



# CALIFORNIA STATE SCIENCE FAIR 2015 PROJECT SUMMARY

<b>Name(s)</b> Isabella Allen; Caitlyn Giannini	<b>Project Number</b>  35267
<b>Project Title</b> How Do Different Fruit-Based Compost Solutions Affect the Growth of a Radish Plant?	
<b>Objectives/Goals</b> Our objective was to determine how different fruit-based compost solutions affect the growth of a radish plant. We hypothesized that the Honeydew and Cantaloupe (Melon) compost solution would have the most positive effect on the growth of a radish, because Honeydew and Cantaloupe contain the highest concentration of potassium, magnesium, calcium, and phosphorus, which are four of the primary and secondary nutrients that soil needs in order for plants to be able to grow successfully. <b>Abstract</b> <b>Methods/Materials</b> First, we planted radish seeds in starter pot trays. After they had germinated, we re-planted five sets of eight different radish sprouts into larger pots containing soil mixed with different fruit-based compost solutions: Apples and Pears (Rosaceae), Bananas, Oranges and Lemons (Citrus), and Honeydew and Cantaloupe (Melon). We also mixed one of the five pots of soil with just water, and planted the radish sprouts within the control group in this pot. The radishes were watered every two days with tap water and we re-watered once during the growth period with diluted versions of the different compost solutions. After seven weeks, we harvested each of the radish plants and recorded the individual mass of each radish, and the total and average masses of the radishes within each group. We made a data table describing the visual appearance of each of the radishes each week. <b>Results</b> Our graphs and data table illustrate that the Honeydew and Cantaloupe compost had the most positive effect on the growth of a radish. The average radish mass within this group was 2.10 grams, the average radish mass in the control group was 1.97 g, the radishes in the Orange and Lemon group averaged a mass of 1.05 g, and finally, the average mass of the radishes in the Apple and Pear group was 0.47 g. The radishes within the banana compost group died within their first week of growth, causing a lack of significant data. <b>Conclusions/Discussion</b> Our hypothesis appears to be correct. Our data indicate that the radishes within the Honeydew and Cantaloupe compost group grew to have the greatest mass. We believe that this is because this fruit solution had the highest concentration of four of the primary and secondary macronutrients. We believe that the radishes within the Banana compost group may have died so quickly because they were receiving too much phosphorus and potassium, whereas they were not receiving enough of the other nutrients.	
<b>Summary Statement</b> Our project was conducted to determine which fruit-based compost solution had the greatest affect on the growth of a radish plant.	
<b>Help Received</b> Parents drove us to the store and bought the materials needed for our experiment.	