Business Report: Understanding the Impact of Climate Change on Potato Production

Team Members:

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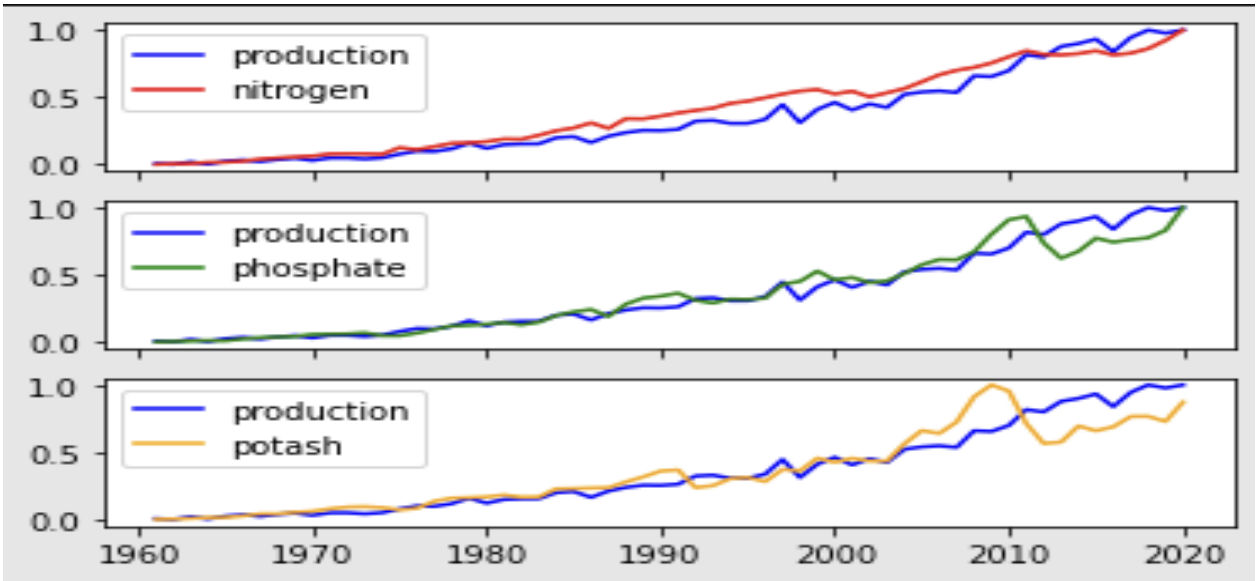
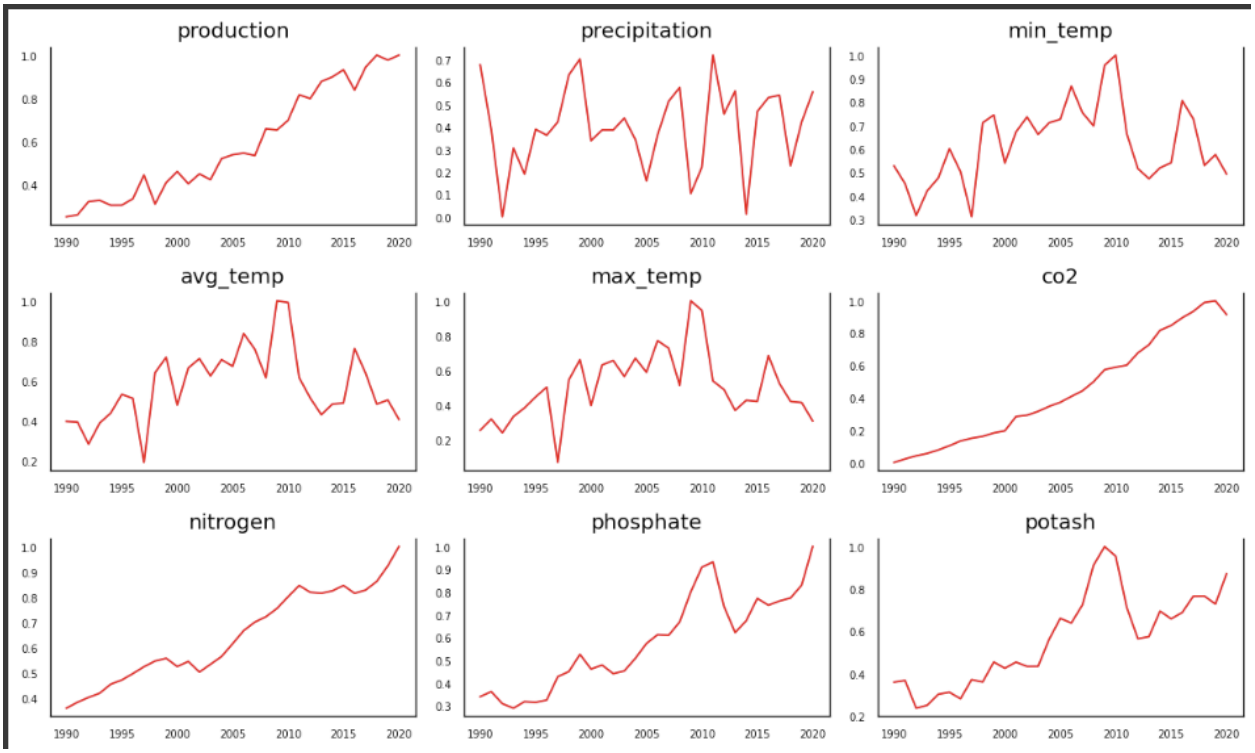
Key Observations:

a. Production of Potatoes increases as the min/average temperatures falls (inversely correlated):
Our analysis of the data revealed that there is a significant inverse correlation between the minimum and average temperature and the production of potatoes. That is, as the temperature falls, the production of potatoes increases. This finding suggests that the use of advanced technologies that can control the temperature can help to increase potato production.

b. Production of Potatoes highly correlated with use of fertilizers mainly Nitrogen (Fertilizers):
We found that the use of fertilizers, particularly nitrogen, has a strong positive correlation with potato production. This finding suggests that the application of the right type and amount of fertilizers can increase potato production.



c. Production of Potatoes highly correlated with Emissions (Co2):
Surprisingly, we found that the emissions of carbon dioxide have a strong positive correlation with potato production. This finding suggests that the use of advanced technologies that can capture carbon dioxide emissions can help to increase potato production.



Conclusion:

1. Based on the insights and key observations identified by the data science team, it can be concluded that climate change has a significant impact on potato production. The production of potatoes is inversely correlated with the minimum and average temperatures, which suggests that higher temperatures could lead to lower potato production. Additionally, the use of fertilizers, mainly nitrogen, has a positive correlation with potato production, indicating that the appropriate use of fertilizers can lead to increased potato production.
2. Another interesting finding is the positive correlation between potato production and emissions (CO2). This finding is counterintuitive, as one would expect emissions to have a negative impact on potato production. However, this may indicate that certain agricultural practices that produce higher emissions may also increase potato production, and further investigation is needed.
3. Some of these observations did not show correlations, which may be due to outliers. Therefore, it is recommended to introduce synthetic variables to account for these outliers and improve the accuracy of the Business Intelligence Model.
4. We have designed a potential machine learning model which can help to forecast potato production in any potato producing country.

Overall, the data science team's findings provide valuable insights for PotatoCo to develop climate adaptation plans to mitigate the potential risks to their business. By utilizing advanced data mining processes and developing a Business Intelligence Model, PotatoCo can systematically identify the data sources, feature variables, synthetic variables and develop a potential model to forecast the impact of climate change on potato production, not just in India and the USA but in other supplying countries as well.

Reference to detailed technical document