# Final insights

insights = f"""

Insights Report:

1. Most Influential Variables:

Based on correlation analysis, the top 3 variables that most influence fertilizer recommendations are:

- {most\_influential.index[0]} (correlation: {most\_influential.iloc[0]:.2f})

- {most\_influential.index[1]} (correlation: {most\_influential.iloc[1]:.2f})

- {most\_influential.index[2]} (correlation: {most\_influential.iloc[2]:.2f})

2. Crop with Highest Average Soil Moisture:

The crop type with the highest average soil moisture is: {crop\_moisture.index[0]} (average moisture: {crop\_moisture.iloc[0]:.2f}%)

3. Irrigation Recommendations:

For crops experiencing temperatures above 30°C, irrigation adjustments should be considered.

For example:

- {hot\_crop\_moisture.index[0]} shows an average soil moisture of {hot\_crop\_moisture.iloc[0]:.2f}%, indicating {'adequate' if hot\_crop\_moisture.iloc[0] > 50 else 'low'} moisture levels.

- {hot\_crop\_moisture.index[-1]} shows an average soil moisture of {hot\_crop\_moisture.iloc[-1]:.2f}%, suggesting need for increased irrigation.

Recommendations:

- Prioritize monitoring of {most\_influential.index[0]} and {most\_influential.index[1]} to optimize fertilization.

- Consider enhancing irrigation for crops with low moisture and high temperature exposure.

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insights.strip()