*Business Requirement 1: Crop Profitability Analysis*

Given our crop yields and the varying environmental factors, which crops are most profitable across our farms?

Wheat, Soybean, Rice and Cotton are most profitable if we use the highest value of the crop yield which is 12.43.

How might changes in soil, pests, or weather conditions project into future profitability?

No response

*Business Requirement 2: Optimizing Water Resource Allocation*

Diving deep into our irrigation methods and sources, which combinations give the best yield results?

Flood irrigation methods and Lake water sources give the best yield results if we use the highest value of the crop yield which is 12.43.

Can we model an optimized water resource allocation across our farms that could potentially increase our yield?

We can build artificial lakes to store water to guarantee water supply, in time, and irrigate the land. It is also better to use flood irrigation methods as it is cheap and low-tech. Also less water is lost to evaporation than in spray irrigation.

*Business Requirement 3: Regional Profitability Potential*

Analyzing the regions and their respective performances, where should we consider expanding?

**North and East region has the highest crop\_yield result so expansion should be in this region.**

Are there underperforming regions where a shift in strategy or resources could unlock untapped potential?

*Business Requirement 4: Comprehensive Risk Analysis*

Combining all data sets, can you craft a comprehensive risk profile for our farming operations? This should identify potential threats to our yield, profitability, or resources over the next decade.

*Business Requirement 5: Strategic Recommendations and Roadmap*

- Based on all insights derived today, chart out a strategic roadmap for AgResources Inc for the future. What investments, shifts in strategy, or innovations might we pursue for sustained growth and profitability?

*Predictive Analysis on Pest Outbreaks*

By examining pest data and correlating it with environmental factors, can we predict potential future outbreaks or hotspots?

What preemptive measures might we derive from such predictions?