

UNLOCK YOUR FARM'S POTENTIAL

Dig a Little, Learn a Lot



Healthy, fully functioning soil is balanced to provide an environment that sustains and nourishes plants, soil organisms, and beneficial insects.

Soil is a living system, and healthy soil should look, smell, and feel alive. Healthy soil can increase production, increase profits, and protect natural resources, such as air and water. Dig in to your soil to discover what your soil can tell you about its health and production potential.

Dig in and see

Healthy soil is generally darker in color, crumbly, and porous. It is home to worms and other organisms that squirm, creep, hop, or crawl. Healthy soil provides the right amount of air, water, and organic matter for soil life to thrive and for plants to grow. Soil that is functioning at its full potential is full of the roots of the healthy and strong plants it supports. An unhealthy, poorly functioning soil is compacted or has poor structure, contains limited roots and soil life, and generally appears lighter in color.

Dig in and smell

Healthy soil has a sweet and earthy aroma. This is the scent of geosmin, a byproduct of soil microbes called actinomycetes. These microbes decompose the tough plant and animal residues in and on the soil and bring nitrogen from the air into the soil to feed plants.

An unhealthy, out-of-balance soil smells sour or metallic, or like kitchen cleaners.

Dig in and feel

Healthy soil is easy to dig into. It is soft, moist, and crumbly, and allows plants to grow their roots more freely and unimpeded. This crumbly or granular structure is ideal because porous, healthy soil holds water for plants to use when they need it. Its increased water-holding capacity reduces runoff that can cause erosion, and increases the availability of water to plants during droughts. An unhealthy, poorly functioning soil feels dry, looks crusty or cloddy, and does not crumble readily when pulled apart.



Dig a Little. Learn a Lot.

Understanding how healthy soils look, smell, and feel are the first steps towards achieving soil health. Dig a little! If you find soil that is out of balance, NRCS can offer management tips to improve soil health.

Soil Health Management Systems

Implementing Soil Health Management Systems: a group of practices that positively impact soil health and tie into the soil health principles, 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 can allow farmers to enjoy cost savings from reduced inputs as well as more consistent yields and increased crop resiliency resulting from improved soil conditions.

More Information

To learn more about Soil Health Management Systems and the technical and financial assistance available visit farmers.gov/conserve/soil-health or contact your local NRCS office. To find your local NRCS office, visit farmers.gov/service-center-locator.