

Soil Health

What's It Really About?



During the last few years, we have all heard a lot of talk about soil health. Perhaps you read about it in the news media or saw a soil health article in one of many agricultural industry publications.

In 2012, the USDA Natural Resources Conservation Service unveiled the Soil Health Initiative that refocuses their emphasis on not only preventing soil erosion but also enhancing the health of the soil by improved management of the overall agricultural system.

Soil health can be a term that sometimes means different things to different people. For NRCS in Virginia, the term “soil health” refers to the capacity of the soil to function. What are the basic functions of the soil in an agricultural system? Quite simply, a soil should be able to provide plant roots with water, air and nutrients with minimum inputs.

The soil should be able to absorb rainfall, even under the most intense storm conditions, and it should be able to break down and recycle “wastes” including plant residues, dead roots, manure and bugs living in the soil.

The soil surface horizon is that dynamic space where the living and non-living components come together, forming the foundation of the agricultural system—the seedbed of productivity!

Every soil has the capacity to provide these basic needs to plants but at what level are your soils performing relative to their true potential?

The good news is that the health of a soil is not “fixed.”

The capacity of a soil to perform these core functions is greatly dependent on management of the soil surface horizon. When questioning soil health in individual fields or pastures a person should ask themselves, “How is the soil performing and is there room for improvement?”

There are four main principles of soil health that can be used to increase the soils capacity to function from low-medium-high translating into improved productivity of the system. Can you identify them?

As you manage pasture, hayland and/ or cropland systems, you should question the productivity of your system, evaluate the condition of your soil and consider how modifications to management techniques and implementation of specific practices can enhance soil health and take production to a higher level.

Over the past four years, many producers throughout Virginia have asked themselves these tough questions, changed the way they use forage or crop species in rotations and grazing systems, to improve the overall performance and productivity of their soils and the production system.

For more information about applying conservation practices or management techniques that will specifically address soil health and system function, contact your local conservationist at the USDA Service Center nearest you at <http://offices.sc.egov.usda.gov/locator/app>.

The 4 Principles:



Keeping the soil covered is the first step in protecting it from erosion, but also buffers soil temperature, slows rainfall runoff and aids rainfall infiltration.



Minimizing soil disturbance (physical and chemical) is another proactive measure that can heal and protect both the physical and chemical properties of the soil and ultimately enhance the biological component of soil life.



Maximizing living roots longer throughout the year fuels biological activity, aids nutrient cycling and contributes to improved soil structure.



Energizing with diversity intentionally uses different crop species for specific purposes to enhance chemical, physical and/ or biological aspects of the soil for improved system performance.

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