Producers should care about soil health

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"We stand most places on Earth, only six inches from desolation, for that is the thickness of the topsoil layer upon which the entire life of the plant depends."
–R. Neil Sampson

NRCS uses the acronym SWAPA. The Natural Resources Conservation Service (NRCS) focuses on all of the resources that surround us. SWAPA is an easy way to remember them.
Soil, Water, Air,
Plants, Animals
Notice that soil comes first. If you take care of the soil it will take care of the rest. Soil quality is in your hands. Remember, everything is related to everything.
Soil Quality Management – What Can We Do?
One thing you can do is enhance organic matter by leaving crop residues, using crop rotations, growing cover crops, using No-till systems.
The definition of soil quality is the capacity of the soil to function. It all depends on what you want the soil to do.
Good soil health management:
• Provides food for microbes
• Stores and supplies nutrients to plants
• Lowers bulk density
• Improves soil structures
• Increases infiltration rate
• Reduces erosion
• Sequesters carbon
• Improves soil's ability to store water
Remember–there is no free lunch. By putting nutrients in a bank where it is drawing interest is a smart way to farm. If you take it all out, you don't make much interest.
Dig a Little, Learn a Lot.
Fully functioning soil is balanced to provide an environment that sustains and nourishes plants, soil microbes and beneficial insects.
Healthy soil should look, smell, and feel alive. Dig into your soil to discover what your soil can tell you about its health and production potential.
Healthy soil is 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, an organic matter for microorganisms to thrive and for plants to grow.

Healthy soil has a sweet and earthy aroma.

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

Healthy soil is easy to dig into. It is soft, moist, and crumbly, and allows plants to grow their roots more freely.

This crumbly or granular structure is ideal as it holds water for plants to use. Its water-holding capacity reduces runoff that can cause flooding, and increases the availability of water to plants during drought.

An unhealthy, poorly functioning soil feels dry, crusty, and cloddy and does not crumble readily when pulled apart.

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.

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 soils natural biological cycles, damages the structure of the soil, and makes soil more susceptible to erosion.

Benefits of Reduced-Till/No Till

- Aiding in plant growth
- Reducing soil erosion
- Saving money
- Providing wildlife Habitat

Long term benefits from improved soil health such as increased water holding capacity, improved water infiltration, and enhance nutrient cycling should lead to a more resilient cropping system during a wide array of extremes in weather.

Healthy soil will provide multiple pathways for crops to access the needed resources. Continued pursuit of high soil function should be a fundamental goal to achieve high production and a healthy environment.

If you have questions contact your local NRCS office to learn more about Soil Health Management Systems and the technical and financial assistance available. Call 352-4776 ext. 3