



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

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Project Title The Effects of Varied Increments of Auxin and Gibberellin on Brassica rapa	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Our objective is to find the correct increments of the hormones auxin and gibberellin to increase the growth of Brassica rapa. We want to find this so that farmers could spray those on the plants rather than their unnatural counterparts. This could lead to more organic produce available for sale.</p> <p>Methods/Materials We planted the plants using a self-watering system. In order to apply the auxin, we mixed it with water and poured it in the system. As for the gibberellin, we mixed the increments into boiling water and sprayed it on. We observed the plants until day 31 by measuring height, number of leaves, pods, buds, and flowers. We also decided to find the dry mass of the roots by weighing them on a scale.</p> <p>Results During observation we noticed the control plants were taller, but flimsy. The treated plants were stronger and sturdier. Our data shows that the control had the highest percent of increase for plant height and pods. 100% auxin had the highest percent of increase for flowers and leaves. 75% gibberellin and 25% auxin had the highest percent of increase for buds. Using averages, we found that 100% auxin had the average highest percent of change in growth. We also tested the dry mass of the roots, and found that the roots treated with auxin had heavier dry mass. Our results show that 100% auxin shows the most promise for future plans.</p> <p>Conclusions/Discussion In conclusion, our hypothesis was not supported. The combination of 75% gibberellin/ 25% auxin only had the highest percent of change for buds. Our data shows that 100% auxin had the highest percent of change overall for leaves, buds, flowers, and pods. We feel the concentration of 0.0005 percent auxin shows the most promise in our plans for replacing unnatural plant regulators with natural hormones.</p>	
Summary Statement We applied auxin and gibberellin to brassica rapa, and found 100% auxin best increased rate of plant growth.	
Help Received	