Name(s)	Project Number
Nikhita H. Poole	**S2016**

Project Title

Effects of Electrical Stimulation on the Immediate Growth of Bean Plants

Abstract

Objectives/Goals
The goal of my project was to determine whether electrical stimulation of bean plants could positively affect the plants' growth.

Methods/Materials
Beans were organized into groups of ten according to the various variables which were assigned. A series of experiments was performed, which tested the effects of different variables such as the stage of growth at which the current was passed through the plant, the intensity of the current, the length of application, and the method with which the current was applied. A power supply was used to provide the electricity, and a multimeter was used to measure the current.

Results
Although the electrical 'stimulation' ended up killing some of the plants, the combination of variables that did result in more growth than the control was a continuous voltage of 5 Volts applied to the bean in water (as opposed to with wires) for 7 seconds. The beans in this group grew an average of 15.78 cm, whereas the control group grew an average of only 15.1 cm.

Conclusions/Discussion
These experiments have led me to believe that, when applied correctly, an electrical current can indeed positively influence the growth of bean plants. However, because there are so many different potential variables, there are also many ways in which they can be combined. All the variables interact, and many different combinations still remain to be tested in order to determine the very best one.

Summary Statement

This project was intended to determine if electrical stimulation could serve as an alternate means of inducing plant growth, rather than by chemical means.

Help Received

My father obtained a power supply for me to use, and also helped me to reorganize my data tables so that other people besides me could understand them.