CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)
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Project Number
38325

Project Title
Avocado Oxidation

Abstract

Objectives/Goals
The objective of this study is to determine which method of avocado storage results in the least amount of avocado oxidation.

Methods/Materials
15 avocado halves (some with pits left intact), lemon juice, olive oil, and plastic wrap. Observed discoloration (i.e. oxidation level) of avocados treated with various substances to compare the most effective method to prevent oxidation over a period of a couple days.

Results
I observed the discoloration of avocado halves (pits removed) treated with lemon juice, olive oil and plastic wrap along with untreated avocado halves with pits left intact. The comparison showed that the avocados with pits resulted in the least oxidation and discoloration.

Conclusions/Discussion
The pit method (leaving the avocado pit intact) was most efficient at keeping the avocado from discoloring and oxidizing. This is most likley because the pit was already airtight and embedded into the avocado naturally with less overall exposed surface area to oxidize. Although I had thought that the plastic wrap treatment would result in the least amount of oxidation, those avocados ended up with more or less the same level of discoloration as the lemon juice and control group.

Summary Statement
I found that leaving an avocado pit intact will result in the least the amount of avocado oxidation compared to other treatment methods.

Help Received
I designed and organized the avocado experiment by myself. My teacher and research helped me to decide which variables I might try to prevent oxidation. My mother helped me slice and organize the avocados for observation.