



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Amanda K. Lazaro	Project Number J1912
Project Title The Study of the Effects of Electricity on Seed Germination and Plant Growth of Contender Bush Beans	
Abstract Objectives/Goals The objective of this experiment was to study the effects of electricity on seed germination and the overall growth of Contender Bush beans. I hypothesized that electricity would increase germination rate, as well as increase plant growth of the bean plants. Methods/Materials Thirty Contender Bush bean seeds were planted among six different pots. I created an electrical field for each individual pot by using a 9-volt battery along with insulated wires connected to a copper rod on one end of the pot and a galvanized nail on the other end of the pot. An additional thirty Contender Bush beans were planted among six other pots without the presence of an electrical field. I measured daily when germination occurred for each seed. I also measured the growth in terms of height for each individual plant. Daily voltage measurements for each electrical field were also recorded. Results The seeds that were exposed to an electrical field germinated one day earlier than the control seeds. And during the first two days of the experiment, the germination percentage was the highest among the seeds exposed to an electrical field. Also after the first few days of germination when measured voltages were at its highest, plant growth was the highest for those plants exposed to an electrical field. Conclusions/Discussion Electricity did increase seed germination rate and it also had a positive effect on plant growth. During the time when recorded voltages were at its highest, it showed to have a positive influence on germination rate and on plant growth. However, since I was unable to maintain a consistent level of voltage among the plants exposed to the electrical field throughout the study, the voltage exposed plants did not maintain its superior growth compared to the control plants.	
Summary Statement This study examined the effects of an electrical field on seed germination and plant growth of Contender Bush beans.	
Help Received I received assistance from my father in setting up the electrical components of the study.	