



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Kristina A. Mooradian</b>	<b>Project Number</b> <b>J0522</b>
<b>Project Title</b> <b>Natural "C" Sources</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective was to determine the relative levels of Vitamin C in 15 fresh fruits and 15 fresh vegetables.</p> <p><b>Methods/Materials</b> 15 fresh fruits and 15 fresh vegetables were tested using the titration method. The Vitamin C Indicator Solution consisted of distilled water, 5 drops of 2% iodine and cornstarch solution until a dark purple-blue solution was attained. In order to test if the Indicator Solution worked, a 500mg Vitamin C tablet was crushed and mixed into distilled water and added drops of this mixture to the Indicator Solution until it became clear. Prepare each fresh fruit and vegetable liquid mixtures by peeling, measuring each fruit and vegetable (1.5oz), adding equal measure of distilled water to each, blending and straining the juice. Add 5ml of Vitamin C Indicator Solution in each labeled test tube. Then, add one drop at a time of the prepared fruit liquid mixture in each test tube and count the number of drops needed for the purple-blue color of the Vitamin C Indicator Solution to disappear-record # of drops. Repeat 5 times for reliability. The color of the Indicator Solution disappears because Vitamin C breaks down the iodine/starch combination, acting as a reducing agent and oxidizing easily.</p> <p><b>Results</b> From the 15 fresh fruits tested, strawberries ranked the highest in their concentration of Vitamin C. From the 15 fresh vegetables tested, Romaine lettuce ranked highest in Vitamin C concentration. Strawberries, blueberries, kiwis, grapes and pineapple contained the highest concentrations of Vitamin C among the fruits. Fruits containing moderate amount of Vitamin C included tangelos, oranges, bananas, grapefruits and lemons. Fruits containing the lowest amount of Vitamin C included tomatoes, green apples, peaches, pears and cantaloupes. The vegetables that had the highest levels of Vitamin C were Romaine lettuce, mushrooms, asparagus, broccoli and green peppers. The 5 vegetables with moderate amount of Vitamin C included spinach, onions, green beans, cauliflower and carrots. The 5 vegetables with least amount of Vitamin C included potatoes, Italian zucchini, celery, eggplant and cucumbers.</p> <p><b>Conclusions/Discussion</b> The fruit with the highest level of Vitamin C is Strawberries. The vegetable with the highest concentration of Vitamin C is Romaine lettuce. Findings from this experiment could be beneficial for those individuals who want to increase or decrease their intake of Vitamin C.</p>	
<b>Summary Statement</b> To determine relative levels of Vitamin C in 15 fresh fruits and 15 fresh vegetables.	
<b>Help Received</b> Mother helped with data analysis; brother helped with computer use.	