and clay. Increasing soil organic matter typically improves soil health since organic matter affects several critical soil functions, including nutrient cycling and water-holding capacity. Healthy soils are porous and allow air and water to move freely through them.

## Here's how to improve soil health:

- Disturb the soil as little as possible,
- Grow many different species of plants through rotations and a diverse mixture of cover crops,
- Plant cover crops around harvest to keep living roots growing in the soil for as much of the year as possible, and
- Keep the soil surface covered with residue year round.



### SOIL HEALTH MANAGEMENT.

Implementing Soil Health Management Systems can lead to increased organic matter and soil organisms, reduced soil compaction, and improved nutrient storage and cycling. As an added bonus, fully functioning, healthy soils absorb and retain more water, making them less susceptible to runoff and erosion. This means more water will be available for crops when they need it. Soil Health Management Systems allow farmers to enjoy profits because they spend less on fuel and energy and they produce higher crop yields from improved soil conditions.



### DIG A LITTLE. LEARN A LOT.

Soil is a living system, and it should look, smell, and feel alive. Dig in to discover what your soil can tell you about its health and production potential. Healthy soil looks dark, crumbly, and porous and is home to worms and other organisms that squirm, creep, hop, or crawl. Healthy soil smells sweet and earthy. It feels soft, moist, and friable and allows plant roots to grow unimpeded.



### DO NOT DISTURB.

The soil's natural biological cycles and structure can be disrupted through tillage, improper chemical disturbance, or excessive livestock grazing. By managing, reducing, or eliminating these activities, farmers will benefit from better plant growth, reduced soil erosion, increased profit margins, and better wildlife habitat.



### DISCOVER THE COVER.

Biodiversity—growing more plants in rotation—increases the success of most agricultural systems. Diversity above ground improves diversity below ground. Using cover crops and increasing crop rotation diversity help restore soil health, protect against erosion and groundwater leaching, and provide livestock feed and wildlife habitat.

Contact your local Natural Resources Conservation Service (NRCS) office to learn more about Soil Health Management Systems and the technical and financial assistance available to help “Unlock the Secrets in the Soil.”

Go online at: [www.nrcs.usda.gov](http://www.nrcs.usda.gov) or visit your local NRCS office.

