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Springboard: Data Science Career Track - Capstone 1 Project Proposal

Predicting Sugarcane Production in the United States



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Problem Statement

There are four states where sugarcane is agriculturally produced in the United States. Those states are Louisiana, Florida, Texas, and Hawaii. This project seeks to determine whether or not each of these state's sugarcane production is dependant upon regional weather conditions such as precipitation, wind, and temperature. If a strong correlation can be determined from historical data, then this level of insight could provide supply-side clarity in investments related to U.S. Raw Sugar Futures and Stocks Trading as well as U.S. Sugarcane Farmers asking price.

Business Objective

The goal of this project is to supply U.S. Raw Sugar Futures Trading and Stock Investors and U.S Sugarcane Farmers with realistic market impact measures related to annual sugarcane crop production based upon forecasted regional weather. The raw sugar industry in the U.S. is approximately a \$1 billion annual industry that has a market volatility of \$XX over the past XX years.



Approach

Run multiple order regression algorithms on each regions' historical sugarcane production data (predicted output variable) compared to that region's historical precipitation, dry-bulb temperature, wet-bulb temperature, and wind data (measured input variables) to determine if a correlation exists.

Datasets

1. United States Department of Agriculture, National Agricultural Statistics Service
<https://quickstats.nass.usda.gov/>
 - a. .csv file download (already obtained)
2. Weather Underground, Historical Weather <https://www.wunderground.com/history/>
 - a. Web scraping to a .csv file (*need to go through the Data Wrangling section*)

Utility to Stakeholders

U.S. Sugarcane Farmers can better understand the local and national value of their commodity which could help them in determining their asking price for their expected annual crop yield. This could have a \$XX annual impact to their bottom line.

U.S. Raw Sugar Futures and Stocks Trading Investors could plan better investment strategies surrounding the expected annual supply of raw sugar in the U.S. This could have a \$XX annual impact to their bottom line.

Deliverables

1. Jupyter Notebook on GitHub.com