

# Business Question and Visualization Report

Date	25 July 2025
Team ID	
Project Name	Predicting plant growth stages with environmental and management data using power bi
Maximum Marks	5 Marks

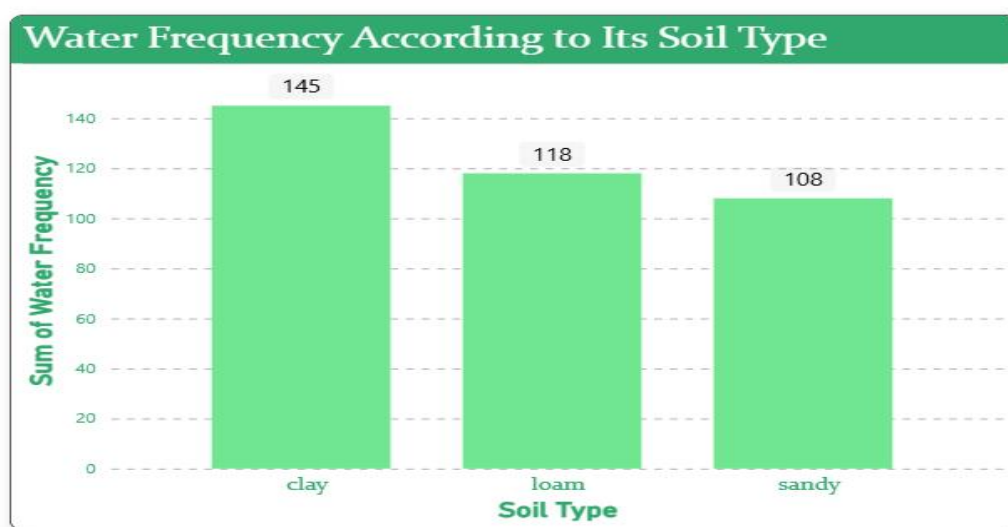
Visualization development refers to the process of creating graphical representations of data to facilitate understanding, analysis, and decision-making. The goal is to transform complex datasets into visual formats that are easy to interpret, enabling users to gain insights and make informed decisions. Visualization development involves selecting appropriate visual elements, designing layouts, and using interactive features to enhance the user experience. This process is commonly associated with data visualization tools and platforms, and it plays a crucial role in business intelligence, analytics, and reporting

## Business Questions and Visualisation

### 1. Which soil type has the highest water frequency?

A clustered column chart was created to display water frequency by soil type

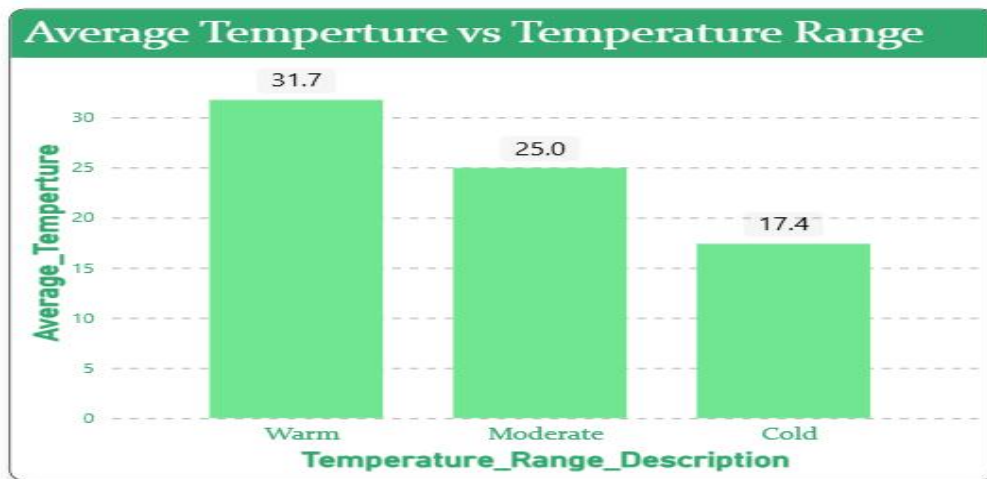
**Insight: Loam soil with high water frequency results in the highest total water frequency, indicating that loam soil may require or benefit from more frequent watering compared to sandy and clay soils.**



## 2. What is the average temperature across different temperature range descriptions?

A Stacked column chart was used to show average temperature grouped by temperature range description.

