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Pumped Up Beans

Our project was originally created to see if different substances affect the growth rate of beans. We used *Phaseolus lunatus*, commonly referred to as lima beans. We introduced salt, sugar, and baking soda into the soil. One control group with no additives was used. We choose to do this because sugar might affect the photosynthesis of the plant, baking soda because of its neutrality, and salt because of pH.

Lima beans were sprouted in a damp paper towel. Four samples were used in each group and Styrofoam cups were labeled accordingly. One tablespoon of each substance was mixed with soil and placed into its corresponding cup with a bean sprout. Plants were placed in indirect sun and watered with tap water.

Preliminary results indicated the beans with the sugar did the best. The sugar appeared to make them grow, the salt killed the bean sprouts, and the baking soda made the sprouts brown and mushy. Our data showed that the control bean average height was 7 cm, the average sugar was 12 cm, the average salt was 6 cm, and the baking soda was 2 cm.

Because of these results, we have decided to continue our experiment with more trials. We will be growing new beans and adding different amounts of sugar to the soil because sugar had the greatest positive affect on the beans. We would like to see if continuing the trials will validate our sugar results.