



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Sarah E. Klein	Project Number J2313
Project Title Growin' in the Rain	
Abstract Objectives/Goals The purpose of my experiment was to determine whether an acidic solution (acid rain) affects the rate in which a radish shoot emerges from the soil. My hypothesis was that the radish seed group, or control group, that received water only, would emerge the fastest. Methods/Materials My materials included Champion radishes that germinate within four to seven days, distilled white vinegar, which simulated the acid rain, five planters for each group for a total of 20 planters, and Organix Soil. Planters were placed in four groups, five in each group. Six seeds were planted in each pot at 1/2 inch depth. The control group received 50ml of tap water, Group A received 49.5 ml of water and .5 ml of vinegar. Group B received 49ml of water and 1.0ml of vinegar, and Group C received 48.5ml of water and 1.5ml of vinegar. Water solutions were tested for their pH level. Plants were watered every two days. Plants were observed and recorded for seven days. Results The results showed that the seeds in the control group emerged from the soil within five days. Groups A, B, and C emerged by the sixth day. Conclusions/Discussion I proved that my hypothesis was correct. The Control group with no acidity in the water, emerged from the soil the fastest. In conclusion, the acidic solution did affect the growth of radish seed development.	
Summary Statement Does acidity in soil (acid rain) affect the rate in which a radish seed emerges from soil.	
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