



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Nathan J. Bowman	Project Number J0502
Project Title Changing Vitamin C in Hottentot Figs	
Abstract Objectives/Goals Does changing an environmental factor (watering with different solutions) change the vitamin C content in hottentot figs (ice plant)? Methods/Materials I grew seven hottentot fig plants in separate pots and gave them seven different liquids to survive and grow. The liquids were as follows: salt water, fresh water, dilute vinegar, baking soda, dilute orange juice, dilute milk, and dilute Diet Coke. I took samples of leaves every three days and measured the vitamin C content by counting the number of drops of iodine that it took to turn the sample of fig juice and starch from black to blue. I generated a standard curve to measure vitamin C levels using a 1000 mg vitamin C tablet. Results Salt water, Baking soda, orange juice, and diet coke increased the vitamin c content in the figs. Salt water increased the vitamin C levels the most consistently. Vinegar, milk, and fresh water reduced the vitamin C content over the ten day experiment. Conclusions/Discussion My data show that changing the environmental factor of watering when growing hottentot fig will in fact change the vitamin C content. In the 18th century, sailors grew hottentot figs on their ships when at sea for a long time to prevent scurvy, which occurs when one has too little vitamin C. The treatment of adding salt water to this plant therefore was very plausible because they were surrounded by salt water. The other treatments that raised the vitamin C content are not that plausible. I would probably improve my experiment by getting a stir plate to stir my liquids for me and prolonging the experiment to look for more changes in the levels of vitamin C over time.	
Summary Statement Watering hottentot figs with different solutions changes the vitamin C content in the leaves.	
Help Received	