



**CALIFORNIA STATE SCIENCE FAIR  
2012 PROJECT SUMMARY**

<b>Name(s)</b> <b>Brissa G. Rodriguez</b>	<b>Project Number</b> <b>J1723</b>
<b>Project Title</b> <b>Determining the Effects of Battery Acid on the Growth of Radish Plants</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective is to determine if planting seeds and plants in soil contaminated by battery acid will increase both the germination and growth process. I believe that planting seeds and plants in soil contaminated by battery acid will increase their growth rate.</p> <p><b>Methods/Materials</b> Radish seeds were planted into 10 small pots safely filled with soil contaminated by old batteries with visible acid leakage. A set of 10 small radish plants were planted in soil contaminated with battery acid. The seeds and plants were watered as needed with tap water which was also contaminated with battery acid. The growth of both seeds and plants were measured with a centimeter ruler and recorded over a period of 30 days.</p> <p><b>Results</b> Test Variable #1: The seeds in contaminated soil grew an average of 7.75 centimeters over a period of 30 days. Seeds planted in soil contaminated with battery acid grew an average of 40% more than that of the control group. The leaves grew an average of 25% more than the control group leaves. Test Variable #2: The results of the plants appeared very healthy with colorful leaves. The plants steadily increased in growth over a period of 20 days. Plants in contaminated soil grew an average of 1.37 centimeters over a period of 20 days. Plants planted in soil contaminated with battery acid had less than 10% of leaves affected by insects.</p> <p><b>Conclusions/Discussion</b> Battery acid does have an effect on plant growth. Based on my experiment, germinating seeds in soil contaminated by battery acid increased the growth process. It is possible that the battery acid in the soil creates more space between the soil particles which allows more oxygen to get to the roots which in turn allows the plants to grow faster. Once the seed becomes a plant, growth becomes less of a factor. Differences in the leaves and the general health of the plants were observed and noted. The soil is contaminated with toxic battery acid which may have contributed to the unexpected findings of my experiment.</p>	
<b>Summary Statement</b> The purpose of my science project is to investigate the ways in which battery acid affects plant growth.	
<b>Help Received</b> Mother helped type report; Father helped glue title on board	