



**CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY**

Name(s) Bhargavi Gulia	Project Number J1811
Project Title Shoot, It Sprouted! Effects of Turmeric and Hydrogen Peroxide on Sprouting of Moong Beans	
<p style="text-align: center;">Abstract</p> <p>Objectives The objective of my research was to test the efficacy of different treatments of turmeric and hydrogen peroxide on the sprouting of Moong Beans. Do turmeric and hydrogen peroxide improve the speed of emergence/sprouting, uniformity, vigor, quality and freshness of Moong Beans?</p> <p>Methods The materials I used for this experiment included Moong Bean seeds, water, turmeric, hydrogen peroxide, spray bottle, measuring cup, paper towels and Ziploc bags.</p> <p>I prepared several solutions with different proportions of water, hydrogen peroxide and turmeric. I used Paper-Towel Method for sprouting the seeds. I soaked the seeds in their respective solutions and germinated them on wet paper towels at room temperature. The paper towels were enclosed in Ziploc bags. I recorded data after second, third and fourth days. I analyzed data using excel-sheet and its statistical tools.</p> <p>Results I conducted multiple replicated trials and compared their results. My data showed higher number of seed germination when treated with hydrogen peroxide than with water alone while the vigor and quality were recorded better with treatment of turmeric followed by the mixture of turmeric and hydrogen peroxide.</p> <p>Conclusions The testing of turmeric and hydrogen peroxide in different solutions showed positive impacts on the Moong Bean sprouts. Turmeric due to its nutritional, medicinal and bio-stimulating activities offers a great organic option for sprouting Moong Beans, while hydrogen peroxide provides a conventional solution to have quality sprouts.</p> <p>To further my research, I am planning on testing the efficacy of curcumin, a compound found in turmeric, for reducing/removing of bacteria/diseases on various seeds.</p>	
Summary Statement My experiment showed that solutions of turmeric and hydrogen peroxide have positive effects on the speed and quality of Moong Bean sprouts.	
Help Received During this project, I received help from my family and my teachers at school, Mr. Anderson and Ms. Brown.	