



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Nithika Karthikeyan</b>	<b>Project Number</b>  36451
<b>Project Title</b> <b>The Effect of Water Beads on the Crop Yield of Bok Choy</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this experiment is to find if crops can be grown in alternative growth mediums that will consume lesser amounts of water, while maintaining high crop yield and sufficient nutrition levels. This will allow crops to be grown during a drought.</p> <p><b>Methods/Materials</b> 9 Bok Choy seedlings, expanded water beads, nitrogen fertilizer, soil nutrition measuring tool(Luster Leaf Rapitest), soil, iodine, starch, vitamin C tablet. Qualitatively and quantitatively observed the plants growth. Compared all of the plant growth observations using health factor(a numeric value given to visual wilting, visual color, and sizes of the leaves). Measured the amount of vitamin C in the plants and compared to see which had the best overall vitamin C concentrations.</p> <p><b>Results</b> Overall, the plants in water beads only did the best in terms of health factor and vitamin C concentration. this supports the objective of my project because the plants in different mediums, even the mixture of soil and water beads, did better than the most common growth medium, soil.</p> <p><b>Conclusions/Discussion</b> The three trials of my experiment revealed that the change in the growth medium of plants does change the health factor and vitamin C concentration of the plant. In conclusion, water beads provided the highest crop yield and nutritional value while conserving the amount of water used to grow the crops.</p>	
<b>Summary Statement</b> As the growth medium kept increasing with the amount of water beads in them, the crop yield and vitamin C concentration increased.	
<b>Help Received</b> My dad helped me with the experiment partially. Other than my dad, I conducted, created, an presented the experiment by myself.	