USDA United States Department of Agriculture

Soil Slake Test

Soil structure is critical to how the soil functions

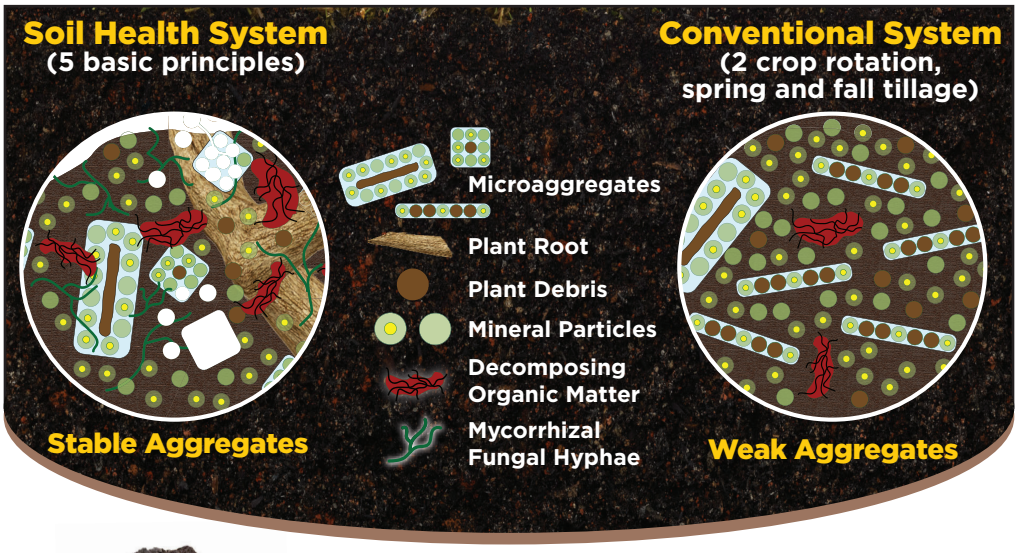
SD-FS-107

As world population and food production demands rise, keeping soil healthy and productive is of paramount importance. By farming using soil health systems, farmers are actually increasing their soil's organic matter and improving microbial activity.

An incredible diversity of organisms make up the soil's biology. Soil biology plays a large role in how well aggregates hold together versus slake apart in crops or grasslands.

A strong glue, glomalin, is produced by a beneficial fungus that grows on plant roots. The glue comes off the fungus and is deposited on soil particles. This process leads to stabilization of aggregates. Micro-organisms live in the microscale environment between the soil particles.

Microbes play a large role in the mineralization of nutrients for plants, residue breakdown, and contribute to particulate organic matter. Carbon is the main food source for most of these microbes. The Photosnynthesis illustration to the right shows how green plants and other organisms use sunlight to synthesize foods from carbon dioxide and water.



This soil holds together when submersed in water. This is what happens in your field when the soil becomes saturated.

This soil slakes apart when submersed in water. This creates crusting on the soil surface in your field when the soil becomes saturated and dries out.

South Dakota

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