
Does the amount of sunlight affect a plants growth?

Does too much sunlight dry the plant?

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Photos taken from online picture



Background research

The sun is a renewable energy source that plays an important role in our everyday life. From warming the earth to the water cycle. Without the sun, plants wouldn't get the necessary food needed to grow, reproduce, and survive. Light is a needed factor in plants. The rate of growth and length of time a plant remains active is dependent on the amount of light it receives. Light energy is used in photosynthesis. Light intensity rapidly decreases as the distance from the light source increases. Window direction in a home or office affects the intensity of natural sunlight that plants receive. It's the plant's most basic process. When determining the effect of light on plant growth there are three areas, intensity, duration and quality. Light intensity influences the making of plant food, stem length, leaf color and flowering. A similar plant grown in very bright light tends to be shorter, better branches, and have larger, dark green leaves. Southern exposures have the most intense light. Eastern and western exposures receive about 60 percent of the intensity of southern exposures, while northern exposures receive 20 percent of the intensity of a southern exposure. A southern exposure is the warmest, eastern and western are less warm, and a northern exposure is the coolest. Other factors such as curtains, trees outside the window, weather, season of the year, shade from other buildings and window cleanliness also affect light intensity.

Hypothesis

If I put the plant underneath too much sunlight it will grow taller than the one with very little sunlight.

I believe this will happen because sugars fuels plant growth, so the sunlight it takes in the more energy it creates. Which will result in the plant growing faster.

Independent variable- Amount of sunlight given to the plant

Dependent variable- The height of the plants

Constant variable- where it's placed, amount of water, what kind of plant it is, container, amount of sunlight for each.

PROCEDURE

-Start growing your plants.

-Place the plants underneath direct sunlight, average amount of sunlight. And a dark place where it gets very little sunlight.

-Record how much they grow everyday

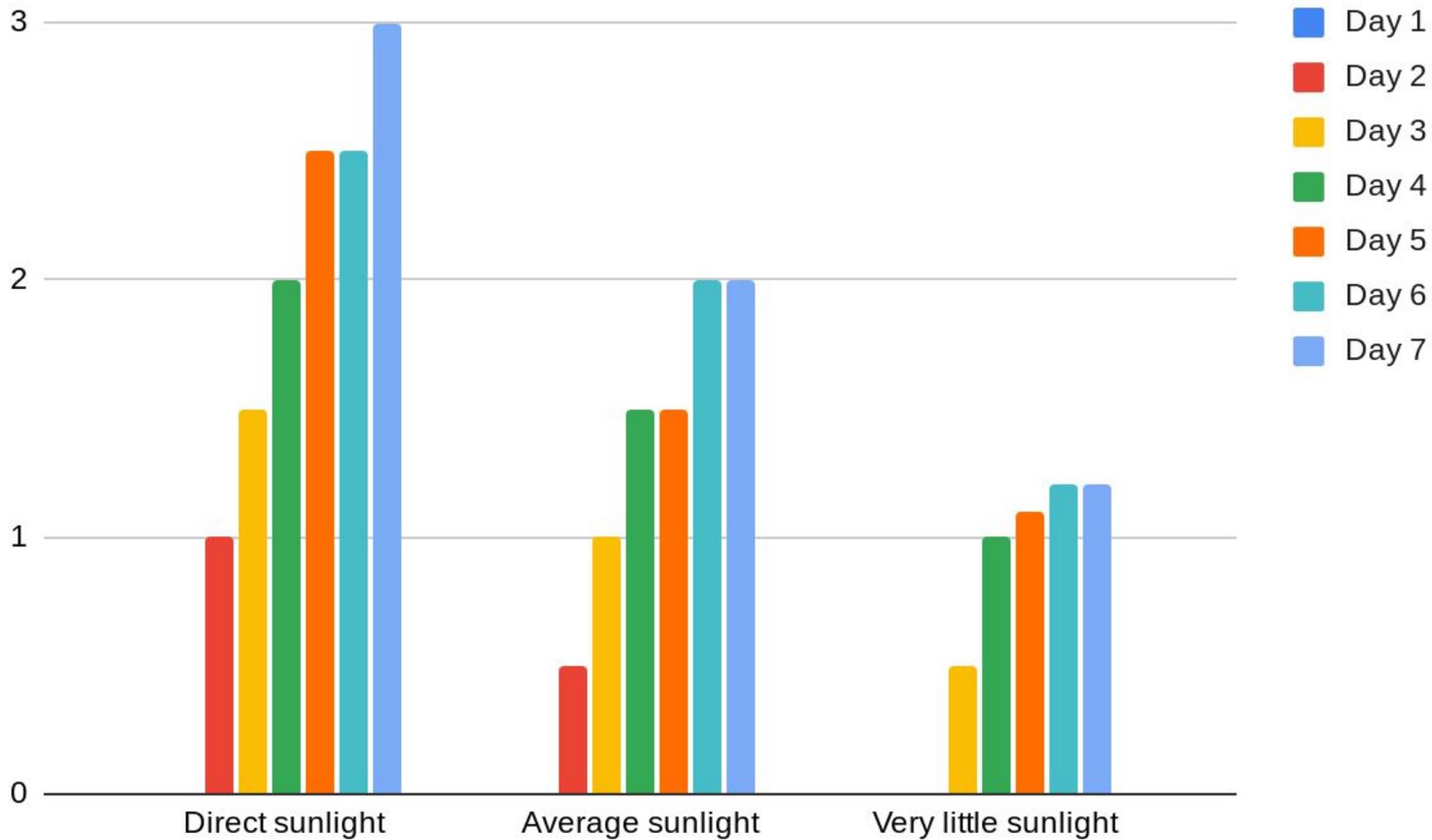
-Measure the final height after a week and put the results in a graph.

