



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Charles Xue	Project Number 22032
Project Title How Vitamin C Will Prevent the Browning of Fresh Cut Fruits	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this experiment was to determine how Vitamin C prevents the browning of three types of fresh cut fruits, such as the apple, banana, and pear.</p> <p>Methods/Materials I obtained 3 types of fruit with three varieties of each type. I cut the fruit into fourths. Using a brush, I covered one section with water, vitamin c, saran wrap, or nothing. I obtained and recorded the results after 10 minutes, 20 minutes, 30 minutes, 3 hours, and 20 hours. This process was repeated 3 times with each variety and each type of fruit. A designated number was given to the #browning# condition.</p> <p>Results The results show that there was a significant difference between the Vitamin C covered fruits and the control.</p> <p>Conclusions/Discussion Based on the analysis of variance, the results show that there was a significant difference in the rate of preventing the browning in various types of fruits. Fruits like Baby Banana, yellow Banana and Gala apple appear more #brown# than the others after 20 hours of exposure to the air. In general, Vitamin C seems to be preventing the oxidation of cut fruits very well in the first three hours, but after 20 hours, in some cases, there was no significant difference between the effect of Vitamin C and water or between Vitamin C and control. I suspected that the amount of sugar present in the fruit may affect the oxidation proves, resulting in the differences in the rate of browning.</p>	
Summary Statement The project is to test if Vitamin C can prevent the browning of various fruits.	
Help Received Mr. Lee helped put together board	