



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Erik W. Mercado	Project Number J0516
Project Title You Have to "C" It to Believe It: How Does Time Affect the Amount of Vitamin C in an Orange?	
Abstract	
Objectives/Goals My objective was to use titration of orange juice with iodine to find when an orange contains the highest amount of Vitamin C after being picked, so that it would be the healthiest possible.	
Methods/Materials I started out by creating a starch indicator solution by heating water and adding soluble starch. I also diluted Lugol's 2% iodine solution so I could accurately measure the amount of Vitamin C in an orange. Periodically I would juice the oranges picked on day one and measure the amount Vitamin C they contained by titrating them with the diluted Lugol's solution I made. All oranges were picked on the same day but juiced on different days. I repeated this process in three trials and used store bought oranges as a control group.	
Results The amount of Vitamin C in the oranges actually increased the first week from an average of 16.10 mg of Vitamin C on day one to 16.97 mg on day three and 17.80 mg on day seven. However, in the weeks following, the Vitamin C dropped to 14.27 mg on day fourteen and 11.97 mg on day twenty-one.	
Conclusions/Discussion My hypothesis that using an orange picked recently is going to have more Vitamin C than an orange picked a while ago was supported by my results. While it might be a good idea to not eat your orange right away after it is picked, make sure you don't wait too long to eat it. Next time I might measure oranges of different sizes, and see if that affects the Vitamin C content.	
Summary Statement The purpose of my project is to find when the optimal time is to eat an orange to get the highest amount of Vitamin C from it.	
Help Received My mom used her credit card to buy my materials online.	