

Predicting Avocado Sales

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Executive Summary

The main question of interest for this report is: Can we accurately predict weekly Hass avocado sales in San Francisco based on historical data? Of secondary interest is whether or not Hass avocados experience an off-season, and what effect this has on said prediction. We present an exploratory analysis of the data that suggests a slight off-season for organic Hass avocados as well as the absence of any such off-season for conventional avocados. We also present a Bayesian prediction strategy through the use of Jeffreys prior and a Poisson model. The presented strategy produces estimates with, on average, 20% deviations from observed values, usually in the form of over-estimation, which we deem an encouraging result. Finally, we discuss how this prediction strategy can be refined for more nuanced prediction outcomes.