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FLAHA SOIL

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Soil Analysis Report

Professional Soil Water Characteristics Analysis

Professional User

Generated for: Professional User

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Report Information

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Comprehensive Soil Water Characteristics Analysis

This report provides a detailed analysis of soil water characteristics based on the Saxton & Rawls (2006) methodology. The analysis includes soil composition, water retention properties, and physical characteristics essential for agricultural and engineering applications.

Soil Properties

Basic Properties

Sand Content

57%

Clay Content

33%

Silt Content

10%

Organic Matter

2.5%

Professional Features

Texture Classification

Sandy Clay Loam

Bulk Density Factor

1.3 g/cm³

Saturated Conductivity

22.1 mm/hr

Gravel Content

0%

Expert Parameters

Porosity

N/A%

Bulk Density

1.30 g/cm³

Particle Density

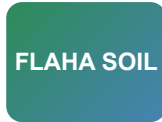
2.65 g/cm³

Void Ratio

N/A



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Soil Texture Classification

The soil texture triangle is a fundamental tool in soil science that classifies soils based on their sand, silt, and clay content. This classification helps predict soil behavior, water retention, drainage characteristics, and agricultural suitability.

Soil Texture Triangle Chart

Sand: 57% | Clay: 33% | Silt: 10%

Classification: Sandy Clay Loam

Chart visualization would appear here in the interactive version

Texture Analysis

Primary Texture: Sandy Clay Loam

Dominant Particle: Sand

Texture Description: Fine-textured soil with high water retention and nutrient holding capacity



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Soil Analysis Results

Overall Soil Quality Score

70/100

Good soil quality suitable for most crops

Water Characteristics

Field Capacity (θ_{FC})

29.6%

Wilting Point (θ_{WP})

19.8%

Plant Available Water

9.8%

Saturation Point

50.9%

Advanced Parameters

Hydraulic Conductivity

22.1 mm/hr

Water Retention

Low

Drainage Class

Moderately Drained

Infiltration Rate

Moderate

Soil Water Content Visualization

Water Content Distribution

50.9%

Saturation

29.6%

Field Capacity

19.8%

Wilting Point

Understanding Soil Water Characteristics

Field Capacity: The maximum amount of water soil can hold against gravity.

Wilting Point: The minimum water content at which plants can extract water.

Plant Available Water: The difference between field capacity and wilting point.

Saturation: The maximum water content when all pore spaces are filled.

Crop Recommendations

Sandy Soils

Recommended crops: Carrots, Radishes, Potatoes, Peanuts

Well-suited for root vegetables and crops that prefer good drainage

Generated by FlahaSoil Professional Analysis System

Based on Saxton & Rawls (2006) Soil Water Characteristics methodology

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