



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Adrian J. Weddington	Project Number J1733
Project Title Fruit Size in Tangelos: Year Two	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to determine if fruit size in tangelos could be increased by manipulating the tree by pruning or using a growth regulating hormone. The cost of the treatment and crop value were analyzed. My hypothesis stated that the growth regulator would be best at increasing fruit size and would have the best economic return.</p> <p>Methods/Materials A randomized complete block design was used to compare the pruning, growth regulator, and control (standard farming practice) plots. Fruit size was measured monthly to determine if treatments affect growth rate. At harvest, all fruit was sized on 27 trees (3 replications of 3 treatments, with 3 trees per treatment) using commercial sizing rings. Treatment cost was determined from University of California cost sheets and actual costs. Crop value was determined by sales of previous year fruit for the individual sizes.</p> <p>Results Growth rate and harvested fruit size among treatments was not significantly different. However, the total number of fruit per tree were statistically greater for the pruning and growth regulator treatments compared to the control. Return on investment was highest for the growth regulator, followed by pruning, and lowest for the control.</p> <p>Conclusions/Discussion While average fruit size was not significantly different among the 3 treatments, the difference in fruit count resulted in an economic advantage for using the growth regulator or pruning treatment compared to the control. Fruit size may also have been influenced by the treatments, as there is a correlation between size and number of fruit per tree. My results show that the economically best treatment is the growth regulator.</p>	
Summary Statement Two methods of increasing fruit size were evaluated for effectiveness and economic benefits.	
Help Received Farmer applied standard practices and growth regulator. Mother helped with experimental design and statistical analysis.	