Materials

- 1 packet of seeds
- 3 small plastic cups
 - Potting soil
 - 1 small shovel
 - Watering can
- Notebook & pencil
- 3 growing locations

Height of plants (centimeters)

Amount of sunlight	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Direct sunlight	0	1	1.5	2	2.5	2.5	3
Average sunlight	0	0.5	1	1.5	1.5	2	2
Very little sunlight	0	0	0.5	1	1.1	1.2	1.2



analysis / conclusion

Does too much sunlight dry the plant? Yes, during my project I was observing the plant with direct sunlight then the 5th day came around and the leafs were drying out. My hypothesis was that the plants that have received more sunshine would develop faster than those that received less sunlight. My hypothesis was based on the fact that the more sunshine a plant receives, the more it will grow. The plant that received direct sunlight grew quicker than the other plants during my experiment. This demonstrates that my hypothesis was true. Throughout the experiment the plant with the direct sunlight grew faster than the rest of the plants. This shows my hypothesis was correct. From this experiment, it leaves me to wonder if plants can grow faster with artificial light than the natural sunlight they get.

References

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- 4 Stryer, Lubert (1981). *Biochemistry* (2nd ed.). p. 448
5. classical plant growth analysis"

Abstract

My science fair project could help with growing plants. It could help if you know how much sunlight a plant needs. My question was does too much sunlight dry the plant? Yes indeed it does. During the process of my project I was observing the plant with more sunlight than the rest of the plants. On 5th day the leaves were drying out along with the soil. The hypothesis that I believe is that the plant with the larger amount of sunlight will grow faster than the one with less sunlight. The materials you need to start this project is three open spaces, seeds, notebook/pencil, plastic cups, small shovel, and potting soil. You start by growing your plants and put one underneath direct sunlight, average amount of sunlight, a dark place. After a good amount of time check on how much the plant has grown. After measure the height and put it in a graph. The results show that my hypothesis was correct, indeed the plant with a larger amount of sunlight grew faster than the rest.

Thank for listening to my presentation

Any questions?

