

Problem Statement – Predicting Plant Growth Stages with Environmental and Management Data

➤ Introduction:

- Accurate prediction of plant growth stages is crucial in modern agriculture to optimize resource usage, improve crop yield, and reduce environmental impact. Environmental factors such as sunlight, temperature, humidity, and water frequency, combined with management practices like fertilizer and soil type, play a significant role in plant development.

➤ Problem Overview:

- Currently, agricultural data is complex and often underutilized without proper visualization and analysis tools. Farmers, researchers, and policymakers need an integrated dashboard to understand how different factors influence plant growth stages. However, these insights are often buried in raw data and not readily accessible in an actionable format.

➤ Core Challenges Identified:

- How do environmental factors like temperature, sunlight, and humidity affect different growth stages?
- What is the impact of water frequency, soil type, and fertilizer on plant development?
- Can we predict growth stages based on environmental and management data trends?
- How can data-driven decisions support sustainable and efficient farming?

➤ Why This Project Matters:

- Understanding these relationships helps achieve sustainable agriculture goals and improve food security. This Power BI dashboard offers a user-friendly, visual approach to uncover patterns from large agricultural datasets, supporting informed decisions in crop management and resource allocation.