CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
Travis C. Wallace

Project Number
J1640

Project Title
Does a Magnetic Field Affect Plant Growth?

Abstract

Objectives/Goals
To determine the effect magnetic fields have on the growth of plants.

Methods/Materials
Start with 30 Styrofoam cups and place five holes in the bottom of each cup for water drainage. Fill each cup with a mixture of potting soil and dirt. Soak each cup with water. Separate the cups into groups of ten making three separate groups. The control group of cups is magnet free. In Group #A# place (2) 60 grade #A# cow magnets on each side of cup far enough apart that they won#t stick to each other. In Group #B# place (4) 60 grade #A# cow magnets one on top of the other on each side of cup, again making sure they do not stick to each other. Separate each group so magnetic fields will not interfere with control group or interact with Group #A# and #B#. Place four radish seeds in each cup and water each plant with 250 ml of water each day. As plants grow log and chart daily the number of leaves, the length of stems and width of stems. At four weeks remove plants carefully so as to include roots and dry each group of plants and weighing daily until the weight stays the same.

Results
Analysis of all data by use of graphs failed to conclusively prove that the hypothesis was correct. Some data, number of leaves and dried weight, showed a trend to larger plants in the #B# group. Other factors such as rate of growth and smaller weights as plants dried out did affect the results. Overall it seemed the experiment with EMF#s did not effect plant growth in a positive way. In general, the hypothesis was not proven.

Conclusions/Discussion
Interpretation of the data show in general magnetic fields (EMF) did not affect the plant growth. Both stem height and leaf width was inconclusive. The number of leaves and dried weight showed stronger growth in the "B# group. Overall the experiment concluded that the magnetic fields did not affect plant growth as expected.

Summary Statement
To determine the effect magnetic fields have on the growth of plants.

Help Received