FLAHA PA

Flaha PA

FLAHA SOIL

FlahaSoil

Soil Analysis Report

Professional Soil Water Characteristics Analysis

Professional User

Generated for: Dr. Emma Rodriguez

Email: emma.rodriguez@soiltech.com

Report Information

Date: 31/05/2025

Report ID: FLH-009-31052025

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

15.3%

Clay Content

68.2%

Silt Content

16.5%

Organic Matter

4.8%

Professional Features

Texture Classification

clay

Bulk Density Factor

1.28 g/cm³

Saturated Conductivity

3.2 mm/hr

Gravel Content

0%

Expert Parameters

Porosity

N/A%

Bulk Density

1.28 g/cm³

Particle Density

2.65 g/cm³

Void Ratio

1.07

FLAHA PA

Flaha PA

FLAHA SOIL

FlahaSoil

Soil Analysis Report

Professional Soil Water Characteristics Analysis

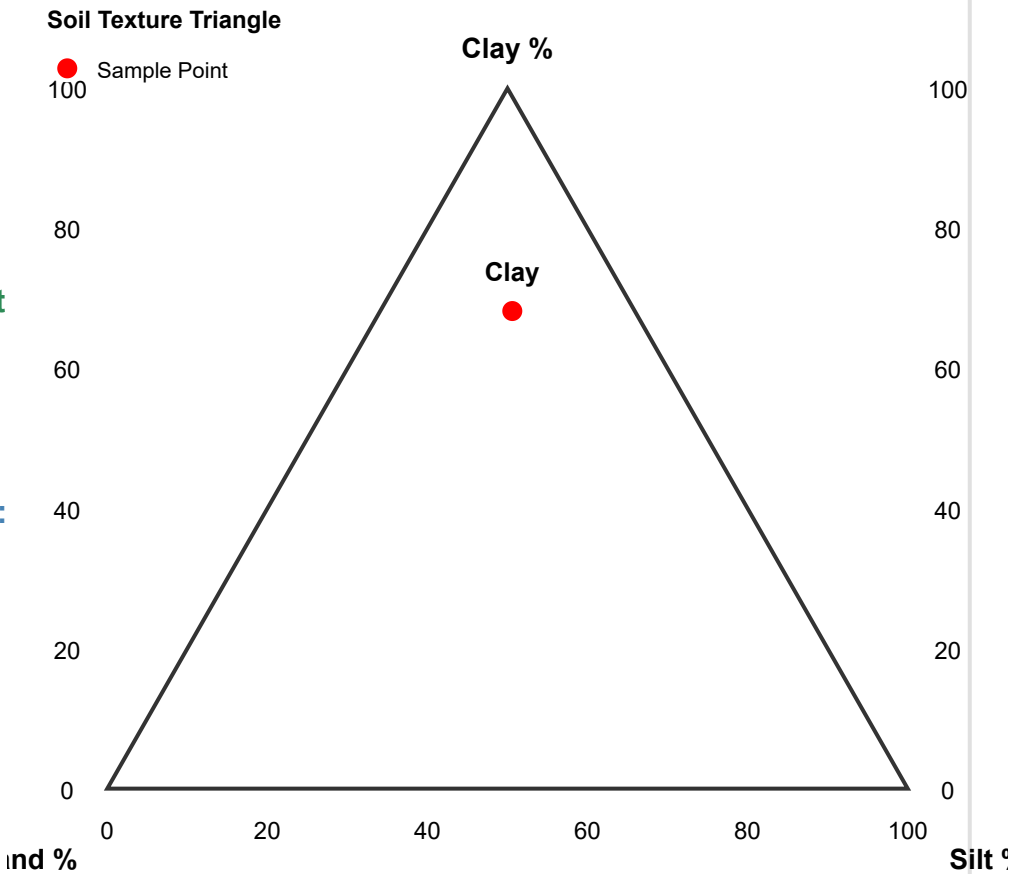
Soil Texture Classification

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: 15.3% | Clay: 68.2% | Silt: 16.5%

Classification: clay



Texture Analysis

Primary Texture: clay
Dominant Particle: Clay

Texture Description: Very fine texture, maximum water retention but very poor drainage

FLAHA PA

Flaha PA

FLAHA SOIL

FlahaSoil

Soil Analysis Report

Professional Soil Water Characteristics Analysis

Soil Analysis Results

Overall Soil Quality Score

88/100

Excellent soil quality - ideal for most crops

Water Characteristics

Field Capacity (θFC)

38.7%

Wilting Point (θWP)

22.1%

Plant Available Water

16.6%

Saturation Point

51.6%

Advanced Parameters

Hydraulic Conductivity

3.2 mm/hr

Water Retention

High

Drainage Class

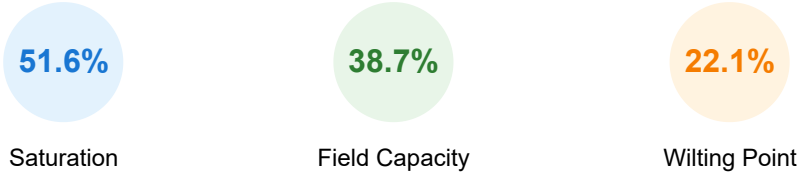
Somewhat Poor

Infiltration Rate

Moderate

Soil Water Content Visualization

Water Content Distribution



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

Clay Soils

Recommended crops: Rice, Wheat, Soybeans, Cotton

Excellent for crops requiring high water retention

High Water Retention

Recommended crops: Leafy greens, Brassicas, Water-loving vegetables

Excellent for moisture-demanding crops

