# AgriSmart AI Data Analysis Report

## 1. Data Cleaning

### Initial Data

### Original dataset: 913 records across 10 variables

### Found duplicate records and entries with 'error' values

### Missing values identified in critical columns

### Cleaning Steps:

1.Replaced 'error' entries with NaN

2.Converted numeric columns to proper data types

3.Dropped records with missing Crop\_Type or date

4.Filled missing soil moisture values with crop-specific medians

5.Removed duplicate sensor readings

### Final Cleaned Dataset:

794 validated records

No missing values in critical columns

All numeric fields properly formatted

### 1. Variables Influencing Fertilizer Recommendations

****Strongest influencers****

**Fertilizer\_Recommended(kg/ha) 1.000000**

**Soil\_pH 0.082782**

**Humidity(%) 0.015420**

**Soil\_Moisture(%) -0.002751**

**Temperature(C) -0.010626**

**2.Crop with highest average soil moisture is Wheat with 47.191599**

**3.Irrigation Adjustments for Crops >30°C:**

**Crop\_Type**

Beans Maintain current

Lettuce Maintain current

Maize Maintain current

Tomatoes Maintain current

Wheat Maintain current