



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Ashley Cable; Naiya Ingram-Villagrana	Project Number J2304
Project Title What Is Acid Rain and How Does It Affect Tomato Plants?	
Abstract Objectives/Goals Our objective was to learn what happens to tomato plants when they are exposed to different levels of acid rain and if the effects can be neutralized through simple chemistry. Methods/Materials We had four tomato plants. Plants 1 and 2 were fed different concentrations of a sulfuric acid and spring water solution (pH 4.0 & 4.5), Plant 3 was fed the pH 4.5 solution and a lime neutralizer and Plant 4, the control, was fed spring water. We fed them all # oz. of their assigned solution every other day for three weeks. At recorded intervals we noted changes in the plants, such as height and yellowing. Results Plant 1 was dead by the end of three weeks. Plant 2 was almost dead, though not as brittle and droopy. Plants 3 and 4 were just about as green but the neutralized plant was smaller, showing that the acid rain still had a slight effect on it. Conclusions/Discussion The plants fed the acid rain solutions died. Adding the lime to Plant 3 was successful in protecting it. However, it was still hard for the neutralized plant to grow as fast as the control. This may be because the acid had a slight effect on it or it got too little acid, since tomato plants prefer slightly acidic soils. Our results supported our hypothesis and demonstrated the beneficial effects of adding lime.	
Summary Statement We used the scientific method to demonstrate the effects of acid rain on tomato plants and how these effects might be chemically neutralized.	
Help Received Father made the acid rain and helped organize the text; Mother helped organize display board	