CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
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Project Number
J1602

Project Title
Where Are the Sweetest Oranges Found?

Abstract

Objectives/Goals
Our goal was to provide information for "Washington Navel" orange growers to know about where they can find the sweetest oranges on an orange tree for a preferred quality of oranges to sell to their customers.

Methods/Materials
We decided to test the sugar-to-acid ratio of the oranges from four marked-off portions of the tree; North, South, East, and West, respectively. We used the refractometer to test the sugar content, and then we used the hydrometer to test the acid level. We tested this over a period of three days for two years and during the same time each year.

Results
We concluded that over a two-year period of time that the South side of the tree had the sweetest oranges consistently thorughout our testing.

Conclusions/Discussion
Our results showed us that the South side of the orange tree has the sweetest oranges because the sunlight hits the oranges for a longer period of time. This causes the orange tree to receive much more sunlight- a major ingredient in photosynthesis, which helps the tree to increase glucose production and causes the sugar content to be higher in the oranges.

Summary Statement
Our project is about finding which side of a "Washington Navel" orange tree has a higher sugar-to-acid ratio.

Help Received
Mother helped with the board, Father took us to an orange grove, Mr. Doug Sankey from Sunwest Citrus Packing Company helped us with our procedure.