



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Jaron E. Brandon	Project Number J1605
Project Title Hydroponics vs. Aeroponics	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to determine how Hydroponic and Aeroponic growing systems compare to traditional soil based technology in terms of water consumption, root vigor, and growth rates.</p> <p>Methods/Materials Three experiments were developed using the same water, nutrients and seeds, but each had a different way of delivering the nutrients to the plants. The traditional soil system was used as a control; the Hydroponic system used Oasis Foam as an inert medium and oxygen-enriched water; the Aeroponic system also used the foam and was setup like a rainforest, allowing roots to absorb water from the air, maximizing oxygen intake. At the conclusion of this eight week term, the plants were evaluated for growth, root vigor and water consumption.</p> <p>Results The Aeroponic system had the highest growth rate and used the least amount of water while the Hydroponic system had the most pronounced root system.</p> <p>Conclusions/Discussion Although all three experiments produced viable seedlings, the Aeroponic system was clearly the best option considering the small amount of water used implies applications in nonarable parts of the world and outer space.</p>	
Summary Statement I wanted to determine if an Aeroponic growing system can compete with more traditional methods.	
Help Received Ron Brandon provided funding, Mrs. Parker and Pat Brandon provided help with project development.	