CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
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Project Number
34902

Project Title
Electroculture: Effects of DC Voltages on Radish Growth

Abstract

Objectives/Goals
It is hypothesized that radish seeds which are induced with DC voltages will experience a higher growth rate.

Methods/Materials
5 pots, a bag of soil, a packet of radish seeds, four 9V batteries, copper wire, an 80 milliliter measuring spoon, and a ruler with a centimeter side.

Fill the pots with soil. Label control the pot A, and label the experimental pots B through E. Plant ten seeds in each pot. Water with 80 mL of tap water. Use the copper wire and 9V batteries to run electricity into the experimental group of plants. Water the plants again when soil is dry. Continue process for three weeks. Randomly pick one stalk from each pot. Take the average length of the experimental group stalks and compare it against the control.

Results
In two of the three experiments, the plants which received electricity had shorter stalks than that of the control group.

Conclusions/Discussion
The results of this experiment supports some past research, but does not support other past research. Past research showed that plants grown with electroculture had longer, stouter, more resilient stalks. The radishes in this experiment had little difference between them. Past experiments showed that electrified plants experience accelerated germination and growth, which did occur in this experiment.

The limiting factors of this study were as follows: watering from external sources such as the weather and garden sprinklers, the depth of wires in soil not being consistent, water draining differently in the pots which had not been disturbed by wires, and different amounts of soil in different pots. In the future, these problems could be solved by keeping the plants in a controlled environment from the beginning, getting more materials so that wires did not have to be moved around so much, and measuring the amount of soil more carefully.

This experiment is significant because, while it did not fully enhance the plants' growth, it showed that there is some merit to electroculture.

Summary Statement
Using electrical voltages from batteries in an attempt to bolster the growth of plants.

Help Received
Mother helped arrange board