



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Elena Vergara	Project Number J1633
Project Title Succulent Plants: Leaf Material vs. Water	
Objectives/Goals To find the percent variation of water storage among different succulent species.	
Abstract Methods/Materials Forty-five grams of eight succulent species which are: Red Apple Ice Plant, Purple Ice Plant, Begonia Wax Leaf, Pink Caccneau Begonia, Aloe Vera, Aloe Ibitiensis, Consolea Rubescens Cactus, and Cotyledon Macrantha; electrical centrifuge, and electrical balance and two centrifuge test tubes with a capacity of fourteen milliliters. First I weighed fifteen grams of one of the species and then crushed it and poured into a centrifuge test tube. Then, I placed the centrifuge test tube on the electrical centrifuge. I was able to place two different samples in the centrifuge at a time. Next, I turned on the centrifuge for twenty minutes. After twenty minutes, I took them out. I figured out how much water and how much was leaf material and how much was water by looking at the readings on the centrifuge test tube. Next, I figured out the percentage of leaf material and water to comparison of the fifteen grams of leaves. I repeated the procedure three times for each species. Lastly, I figured the average percentage of leaf material and water for each of the eight species.	
Results On a average, the Purple Ice Plant had the greatest percentage of water, second the Begonia Wax leaf, third the Aloe Vera, fourth the Aloe Ibitiensis, fifth the Consolea Rubescens Cactus, sixth the Cotyledon Macrantha, seventh the Red Apple Ice Plant and eighth the Pink Caccneau Begonia. The following are my average results. On average, the Purple Ice Plant had 72.64% water and 27.36% leaf material, the Begonia Wax Leaf had 71.43% water and 28.57% leaf material, the Aloe Vera had 67.29% water and 32.71% leaf material, the Aloe Ibitiensis had 63.07% water and 36.93% leaf material, the Consolea Rubescens Cactus had 61.29% water and 38.71% leaf material, the Cotyledon Macrantha had 59.50% water and 40.50% leaf material, the Red Apple Ice Plant had 55.93% water and 44.07% leaf material, and the Pink Caccneau Begonia had 46.43% water and 53.57% leaf material.	
Conclusions/Discussion My hypothesis was incorrect. I learned that there is a variation of how much water succulent plants contain among different species. So from the plants that I tested, I now know that the Purple Ice Plant will survive better in hot climate environments including my garden.	
Summary Statement The purpose of my doing my project was to know the percent variation of water storage among succulent species and find one plant that had to most water storage, which would survive better hot climate environments including my garden.	
Help Received Mr. McMahan, my science teacher, helped me learn how to use the electrical centrifuge. My mother helped me make helped me paste my papers on my display board.	