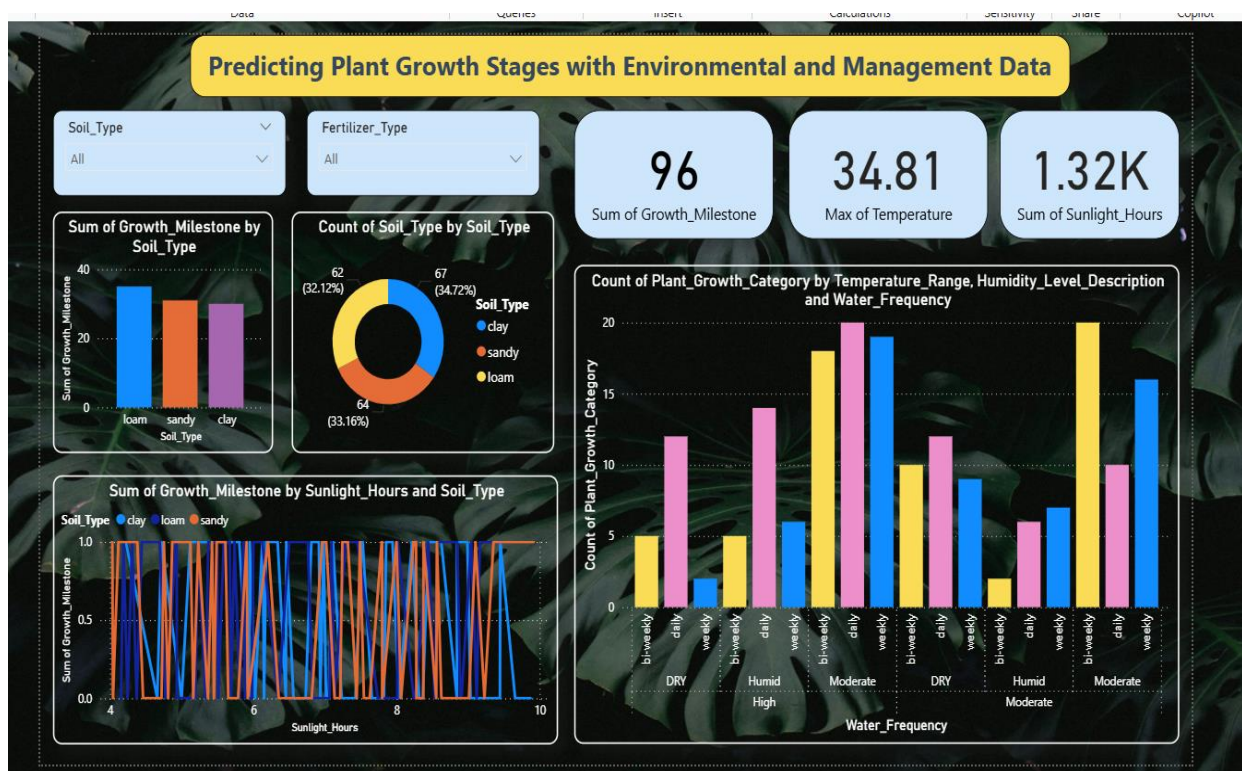


Report

Date	29 July 2025
Team ID	Sukriti
Project Name	Predicting Plant Growth Stages with Environmental and Management Data Using Power BI
Maximum Marks	5 Marks

A report is a comprehensive document that provides a detailed and structured account of data analysis, findings, and insights. It is typically used for in-depth analysis, documentation, and communication of results. Reports are suitable for a diverse audience, including decision-makers, analysts, and stakeholders who need a comprehensive understanding of the data.

Designing a report in Power BI involves connecting to data sources, creating visualizations like charts and graphs, customizing their appearance and interactivity, organizing them logically on the canvas, formatting elements for consistency and clarity, and optionally creating dashboards for a summarized view. Throughout the process, it's essential to consider the audience's needs and ensure the report effectively communicates insights from the data. Finally, iterate based on feedback to continually improve the report's design and usefulness.



This dashboard provides valuable insights into how environmental and agricultural management factors influence plant growth milestones. Such analysis is crucial for making informed agronomic decisions.

1. Trends Over Time:

- The dashboard enables analysis of how plant growth milestones vary with **sunlight hours** over different **soil types**, helping identify time-based growth patterns.
- A dense trend chart showcases fluctuations in growth metrics based on varying sunlight exposure, offering clues into optimal daily light conditions..

2. Performance Comparisons:

Bar charts allow comparison of growth milestones across soil types (loam, sandy, clay), with loam showing the highest total growth, suggesting its favorable role in plant development

Comparison of growth outcomes under different **water frequencies** (daily, bi-weekly, weekly) reveals which irrigation strategy performs better under varying environmental conditions.

3. Environment Segmentation:

- Environmental factors like temperature range, humidity level, and water frequency are segmented to assess their individual and combined impacts on different plant growth categories.
- For instance, high humidity combined with weekly watering appears to support higher growth in moderate temperature ranges.
- Metrics like Sum of Growth Milestones (96) and Sum of Sunlight Hours (1.32K) help gauge the input-output ratio and evaluate how efficiently environmental resources are converted into growth milestones.

4.Resource Optimization:

- Metrics like Sum of Growth Milestones (96) and Sum of Sunlight Hours (1.32K) help gauge the input-output ratio and evaluate how efficiently environmental resources are converted into growth milestones.
- These KPIs can guide better fertilizer or irrigation planning.

Example:

1. Soil Type Distribution:

- The pie chart indicates that clay soil is the most prevalent type in the dataset (34.72%), followed by sandy (33.16%) and loam (32.12%). Despite loam being the least prevalent, it shows the highest sum of growth milestones — a potential insight for soil management strategy.

2. Growth Based on Watering Frequency:

- In moderate temperature and humidity, plants watered weekly consistently reach higher growth categories compared to those watered daily or bi-weekly. This suggests potential over-watering or under-watering risks.

3. Sunlight Dependency:

- The line chart indicates that growth performance is closely linked with sunlight hours, though the response differs across soil types — loam responds more consistently to higher sunlight exposure.