



Small Scale Solutions for your Farm

Soil Health



Do You Have Problems with:

- Plants that don't grow well
- Standing water or lots of runoff
- Hard soil

Purposes and Benefits of Good Soil Health

- Healthier plants (crops and forages)
- More soil life, and plant and animal life
- Potential increase in nutrient density
- Improved natural drainage and infiltration
- Reduced erosion
- Improved soil organic matter
- Reduced inputs



Healthy soil is alive!

Principles of Soil Health

Minimize disturbance to protect the soil from erosion and maintain or increase stable soil aggregates and organic matter. Soil disturbance, such as plowing and cultivating, disrupts the natural structure of the soil affecting runoff, infiltration, and breakdown of organic matter.

Maximize soil cover to protect soil from erosion, buffer against temperature and moisture changes that stress plants and soil organisms. Leave crop residue on the soil surface, add cover crops where crop residue is lacking.

Maximize biodiversity to influence energy and carbon availability in the soil, increase resilience, and a host of other benefits. Adding plant diversity to crop rotations and using cover crops, especially diverse mixes, increases diversity above and below ground with bacteria, fungi, and other microbes that help to break down nutrients and share those nutrients with other plants. Increase animal diversity above ground by integrating livestock and managing grazing, which improves microbial diversity and activity below ground.

Maximize continuous living roots to help maintain or increase soil organic matter and enhance nutrient cycling. The more above ground living plant material present, the more living roots below ground. Continuous living roots support biological activity, nutrient cycling, and soil water regulation. Use of cover crops can help feed the system between crops.



Maximize soil cover with mulch and cover crops.





What Does Soil Health Mean?

Soil health is defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. Soil health better describes what we mean when we talk about a living ecosystem.

Only “living” things can have health, so viewing soil as a living ecosystem reflects a fundamental shift in the way we care for our soils. Soil isn’t an inert growing medium, but rather is teeming with billions of bacteria, fungi, and other microbes that are the foundation of an elegant and complex ecosystem. Soil can be managed to provide nutrients for plant growth, absorb and hold rainwater, filter and buffer pollutants, provide habitat for soil organisms, and adapt to changing climate.



Crop rotations that include cover cropping.



Sheep grazing to help recycle nutrients.



Cover crop residue protecting the soil surface.





Technical and Financial Help Is Available

Whether you measure your farm in terms of feet or acres, your local Natural Resources Conservation Service (NRCS) office has experienced conservationists that can help you develop a Conservation Plan to conserve, maintain, and restore the natural resources on your land and improve the long-term health of your operation.

There is no charge for our assistance. Simply contact your local office to set up an appointment. You may also be eligible to receive financial assistance. Your NRCS office will explain any programs that are available so you can make the best decision for your operation. All NRCS programs and services are voluntary.

For More Information

Visit the [Natural Resources Conservation Service](#) or visit farmers.gov/service-locator to find your local NRCS office. You can also check with your local USDA Service Center, then make an appointment to determine next steps for your conservation goals.

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NRCS conservationist assisting small scale farmer with developing a customized conservation plan.