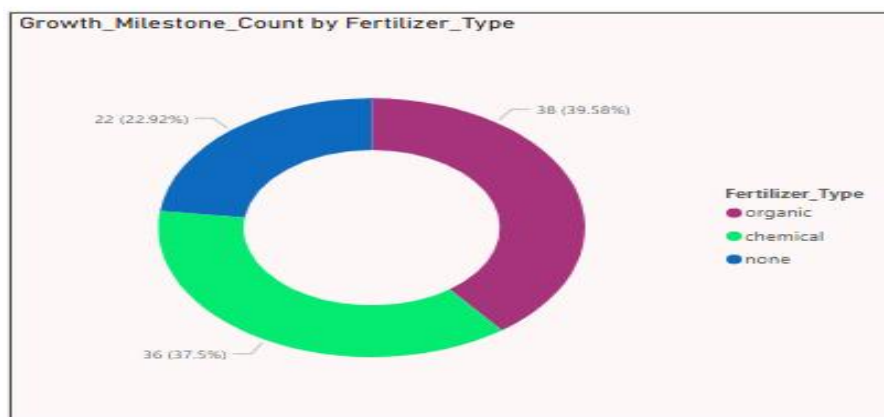
**Insight: Moderate temperature ranges have the highest average temperature increase, suggesting that plants in this range experience the most growth.**



## 3. Which fertilizer type results in the highest plant growth milestone count?

A Donut chart was used to compare growth milestone counts across chemical, organic, and no fertilizer conditions.

**Insight : Chemical fertilizers and organic fertilizers account for the high growth milestone count, indicating their effectiveness in promoting plant growth milestones compared to no fertilizer.**

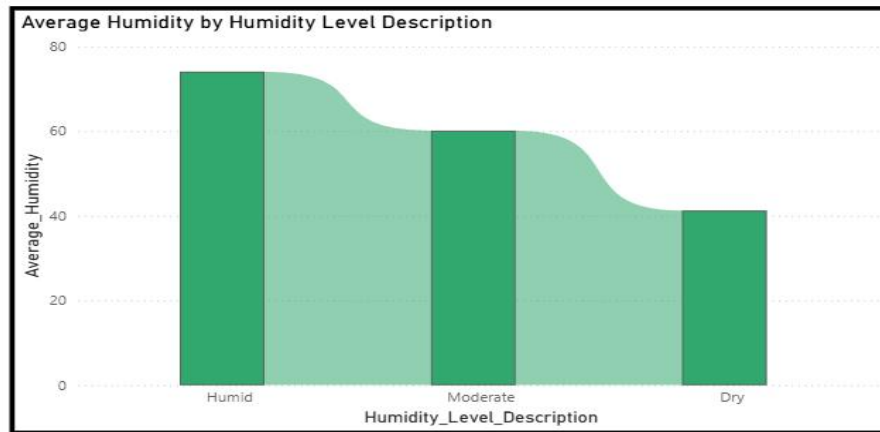


## 4. What is the average humidity across different humidity level descriptions?

A Ribbon chart depicted average humidity based on humidity level categories (dry,

moderate, humid)

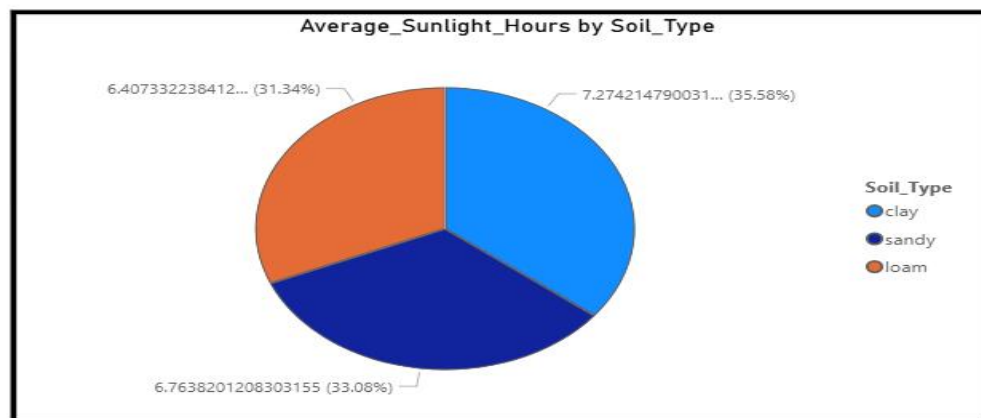
**Insights : Humid conditions lead to the highest average humidity, emphasizing the importance of maintaining high humidity levels for optimal plant growth.**



