



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

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| Name(s) Quinn I. Strauser | Project Number J1730 |
| Project Title The Effect of Different Colored Light on Plant Growth | |
| Abstract Objectives/Goals Plants need light to perform photosynthesis and to grow. Do different colors of light lead to different rates of plant growth? Methods/Materials I made a greenhouse with four sections and covered each section with a different color of cellophane; green, red, clear, and violet. I put 10 pole bean plants in each section, and then I counted the number of leaves and measured the height of each plant every other day, except for when I went on vacation. I watered the plants with ½ a cup of water every week. Results I measured each plant on days 7, 9, 11, 13, 15, 20, and 32, after planting. The plants under the green cellophane grew the most in every measurement. The biggest growth spurt for the plants under the green cellophane was from day seven to day nine. By day 13, the plants under the purple and red cellophane started to grow at similar rates as compared with those under the green cellophane. By day 32, the plants underneath the green cellophane were the tallest, with an average height of 38.3 cm. The plants under the clear cellophane experienced the least amount of growth at every measurement except day seven. For the first 15 days, there was no differentiation in number of leaves. By day 32, the plants under the clear cellophane had the most leaves, with an average of 5.9 leaves per plant. Conclusions/Discussion Different colors of light do seem to lead to a different growth rate. Plants grown under green cellophane grew taller and faster than plants grown under other colors of cellophane. In the future, I would put different types of plants underneath the same color of cellophane to see if the light had the same effect that it did on the pole bean plants. I would also weigh the plants to find out their overall mass. I would also find out how much sugar is being produced by photosynthesis. | |
| Summary Statement I assessed how different colors of light affect plant growth in plant height and number of leaves. | |
| Help Received My Mom, Dad, Ms. Stephens, Mr. Fleck, Mr. Mertz, and Fooroozian Science Centers helped me on my project. | |