



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> Samuel C. Spevack	<b>Project Number</b> <b>J1425</b>
<b>Project Title</b> <b>The Effects of Magnetic Pole Reversals on Radish Plants</b>	
<b>Abstract</b> <b>Objectives/Goals</b> Every few hundred thousand years or so the earth's geomagnetic field reverses. Scientists think there could be a possible correlation between the reversals and mass extinction. The experimenter's objective was to see if there was any correlation between the reversal of a magnetic field and the growth of the radish plants (mass in grams). <b>Methods/Materials</b> There was a total of twelve groups of radish plants studied for a total of 240 plants. There were four separate groups of radish plants. Three control groups of twenty, which were grown in the presence of a constant southern magnetic field. All other groups were grown in the presence of magnetic fields that reversed during the two week period of the experiment. The first three groups had one reversal, the next three groups had two and the last three groups had three magnetic reversals. The mass was measured with a triple beam balance. For all groups two measurements were taken at the end of the first and second week. <b>Results</b> The more reversals there were the more mass the plants had. The control group, with no reversals had the plants with the least amount of mass. The group that reversed, had a small amount of brown discoloration of the roots although the plants were very healthy and had more mass. <b>Conclusions/Discussion</b> In conclusion, the experimenter did find a correlation between magnetic reversals and radish plant growth, but it was the opposite of what had been hypothesized. The median (and average) mass of plants that were subjected to magnetic field reversals were greater than those that were grown in the control group. The mass of the plants also increased with increasing number of reversals. Although this is the opposite of what was originally expected. The experimenter believes that the greater growth shown by the radish plants still might indicate a link between magnetic pole reversals and mass extinctions as the greater growth of some plants and animals might have a negative effect on others (cats on mice).	
<b>Summary Statement</b> The experimenter's project was about magnetic pole reversals and its effect on radish plant growth.	
<b>Help Received</b> My mother helped to type part of my report and assisted in the purchasing of materials.	