

unlock your farm's potential



Natural Resources Conservation Service (NRCS)

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.

For more information on NRCS programs, go to: nrcs.usda.gov



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UNLOCK THE BENEFITS.

Farmers who manage their land in ways that improve and sustain soil health benefit from optimized inputs, sustainable outputs and increased resiliency. Healthy soils benefit all producers regardless of the size or type of their operations. Healthy soils provide financial benefits for farmers, ranchers and gardeners, and environmental benefits that affect everyone.

Healthy Soils Lead To:

- **INCREASED PRODUCTIVITY** – Healthy soils typically have more organic matter and soil organisms which improve soil structure, aeration, water retention, drainage and nutrient availability. Organic matter provides and holds more nutrients in the soil until the plants need them.
- **INCREASED PROFITS** – Healthy soils may require fewer passes over fields because they are only minimally tilled and they aren't over-reliant upon excessive inputs to grow crops. Healthy soils can increase farmers' profit margins by reducing labor and expenses for fuel and optimizing inputs.
- **NATURAL RESOURCE PROTECTION** – Healthy soils hold more available water. The soil's water-holding capacity reduces runoff that can cause flooding, and increases the availability of water to plants during periods of stress. Good infiltration and less need for fertilizers and pesticides keep nutrients, sediment, and agricultural chemicals from loading into lakes, rivers, and streams. Groundwater is also protected because there is less leaching from healthy soils. Additionally, fewer trips across fields with farm machinery mean fewer emissions and better air quality.

UNLOCK THE BASICS.

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

Soil is made up of air, water, decayed plant residue, organic matter from living and dead organisms, and minerals, such as sand, silt and clay. Increasing soil organic matter typically improves soil health since organic matter affects several critical soil functions. Healthy soils are also porous, which allows air and water to move freely through them. This balance ensures a suitable habitat for the myriad of soil organisms that support growing plants.

Here's How to Improve Soil Health:

- **Minimize disturbance** – till the soil as little as possible
- **Maximize biodiversity** – integrate livestock and grow as many different species of plants as possible through rotations and a diverse mixture of cover crops
- **Maximize living roots** – keep living crops and cover crops in the soil as long as possible
- **Maximize soil cover** – keep the soil surface covered with residue year round.



SOIL HEALTH MANAGEMENT

Implementing Soil Health Management Systems can lead to increased organic matter, more 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 improve profitability because they spend less on fuel and energy while benefiting from the higher crop yields resulting from improved soil conditions.



DIG A LITTLE, LEARN A LOT

Soil is a living system, and healthy soil should look, smell, and feel alive. Dig in to your soil to discover what your soil can tell you about its health and production potential. Healthy soil is generally darker in color, crumbly, and porous. It is home to worms and other organisms that squirm, creep, hop, or crawl. It has a sweet and earthy aroma and it is easy to dig into. It is soft, moist, and crumbly, and allows plants to grow their roots more freely and unimpeded.



DO NOT DISTURB

If soil health is your goal, till as little as possible. Tillage can destroy soil organic matter and structure along with the habitat that soil organisms need. Tillage, especially during warmer months, reduces water infiltration, increases runoff and can make the soil less productive. Tillage disrupts the soil's natural biological cycles, damages the structure of the soil, and makes soil more susceptible to erosion. Transitioning to tillage systems that increase soil surface cover and limit soil disturbance and loosening is an effective approach to building a healthy soil.



DISCOVER THE COVER

Diverse cover crop mixes increase the success of most agricultural systems. Plant biodiversity helps to prevent disease and pest problems associated with monocultures. Using cover crops and increasing diversity within crop rotations improves soil health and soil function, reduces costs, and increases profitability. Diversity above ground improves diversity below ground, which helps create healthy productive soils.

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: nrcs.usda.gov or visit your local NRCS office.

