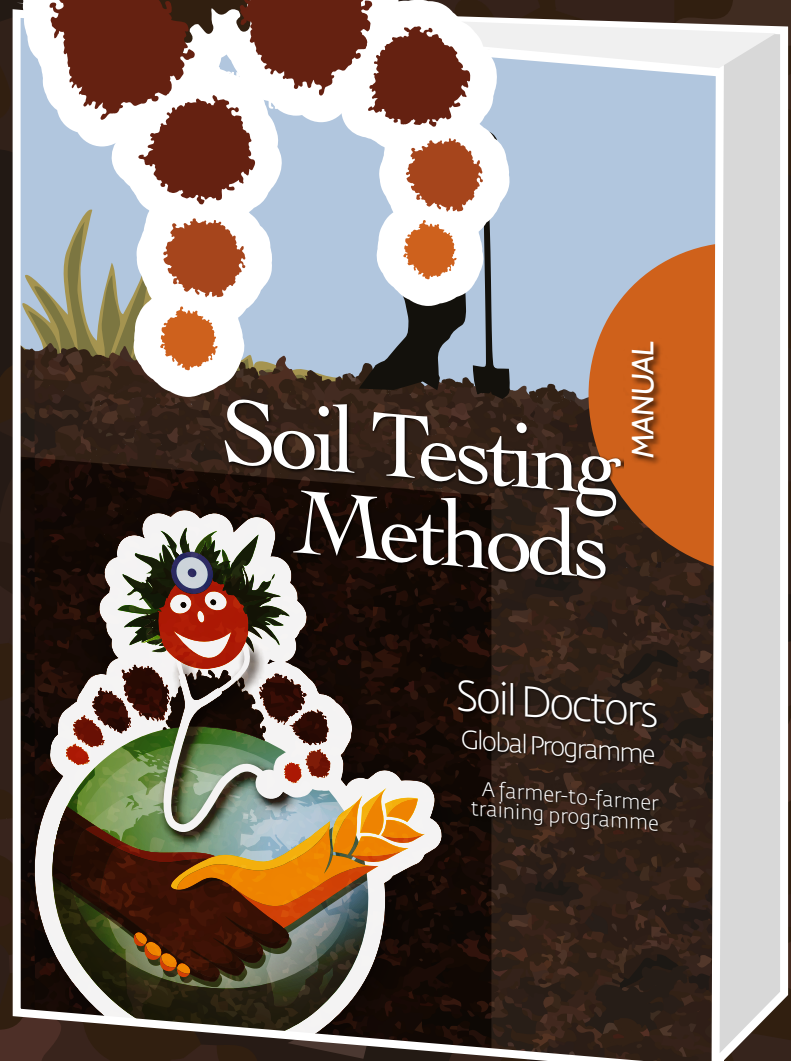


# WHAT ARE physical soil properties

**THESE SOIL PROPERTIES AFFECT SOIL FUNCTION. LET'S TAKE A LOOK AT WHAT THEY ARE AND WHY THEY ARE IMPORTANT. LET'S START WITH PHYSICAL SOIL PROPERTIES**



**MANY OF THESE PROPERTIES CAN BE EASILY MEASURED USING SIMPLE TOOLS CHECK OUT THE SOIL TESTING METHODS MANUAL!**



PROPERTIES	WHAT IS IT?	WHY IS IT IMPORTANT?
PHYSICAL	<b>Texture</b> <p>The size of soil particles, sand, silt and clay, determines the texture of a soil.</p>	Soil texture affects soil behavior, in particular its retention capacity for nutrients and water.
	<b>Structure</b> <p>The clumping of the soil textural components of sand, silt and clay forms aggregates and the further association of those aggregates into larger units forms soil structures called peds.</p>	The soil structure affects aeration, water movement, conduction of heat, plant root growth and resistance to erosion. Water has the strongest effect on soil structure due to its solution and precipitation of minerals and its effect on plant growth.
	<b>Porosity</b> <p>Pore space is that part of the bulk volume that is not occupied by either mineral or organic matter but is open space occupied by either air or water. Ideally, the total pore space should be about half of the soil volume.</p>	The air space is needed to supply oxygen to plant roots and soil organisms. Pore space also allows the movement and storage of water and dissolved nutrients.
	<b>Water infiltration</b> <p>Infiltration is the downward entry of water into the soil.</p>	Infiltration indicates the soil's ability to allow water movement into and through the soil profile. Soil temporarily stores water, making it available for root uptake, plant growth and habitat for soil organisms.
	<b>Color</b> <p>Soil color is caused by the minerals present and by the organic matter content. Soil can exhibit a wide range of color; grey, black, white, reds, browns, yellows and under the right conditions green. Soil color is described by using general terms such as "dark brown" but can also be described more technically using Munsell soil color charts.</p>	Soil color does not affect the behavior and use of soil; however, it can indicate the composition of the soil and give clues to the conditions that the soil is subjected to.
	<b>Soil moisture</b> <p>Soil moisture, also known as water content, is the quantity of water contained in soil.</p>	Soil moisture or soil water is important as it serves as a carrier of plant nutrients, to regulate soil temperature, to assist microbial activity and many more crucial activities that are essential for plant growth.
	<b>Compaction</b> <p>Refers to the increase in soil bulk density/decrease in soil porosity.</p>	Soil compaction impairs soil functions and impedes roots penetration and water and gas exchange.

**DID YOU KNOW THAT SOIL COMPACTION CAN REDUCE CROP YIELDS BY AS MUCH AS 60%?**



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