



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Sophia T. Kawamoto	Project Number J2017
Project Title Strong, Stronger, Strongest Fava	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I chose to do this project because I wanted to use substances that did not have toxic substances to help plants grow. When growing plants, I found that some parts of the plant are more productive and have a higher survival rate than others, and I wondered why this was. I believe this project can lead to using fewer pesticides to influence bean plant growth.</p> <p>Methods/Materials Materials: 1. Three Jiffy Pots that have 24 pellets each; 2. Potting soil; 3. Fifty one fava bean seeds; 4. Water; 5. Dried ground alfalfa; 6. Dried ground seaweed; 7. A dark colored sharpie; 8. Measuring cup; 9. An indoor area that is in direct sunlight; 10. An indoor area that is not in direct sunlight; 11. Ruler; 12. Triple beam balance; 13. ¼ teaspoon.</p> <p>Methods: 1. Expand the jiffy pellets; 2. Plant the fava beans in the pellets; 3. Water with mixtures every day; 4. Once all have sprouted, move the trays to a light area; 5. Water with mixtures every day; 6. Transplant the 5 tallest of each group; 7. Water with mixtures every day.</p> <p>Results Once I finished testing I found that over all the plants watered with water had the most growth. On average they had 29 leaves and were the tallest plants.</p> <p>Conclusions/Discussion Neither of my hypotheses were correct. My null hypothesis is incorrect because not all of the plants have the same height and leaf count. My experimental hypothesis is also incorrect, because the plants watered with water grew more than the plants watered with alfalfa or kelp. While testing I faced many problems that may have affected my results. I was also inspired to do other projects after doing this project.</p>	
Summary Statement I grew fava beans and watered them with plain water, water mixed with kelp powder, or water mixed with alfalfa powder and compared the differences.	
Help Received My father cared for my plants while I was on vacation. My sister helped my take pictures while I tested and put together my board. My mother bought materials for my project. George Merilatt supplied a triple beam balance and fava bean seeds. Vini Schoene and Caprice Potter gave me information on fava beans.	