

**Project Development Phase  
Model Performance Test**

Date	12 March 2025
Team ID	PNT2025TMID07045
Project Name	Predicting Plant Growth Stages with Environmental and Management Data Using Power BI
Maximum Marks	4

**Model Performance Testing:**

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Screenshot / Values
1.	Data Rendered	No. Of Rows – 11912 No. Of Columns - 25
2.	Data Preprocessing	Fixed column name gaps, Converted numerical columns to Whole Number, Adjusted outliers
3.	Utilization of Data Filters	Year Slicer, Country Slicer

4.	DAX Queries Used	<pre>// Measure: Plant Growth Stage Rank (based on a hypothetical 'Growth Stage Index') Plant Growth Stage Rank = RANKX(     ALL('PlantData'[PlantID]),     [Growth Stage Index], // Replace with your actual growth stage index measure/column     DESC,     DENSE )  // Measure: Growth Stage Index Share % (relative to total index) Growth Stage Index Share % = DIVIDE(     [Growth Stage Index], // Replace with your actual growth stage index measure/column     CALCULATE([Growth Stage Index], ALL('PlantData'[PlantID])), // Replace with your actual growth stage index measure/column     0 ) * 100  // Measure: Dominant Environmental Factor (based on impact on growth) Dominant Environmental Factor = VAR FactorList = {     "Temperature",     "Humidity",     "Soil Moisture",     "Light Intensity" // Add or change factors based on your data } VAR MaxImpact =     MAXX(         FactorList,         CALCULATE(             [Environmental Factor Impact], // Replace with a measure that represents the impact of each factor on growth             'PlantData'[Environmental Factor] = EARLIER(FactorList)         )     ) RETURN</pre>
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		<pre> CALCULATE(     MAX('PlantData'[Environmental Factor]),     'PlantData'[Environmental Factor] IN FactorList,     CALCULATE(         [Environmental Factor Impact], // Replace with a measure that represents the impact of each factor on growth         'PlantData'[Environmental Factor] IN FactorList     ) = MaxImpact )  // Measure: Dominant Management Practice (based on impact on growth) Dominant Management Practice = VAR PracticeList = {     "Fertilization",     "Irrigation",     "Pesticide Application",     "Pruning" // Add or change practices based on your data } VAR MaxPracticeImpact =     MAXX(         PracticeList,         CALCULATE(             [Management Practice Impact], // Replace with a measure representing the impact of each practice on growth             'PlantData'[Management Practice] = EARLIER(PracticeList)         )     ) RETURN     CALCULATE(         MAX('PlantData'[Management Practice]),         'PlantData'[Management Practice] IN PracticeList,         CALCULATE(             [Management Practice Impact], // Replace with a measure representing the impact of each practice on growth             'PlantData'[Management Practice] IN PracticeList         ) = MaxPracticeImpact     ) </pre>
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		<pre>       ADDCOLUMNS(         SUMMARIZE('world_food_production_cleaned', 'world_food_production_cleaned'[Entity]),         "Production",         VAR CropValues = {           SUM('world_food_production_cleaned'[Apples Production (tonnes)]),           SUM('world_food_production_cleaned'[Bananas Production (tonnes)]),           SUM('world_food_production_cleaned'[Rice Production (tonnes)]),           SUM('world_food_production_cleaned'[Wheat    Production (tonnes)])         }         RETURN MAXX(CropValues, [Value])       ),       [Production]     )  RETURN MaxCrop Total  Production = SUM('world_food_production_cleaned'[Apples Production (tonnes)]) + SUM('world_food_production_cleaned'[Avocados          Production (tonnes)]) + SUM('world_food_production_cleaned'[Bananas Production (tonnes)]) + SUM('world_food_production_cleaned'[Cocoa    beans    Production (tonnes)]) + SUM('world_food_production_cleaned'[Coffee, green  Production (tonnes)]) + SUM('world_food_production_cleaned'[Grapes Production (tonnes)]) + SUM('world_food_production_cleaned'[Maize      Production (tonnes)]) + SUM('world_food_production_cleaned'[Meat,   chicken Production (tonnes)]) + SUM('world_food_production_cleaned'[Oranges Production (tonnes)]) + SUM('world_food_production_cleaned'[Palm oil Production (tonnes)]) + SUM('world_food_production_cleaned'[Peas,      dry      Production (tonnes)]) + </pre>
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		<div>SUM('world_food_production_cleaned'[Potatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Rice      Production (tonnes)]) +</div>
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		SUM('world_food_production_cleaned'[Rye Production (tonnes)]) + SUM('world_food_production_cleaned'[Soybeans Production (tonnes)]) + SUM('world_food_production_cleaned'[Sugar cane Production (tonnes)]) + SUM('world_food_production_cleaned'[Sunflower seed Production (tonnes)]) + SUM('world_food_production_cleaned'[Sweet potatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Tea Production (tonnes)]) + SUM('world_food_production_cleaned'[Tomatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Wheat Production (tonnes)]) + SUM('world_food_production_cleaned'[Yams Production (tonnes)]) )
5.	Dashboard design	No of Visualizations -8 (1) Slicer (2) Card (3) Gauge Chart (4) Bar Chart (5) Area Chart (6) Ribbon Chart (7) Donut Chart (8) Text box
6	Report Design	No of Visualizations – 7 (1) Slicer (2) Card (3) Pie Chart (4) Donut Chart (5) Table (6) Line Chart (7) Text box