## 5. How does sunlight vary across different soil types?

A Pie chart illustrated the average number of sunlight hours each soil type received. Sandy soil received the highest sunlight, which may benefit certain plant species.

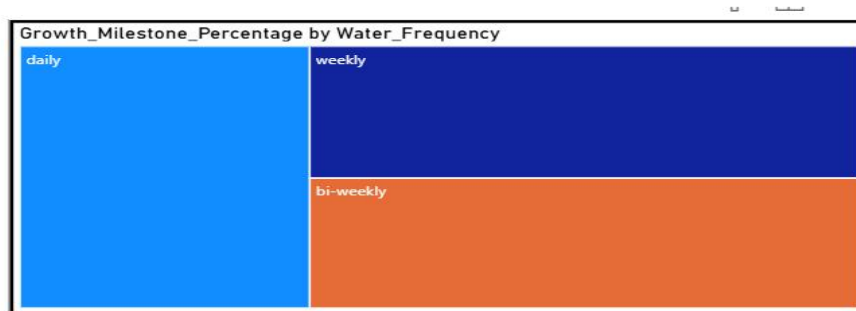
**Insights : Sandy soil receives the highest average sunlight hours, which may contribute to its growth performance under sufficient light conditions.**



## 6. What percentage of growth milestones is achieved by different water frequency schedules?

A treemap represented the percentage distribution of growth milestones by watering frequency (daily, weekly, bi-weekly). It demonstrated that daily watering led to the highest success rate.

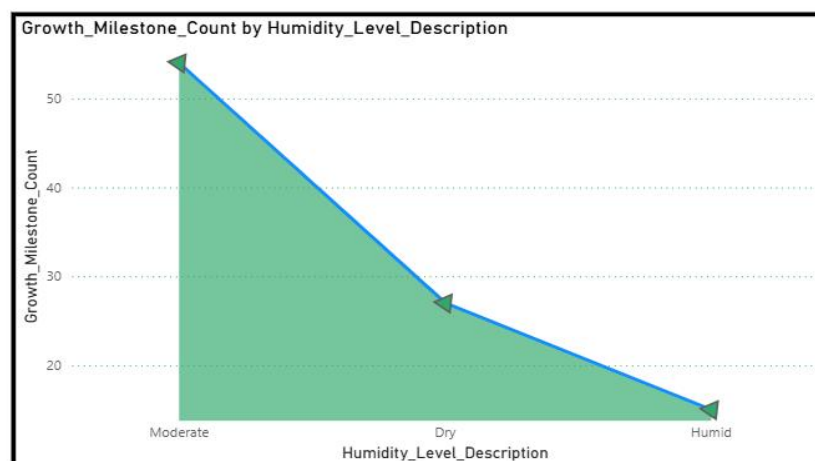
**Insights :** Daily watering results in the highest percentage of growth milestones, showing that frequent watering is crucial for plant growth.



## 7. Which humidity level contributes most to plant growth milestones?

An area chart visualization was used to analyze the growth milestone count across different humidity level descriptions—**Moderate**, **Dry**, and **Humid**.

**Insights:** Humid conditions lead to the highest growth milestone count, reinforcing the importance of maintaining adequate humidity levels for optimal growth



## 8. What is the total count of plant growth milestones achieved?

A **gauge chart** was used to present the total number of growth milestones recorded in the dataset.

**Insights:** The total growth milestone count is 96, with the highest contributions coming from environments with optimal humidity and temperature conditions.

