



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Austin T. Fullmer</b>	<b>Project Number</b> <b>J1608</b>
<b>Project Title</b> <b>Hydroponics: Can Blue Green Algae Be Used as a Substitute Hydroponics Solution and Sustain Plant Growth?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective was to determine if Blue-Green Algae could be used as a substitute hydroponics solution, which could successfully sustain plant growth.</p> <p><b>Methods/Materials</b> Step #1 Build hydroponics apparatus. Step #2 Growing several types of Blue-Green Algae to compare with hydroponics solution, bacteria based bio formula, &amp; aquaponics solution. Step #3 Geminating seeds Step #4 Measure and compare the height and weight of several plants grown in the different kinds of plant growing formulas.</p> <p><b>Results</b> The plants that grew in a solution of Blue-Green were an average 20 percent taller and weighed 32 percent heavier than the plants that grew in formulated hydroponics formula.</p> <p><b>Conclusions/Discussion</b> The particular concentration of living Blue-Green that I grew in beakers provided a more nutritious growing solution than the optimum concentration of EcoGrow. The ecogrow was designed for optimum plant growth. I believe the Blue-Green algae which collects energy directly from the sun, has a lot of important vitamins, minerals or other nutritious components that are valuable for plant growth.</p>	
<b>Summary Statement</b> Determining if Blue-Green Algae can be used as a hydroponics solution, which supports plant growth.	
<b>Help Received</b> Father helped purchase algae and miscellaneous parts. Father helped glue PVC pipe.	