Design

The point of this project is to test whether washing fruit prior to refrigeration is a better way to preserve how long it lasts. The initial hypothesis is that washing fruit prior to refrigeration decreases the time it is edible when compared to unwashed fruit. To test this hypothesis, I will conduct an experiment where I randomly assign the process of washing produce. The units in this experiment will be strawberries. To determine preservation, I will compare the presence of mold growth on individual strawberries

I will wash 50% of the strawberries and compare the amount of mold growth on the washed strawberries to those that were not washed. All strawberries will be bagged individually. Once all units are bagged, they will be placed on a sheet pan and placed under refrigeration for 20 days. Mold growth will be measured at 5, 10, 15 and 20 days.

Units

I will use strawberries. The strawberries will be purchased from the store.

Treatments

The treatment will be a 30 second submersion in water. Each of the strawberries assigned to treatment will individually undergo a 30 second submersion in room temperature water. The water will be changed after each strawberry to ensure that the water is identical for each strawberry. The same amount of water will also be used for each submersion. Following the wash, each strawberry will removed and placed on a dry paper towel for 30 seconds before being placed into an individual ziploc bag. The strawberries that do not receive treatment will be placed in an individual ziploc bag. Once all units are bagged, they will be placed on a sheet pan and placed under refrigeration for 20 days.

Outcome Measures

The outcome will be whether or not the strawberries grew mold during the experiment. I will calculate the proportion that grew mold in the treatment and control groups to compare estimate the causal effect of washing fruit before refrigeration.

Assignment Procedure

I will use complete random assignment to ensure that an equal number of strawberries are in each condition. The strawberries will be arranged in a way that I can use the output vector from an assignment function to determine whether the strawberry is washed or it is placed under refrigeration from the store.