



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Morgan S. Peters	Project Number J1619
Project Title Does Location in an Orchard Affect Sugar Levels in Navel Oranges?	
Abstract Objectives/Goals The objective of my project was to determine if location in an orchard effected the sugar levels in Navel oranges. Methods/Materials Randomly collected Navel oranges from six different sections of each tree, in five seperate locations of the orchard. Tested sugar levels of each orange with the refractometer. Then compiled data from the testing. Results After testing over three hundred Navel oranges in five various locations of two seperate orchards, my results showed that the highest sugar levels were found in the oranges on the outside crown of the tree on the South side of the grove. Conclusions/Discussion After completing my investigation of the sugar levels of approximately three hundred oranges. I found there were no significant differences in the overall sugar level of the five areas tested. The highest levels were found on the South side of the grove, on the outside crown of the tree. I also discovered that there are several factors that contribute to the sweetness of an orange. Such as a balance of nutrients, nitrogen, phosohorus, potasium, and soil type.	
Summary Statement My project is how location effects sugar levels in Navel oranges.	
Help Received Dad helped by transporting me to the orchards, Mr. Peter Anderson ; farmer I interviewed	