# Input Analysis

## 1. Rainfall Overview

**1.1 Average Annual Rainfall by Year**

SELECT crop\_year, ROUND(AVG(annual\_rainfall), 2) as AVG\_rainfall

FROM crop\_yield

GROUP BY CROP\_Year

ORDER BY AVG\_rainfall DESC;

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AI-generated content may be incorrect.

**1.2 Min, Max & Average Rainfall by State**

SELECT

State,

MIN(Annual\_Rainfall) AS Min\_Rainfall,

MAX(Annual\_Rainfall) AS MAX\_Rainfall,

ROUND(AVG(Annual\_Rainfall), 2) AS Avg\_Rainfall

FROM

crop\_yield

GROUP BY

State

ORDER BY

AVG\_Rainfall DESC;

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The State with the highest average annual rainfall was Meghalaya with 4043 and had quite varied rainfall with quite a difference between it’s minimum and maximum annual rainfall values.

## 2. Rainfall–Yield Relationships

**2.1 Rainfall, Yield Correlation by Crop**

SELECT

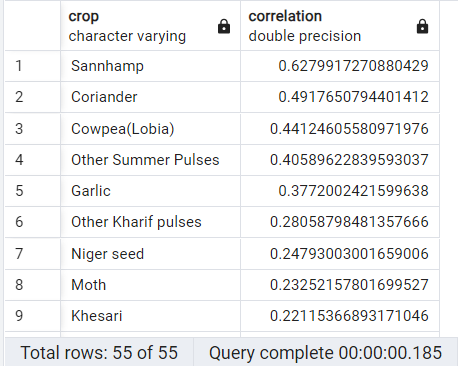
CROP,

CORR(Annual\_Rainfall, Yield) AS Correlation

FROM Crop\_Yield

GROUP BY CROP

ORDER BY Correlation DESC;



The crop with the greatest correlation between annual rainfall and yield is the Sannhamp crop.

## 3. Fertilizer & Pesticide Usage Patterns

**3.1 Fertilizer and Pesticide use by Season per Crop**

SELECT

Crop,

Season,

AVG(Fertilizer) AS AVG\_Fertilizer,

AVG(Pesticide) AS AVG\_Pesticide

FROM Crop\_Yield

GROUP BY Crop, Season

HAVING Season NOT IN ('Whole Year')

ORDER BY Crop, Season;

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**4.1 Fertilizer, Yield Correlation by Crop**

SELECT

CROP,

CORR(Fertilizer, Yield) as Correlation

FROM Crop\_Yield

GROUP BY CROP

ORDER BY Correlation DESC;

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AI-generated content may be incorrect.

**4.2 Pesticide, Yield Correlation by Crop**

SELECT

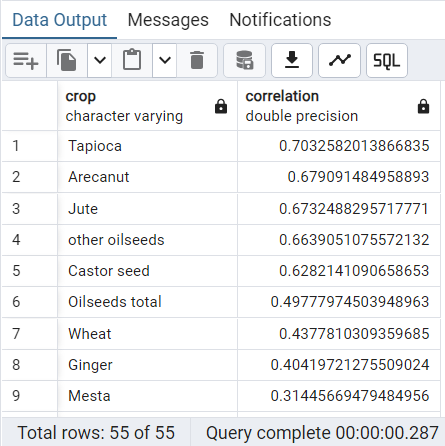
CROP,

CORR(Pesticide, Yield) AS Correlation

FROM Crop\_Yield

GROUP BY CROP

ORDER BY Correlation DESC;



**4.3** **Fertilizer and Pesticide Correlation**

SELECT

corr(fertilizer, pesticide) as correlation\_fert\_pest

FROM crop\_yield;

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## 5. Scale & Efficiency Metrics

**5.1 Area Production by State and Year**

SELECT state,

crop\_year,

SUM(area) as total\_area,

SUM(production) as total\_production

FROM crop\_yield

GROUP BY state, crop\_year

ORDER BY state, crop\_year;

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AI-generated content may be incorrect.

**5.2 Average Yield Per Area by Crop**

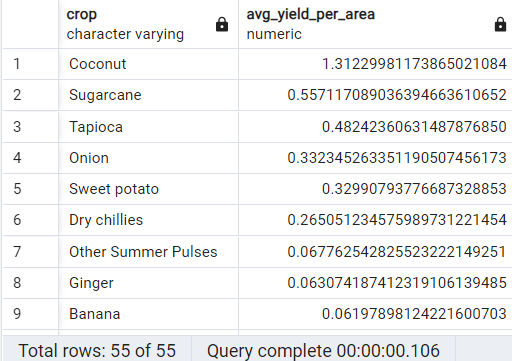
SELECT crop,

AVG(yield/area) as avg\_yield\_per\_area

FROM crop\_yield

GROUP BY crop

ORDER BY avg\_yield\_per\_area DESC;



Coconuts lead in land-use efficiency