



FarmMatrix Soil Health Report

Generated: May 30, 2025 21:03



FarmMatrix Soil Health Report

Location: Lat: 18.457500, Lon: 73.850300

Date Range: 2025-05-14 to 2025-05-30

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1. Executive Summary

- Soil health score is 53.8% (Fair) at your location (Lat: 18.457500, Lon: 73.850300) based on testing from May 14th to May 30th, 2025.
- Soil pH is slightly alkaline (7.07), requiring monitoring to prevent nutrient deficiencies.
- Organic carbon is low (2.16%), suggesting potential improvements needed for water retention and soil structure.
- Nutrient levels show sufficient Nitrogen (N) but low Phosphorus (P), requiring further investigation for fertilization needs.
- Soil texture (clay loam) is a strong point but its management must consider its tendency towards compaction and waterlogging.

2. Soil Parameter Analysis

Parameter	Value	Ideal Range	Interpretation
pH	7.07	6.0-7.5	Optimal (6.0-7.5).
Salinity	0.56	≤0.2	High (>0.2).
Organic Carbon	0.02	0.02-0.05	Optimal (0.02-0.05).
CEC	12.40	10-30	Optimal (10-30).
Soil Texture	Clay Loam	Non-ideal	Clay Loam
LST	35.39	10-30	High (>30).
NDWI	-0.52	-0.5-0.5	Severe stress; irrigate immediately.
NDVI	0.43	0.2-0.8	Optimal (0.2-0.8).
EVI	0.23	0.2-0.8	Optimal (0.2-0.8).
FVC	0.20	0.3-0.8	Low (<0.3).
Nitrogen	285.30	280-450	Optimal (280-450).
Phosphorus	57.16	20-50	High (>50).
Potassium	193.24	150-300	Optimal (150-300).

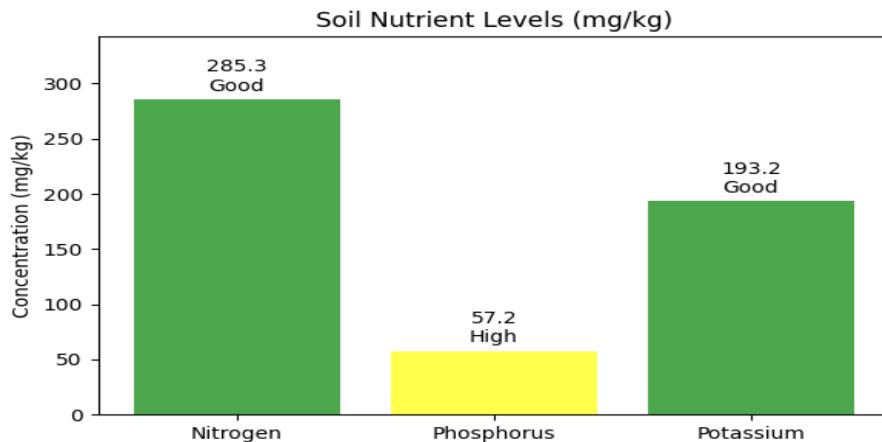


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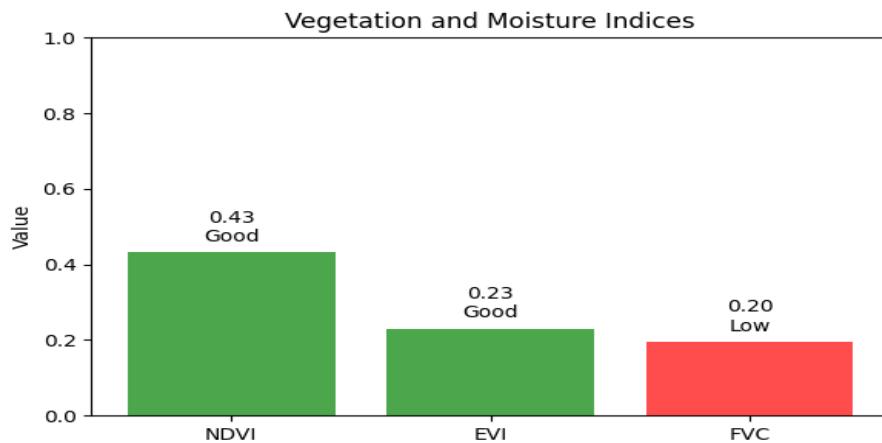
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3. Visualizations

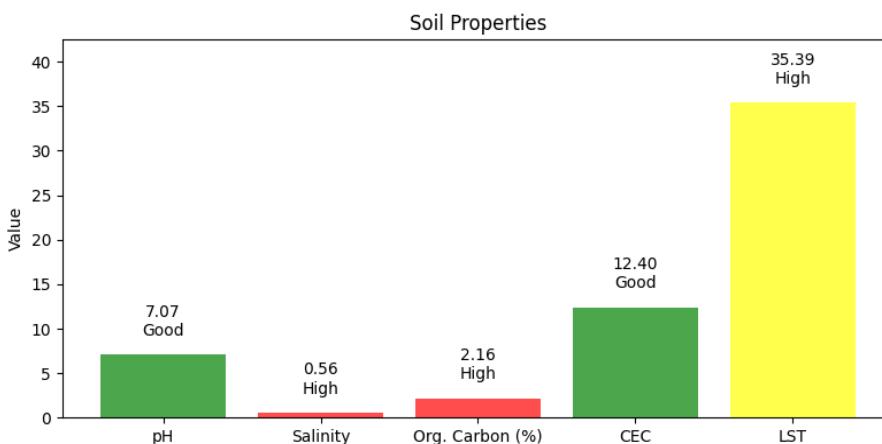
Nutrient Levels:



Vegetation Indices:



Soil Properties:





4. Crop Recommendations & Treatments

- Your soil pH (7.07) is near neutral, which is good for many crops. No pH adjustment is needed at this time.
- Your soil has moderate salinity (0.56) and organic carbon (2.16%), indicating potential for improvement. Consider adding organic matter like compost or manure to enhance soil structure, water retention, and nutrient availability.
- Nutrient levels are moderate. Nitrogen is relatively high, so consider reducing nitrogen fertilizer application in your next planting. Phosphorus and potassium are within acceptable ranges but could be boosted with targeted fertilization based on crop needs. Soil testing before planting will give the best guidance.
- Given the clay loam texture, focus on improving drainage to avoid waterlogging, particularly if rainfall is high. This could involve practices like no-till farming or cover cropping.
- Suitable crops for your soil conditions include drought-tolerant varieties of wheat, barley, or sorghum, depending on your region's climate. Consider legumes like beans or peas to improve soil nitrogen naturally.

5. Soil Health Rating

Overall Rating: **Fair (53.8%)**

The soil health score shows how many parameters are ideal, indicating fair conditions.