**Introduction**

We chose to investigate the effects of Gibberellic Acid on the growth and leaf development in wild type and rosette Brassica rapa plants. Brassica rapa plants are bred for their rapid life cycle and ability to grow significantly in a short amount of time. This growth, however, is dependent on the presence of Gibberellic Acid in the plants. The rosette phenotype of Brassica rapa is conditioned by a single gene mutation which is, in the homogenous condition rows, results in 4 to 10 times less gibberellin in the tissue. (Fast Plants Worksheet) Rosette plants affected by this gene mutation appear dwarfed; the internodes of the plants do not thicken and the leaves lie flat on the soil. In addition, normal flower development is impeded and the plant produces very few seeds. When Gibberellic Acid is added to the rosette plants, growth should occur and should exceed normal growth in the wild plant.

**Hypothesis**

Based on the information in the Fast Plants worksheet, we hypothesized that the plants, both wild type and rosette plants that received the Gibberellic Acid would exceed the growth of the wild type and rosette plants that only received water.

**Methods**

We began our experiment by selecting and cleaning out four quads to grow our plants. We marked the quads “wild type water,” “wild type acid,” “dwarf type water,” and “dwarf type acid” and inserted sticks into the holes of the quads to form a frame. We then added the appropriate water to each quad, as well as a small amount of fertilizer. Next, we placed our plants on top of the quads. We filled the reservoir with water and secured the quads on top of the platform.

We measured the growth daily for the next three days and then moved our measurements to every other day. Each time a team member came in to check on the plants, she measured the height of the plant’s stem in millimeters from the top of the soil to the highest point on the stem and counted the number of leaves on each plant. We recorded this data and took a picture of each quad.

We did this for a week and then began to lose our methodology. Disregarding the steps, we applied a mixture of Gibberellic Acid to our plants, regardless of the type of plant. We lost track of the leaves and the heights of the plants. We continued to record the height of the plants in the water but did not before and to control.

**Results**

Throughout the weeks beginning on 29 September through 13 October, each of our plants grew regardless of whether or not the Gibberellic Acid was applied, thus proving our hypothesis invalid. As our graphs (Figures 1-4) show, each of the plants grew at a sufficient amount in the short time documented. Our results and documentation period were very short; however, because our plants died over the long weekend of our fall break. Overall, we must conclude from the results that we were able to gather, that Gibberellic Acid had no more of an affect than water on the growth of our plants.

**Conclusion**

In this experiment we chose to study the effects of Gibberellic Acid when added in the rosette plant and a wild-type plant in comparison to the same type of plants only treated with water. The results should have shown an increase in growth by5

[Insert graphs and images related to the experiment results]

In both cases of Gibberellic Acid and water, the plants had vigorous results that did not coincide with what we expected. It is only safe to conclude that these experiments demonstrated that growth reactions to water in a pod of true Rosette or four wild type plants receiving the Gibberellic Acid remained, one of the four may have received much more or much less and then in the remaining seeds. This would produce as uneven growth amongst the pod. The resulting seeds may have been put in the wrong pod and this would also produce results that would go against our hypothesis. On top of this, the soil, aspect of the soil, and amount of light each pod was receiving would have also had an effect on any of the four plants if enough or enough was not provided. Therefore, due to necessary errors, our hypothesis was not confirmed.