Holy Crop

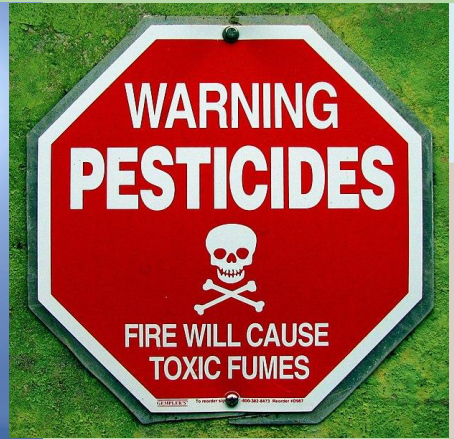
An Analysis on Crop Yield

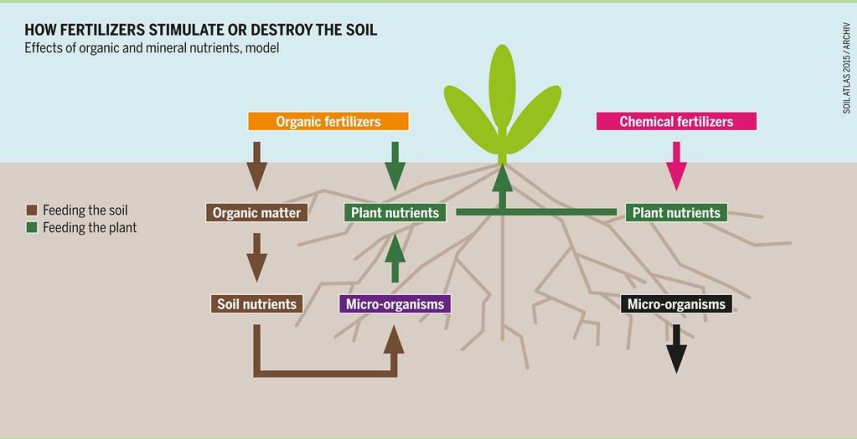
Selected topic & Why Selected

- Selected crop yield across multiple countries from 2008-2013
- Crop yield plays critical role in the global economy
    - Benefits: understanding food security and climate change
- Analyze how different factors such as temperature, land available, and pesticides, and nutrients in the soil impact crop yield per country.

Questions we hope to answer with the data & source of data

- Determine what conditions create the best crop yield and which conditions have a higher effect on which countries yield the most crops for the year.
- Data source is from Kaggle, which uses the publicly available datasets from Food and Agriculture Organization (FAO) and World Data Bank.
- The data can be found at https://www.kaggle.com/datasets/patelris/crop-yield-prediction-dataset and https://www.fao.org/faostat/en/#home





Description of the data exploration phase of the project

- Using the FAO website, we pulled more datasets for our analysis. This included land use and nutrients.
- We then decided that not all historical data was relevant, and only chose to use the data from 2008-2013.
- Duplicates and NaNs were dropped.
- Using a function and a ‘for loop’, we added new columns to show the values for the last five years in each dataset.
- We kept only a certain amount of years that we thought best fit for each condition considered to determine crop yield for the sequential year.
- Lastly we cross-referenced country names to make sure they were consistent in each dataframe. Any differences were either adjusted or dropped.




Description of the analysis phase of the project

Dashboard

The data is displayed by using Leaflet, an open-source JavaScript library that facilitates the development of interactive maps. Our map will have pins for each county, with the option to filter for different crops. When you click on the country you are able to see past crop yields and a prediction for future crop yields.