Project Development Phase
Model Performance Test

Date	12 March 2025
Team ID	PNT2025TMID06954
Project Name	Global Food Production Trends and Analysis A Comprehensive Study from 1961 to2023 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	// 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

```
    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
    )
```

		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)]) +

		SUM('world_food_production_cleaned'[Potatoes Production (tonnes)]) + SUM('world_food_production_cleaned'[Rice Production (tonnes)]) +

		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) Guage 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