## CALIFORNIA STATE SCIENCE FAIR
### 2003 PROJECT SUMMARY

<table>
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<tr>
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<td>Project Number</td>
<td>S1607</td>
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### Project Title

**pH and Its Effect on Plants**

### Abstract

**Objectives/Goals**

The objective of my experiment was to test the pH levels of the water used to nourish the plants and find out the different effects on the plants.

**Methods/Materials**

Two different chemicals were used to change the pH balance of the distilled water used to nourish the plants. They were NaOH (Sodium Hydroxide), HCl (Hydrochloric Acid). The growth factors were then tracked for each of the different pH levels. For height, sturdiness, color of leaf, and deformity of plant.

**Results**

Plants tested on the lower end of the pH scale pH-1, 3, 5, and 6 were affected by having the appearance of burnt leaves as well as pH 1, and 5 had lack of sturdiness. Plants tested in neutral (pH 7) showed the best results for health and growth. Plants on the higher end of the pH scale pH-9, 10, 12, and 14 failed to thrive. They showed early signs of deformity of fruit, lack of sturdiness and discoloration of leaves. They died during the course of the experiment.

**Conclusions/Discussion**

In this experiment I found many interesting results. My hypothesis had stated that the plants tested in pH 5, 6, and 7 (neutral) would basically the same outcome. This statement was proven wrong in the course of the experiment. The plants in pH 5 had a worse reaction of the lower end of the pH scale and pH 6 show signs of discoloration in the leaves. pH 7 (neutral) thrived and grew the best. My hypothesis also stated that pH 9, 10, 12, and 14 would have the worse reaction, this was proven correct. According to my research data it shows just how important the pH levels are to the health and well-being of plants on whether they thrive or not and how important it is for our food crops.

### Summary Statement

This experiment will show the effect of pH levels on Plants.

### Help Received

Mr. Porter my chemistry teacher helped with equipment and experiment procedures, Mr. Mayfield my FFA adviser helped with board, My mom helped with materials and wording of my report.