



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jason R. Regier</b>	<b>Project Number</b> <b>J1622</b>
<b>Project Title</b> <b>Determining the Effects of Nutrient Concentrations on Hydroponic Lettuce</b>	
<b>Abstract</b> <b>Objectives/Goals</b> My project was to determine the effects of different concentrations of fertilizer on hydroponically grown lettuce. <b>Methods/Materials</b> Three separate tanks were constructed of wood and lined with plastic. Each tank held the plant solution and a styrofoam panel, designed to float in the solution. Holes were drilled through the styrofoam panels to form "pockets" for each starter cup. Aerators were connected to each tank to supply oxygen. Artificial plant lights were hung overhead to substitute for sunlight. <b>Results</b> Tank 2 with 1/4 tablespoon of fertilizer per gallon of water had a 74% increase in total plant weight than the control tank with 1/8 tablespoon per gallon of fertilizer. Tank 3 with 3/8 tablespoon per fertilizer per gallon of water had a 14% decrease in total plant weight compared to the control tank. <b>Conclusions/Discussion</b> My conclusion is that more fertilizer does not always guarantee better plant growth. Additional factors need to be considered such as, pH levels, lighting, and water circulation.	
<b>Summary Statement</b> To determine if different amounts of fertilizer would have a profound effect on the growth rate of hydroponic lettuce.	
<b>Help Received</b> Father assisted with the construction of hydroponic tanks. Mother helped with display board and typing. Interviewed owner of Tower Garden Supplies in Fresno.	