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Comparison the Different Types of Soil and their Properties

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Abstract: *Soils differ in their properties because of their parent rock, minerals, climate, and how they are formed. Among them, Red soil, Black soil, and Clay soil are very common in both civil engineering and agriculture.* ***Red soil*** *is formed from crystalline rocks and looks red due to iron. It has a sandy-loam texture, drains water moderately, and is easy to work with.* ***Black soil*** *comes from basalt rock and contains swelling clay minerals, which make it expand when wet and shrink when dry. It holds a lot of moisture but has low bearing capacity, which can cause problems in construction.* ***Clay soil*** *contains very fine particles, making it highly plastic, sticky when wet, and very slow in draining water. These three soils are compared based on how they form, their texture, water-holding capacity, strength, compaction, and swelling behavior. Understanding these differences helps engineers and farmers choose the right soil for foundations, roads, embankments, irrigation, and crop production.*

Keywords*:* Red soil; Black soil; Clay soil; Water holding; Strength; Fertility; Use in construction

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