

Soil Health Assessment Checklist: Farm Fertility & Sustainable Practices

Visual Soil Assessment

Observe soil structure, color, and presence of organic matter.

Soil Color (Munsell notation or description)

Write something...

Describe Soil Structure (e.g., granular, blocky, platy)

Write something...

Presence of Standing Water or Puddling?

- ☐ Yes
- ☐ No
- ☐ Uncertain

Visible Organic Matter (e.g., decaying leaves, manure)

- ☐ Abundant
- ☐ Moderate
- ☐ Sparse
- ☐ Absent

Evidence of Crust Formation?

Write something...

Describe any unusual observations (e.g., discoloration, unusual growth)

Write something...

Soil Texture Analysis

Determine the proportions of sand, silt, and clay.

Percentage of Sand (0-100%)

Enter a number...

Percentage of Silt (0-100%)

Enter a number...

Percentage of Clay (0-100%)

Enter a number...

Soil Class (Based on % Sand, Silt, Clay)

- ☐ Sandy
- ☐ Loamy Sandy
- ☐ Sandy Loam
- ☐ Loam
- ☐ Sandy Clay Loam
- ☐ Clay Loam
- ☐ Silty Clay Loam
- ☐ Clay

Notes on Soil Feel (e.g., gritty, smooth, sticky)

Write something...

Organic Matter Content

Measure the amount of organic material in the soil.

Estimated Organic Matter (%)

Enter a number...

Method of Organic Matter Determination

- ☐ Loss on Ignition
- ☐ Walkley-Black
- ☐ Visual Estimation (Roth Institute Method)

Notes on Visual Estimation (if applicable)

Write something...

Loss on Ignition Value (%)

Enter a number...

Upload Laboratory Analysis Report (if available)

 Upload File

Soil pH Measurement

Assess the acidity or alkalinity of the soil.

pH Reading

Enter a number...

Measurement Method

- ☐ Soil pH Meter
- ☐ Litmus Paper
- ☐ Lab Analysis

Temperature (°C)

Enter a number...

Calibration Solution Used (if applicable)

Write something...

Notes on pH Reading & Conditions

Write something...

Nutrient Levels (N, P, K)

Test for essential nutrient deficiencies or excesses.

Nitrogen (N) - Available (%)

Enter a number...

Phosphorus (P) - Available (ppm)

Enter a number...

Potassium (K) - Available (ppm)

Enter a number...

Nitrogen Deficiency Signs?

- ☐ No
- ☐ Yes - Chlorosis
- ☐ Yes - Stunted Growth

Phosphorus Deficiency Signs?

- ☐ No
- ☐ Yes - Purple Stems
- ☐ Yes - Delayed Maturity

Potassium Deficiency Signs?

- ☐ No
- ☐ Yes - Scorched Leaf Margins
- ☐ Yes - Weak Stems

Notes on Nutrient Deficiencies/Excesses

Write something...

Water Infiltration Rate

Evaluate how quickly water penetrates the soil.

Initial Infiltration Rate (mm/hr)

Enter a number...

After 30 Minutes (mm/hr)

Enter a number...

After 60 Minutes (mm/hr)

Enter a number...

Method Used (Double Ring, Single Ring, Ponded)

- ☐ Double Ring
- ☐ Single Ring
- ☐ Ponded

Ring Diameter (cm) - If Applicable

Enter a number...

Observations During Test (Standing Water, Uneven Saturation)

Write something...

Test Location Coordinates

 [Set My Current Location](#)



Date of Test

Enter date...

Compaction Assessment

Check for signs of soil compaction, hindering root growth.

Soil Bulk Density (g/cm³)

Enter a number...

Penetration Resistance (MPa)

Enter a number...

Compaction Severity

- ☐ None
- ☐ Mild
- ☐ Moderate
- ☐ Severe

GPS Location of Compacted Area

 [Set My Current Location](#)



Description of Compaction Pattern

Write something...

Erosion Assessment

Identify areas susceptible to soil erosion and degradation.

Slope Gradient (%)

Enter a number...

Dominant Soil Type

- ☐ Sandy
- ☐ Silty
- ☐ Clayey
- ☐ Loamy

Observed Erosion Features

- ☐ Gullies
- ☐ Rills
- ☐ Sheet Erosion
- ☐ Ravines
- ☐ Exposed Roots
- ☐ Sediment Deposition

Detailed Description of Erosion Signs

Write something...

GPS Coordinates of Erosion Hotspot

 [Set My Current Location](#)



Photos of Erosion Areas

 [Upload File](#)

Biological Activity Indicators

Observe earthworm presence, microbial activity, and other biological signs.

Earthworm Count per Square Meter

Enter a number...

Qualitative Description of Earthworm Activity

Write something...

Presence of Visible Fungal Hyphae?

- ☐ Yes
- ☐ No
- ☐ Unsure

Root Biomass Indicators (Select all that apply)

- ☐ Abundant Fine Roots
- ☐ Large Root Mass
- ☐ Visible Root Nodules
- ☐ Sparse Root Growth

Notes on Microbial Activity (e.g., Smell, Color)

Write something...

Previous Management Practices

Record past fertilizer application, tillage methods, and crop rotation.

Last Tillage Date

Enter date...

Last Fertilizer Application Rate (lbs/acre)

Enter a number...

Previous Crops Grown (last 3 years)

- ☐ Corn
- ☐ Soybeans
- ☐ Wheat
- ☐ Alfalfa
- ☐ Barley
- ☐ Oats
- ☐ Canola
- ☐ Other

Average Yield (last 3 years)

Enter a number...

Tillage Method

- ☐ Conventional
- ☐ No-Till
- ☐ Reduced Tillage

Details on Pest & Disease Management

Write something...

Last Cover Crop Planting Date

Enter date...