



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

<b>Name(s)</b> Ella D. Grabenheinrich	<b>Project Number</b>  35010
<b>Project Title</b> Germination and Growth of Fava Bean Plants	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> To determine the most suitable germination and growth conditions for fava bean plants.</p> <p><b>Methods/Materials</b> Planted fava bean seeds in different soils, lighting conditions, and water to measure the speed of germination and growth in each setting.</p> <p><b>Results</b> Fava bean plants grew faster in less sunlight but were a light green color and had less leaves than the other plants.</p> <p><b>Conclusions/Discussion</b> Etiolation occurred when the fava bean plants were grown without sunlight. The stem of the plant elongated quickly and without many leaves to increase the chance to find light. The energy for photosynthesis comes from sunlight. Without sunlight, the chlorophyll in the plant is slowly destroyed. Therefore, the plants were a light green.</p>	
<b>Summary Statement</b> Conditions to increase the speed of fava bean plant germination and growth	
<b>Help Received</b> My science teacher, Mr Penkala, taught me how to create charts in Excel. Thank you Mr Penkala!	