

## *What are the Benefits of Healthy Soil?*

- ◆ **Healthy soil holds more water (by binding it to organic matter), and loses less water to runoff and evaporation.**
- ◆ **Organic matter builds as tillage declines and plants and residue cover the soil. Organic matter holds 18-20 times its weight in water and recycles nutrients for plants to use.**
- ◆ **One percent of organic matter in the top six inches of soil would hold approximately 27,000 gallons of water per acre!**
- ◆ **Most farmers can increase their soil organic matter in three to 10 years if they are motivated about adopting conservation practices to achieve this goal.**

### **How to Begin your path to Healthy Soils:**

- ⇒ Keep it covered
- ⇒ Do not disturb
- ⇒ Use cover crops and rotation to feed your soil
- ⇒ Develop a soil health management plan

### **Four Basic Soil Health Principles:**

- ⇒ Use plant diversity to increase diversity in the soil
- ⇒ Manage soils more by disturbing them less
- ⇒ Keep plants growing throughout the year to feed the soil
- ⇒ Keep the soil covered as much as possible

## **WHAT IS A SOIL HEALTH MANAGEMENT PLAN?**

- It's a roadmap to soil
- It outlines a system of practices needed to enhance crop production and soil function, and improve or sustain water quality, air quality, energy efficiency, and wildlife habitat.
- It provides environmental, economic, health, and societal benefits.
- It saves energy by using less fuel for tillage, and maximizes nutrient cycling.
- It saves water and increases drought tolerance by increasing infiltration and water holding capacity as soil organic matter increases.
- It reduces disease and pest problems.
- It improves income sustainability for farms and ranches.
- It improves plant health.



*Example Conservation Practices:*

*Conservation Crop Rotation, Cover Crops, No Till, Mulching, Nutrient Management, and Pest Management*

Want to Learn More? Much of this information as well as so much more can be found at: [www.nrcs.usda.gov](http://www.nrcs.usda.gov)

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Natural Resource Conservation Service  
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## *Unlock the Secrets of the Soils*



## *Healthy Soils are Full of Life*

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# Soil Health Key Points

## What's critical about soil health now?

- ◆ World population is projected to increase to more than 9 billion in 2050. To sustain this level of growth, food production will need to rise by 70 percent.
- ◆ Between 1982-2007, 14 million acres of prime farmland in the U.S. were lost to development.
- ◆ Improving soil health is key to long-term, sustainable agricultural production

## Unlock the Secrets in the Soil

### Soil Health Matters Because:

- ◆ Healthy soils are high-performing, productive soils.
- ◆ Healthy soils reduce production costs—and improve profits.
- ◆ Healthy soils protect natural resources on and off the farm.
- ◆ Franklin Roosevelt's statement, "The nation that destroys its soil destroys itself," is as true today as it was 75 years ago.
- ◆ Healthy soils can reduce nutrient loading and sediment runoff, increase efficiencies, and sustain wildlife habitat.

*Living in the soil are plant roots, bacteria, fungi, protozoa, algae, mites, nematodes, worms, ants, maggots, insects and grubs, and larger animals.*



*Soil is* made of about

- 
- \* 45% minerals
- \* 25% water
- \* 25% air
- \* 5% organic matter



All of the soil microbes in 1ac/ft of soil weigh more than 2 cows

Healthy Soil has amazing water-retention capacity.

Every 1% increase in organic matter results in as much as 25,000 gallon of available soil



One teaspoon of healthy soil contains 100 million to 1 billion individual bacteria



Earthworm populations consume 2 tons of dry matter per acre per year, partly digesting and mixing it with soil



Healthy soil is key to feeding 9 billion people by 2050

Managing soil health is one of the easiest and most effective ways for farmers to increase crop productivity and profitability while improving the environment. Healthy, fully functioning soil is balanced to provide an environment that sustains and nourishes plants, soil microbes, and beneficial insects.

