

# How does the light intensity and its type affect the way the plants grow?

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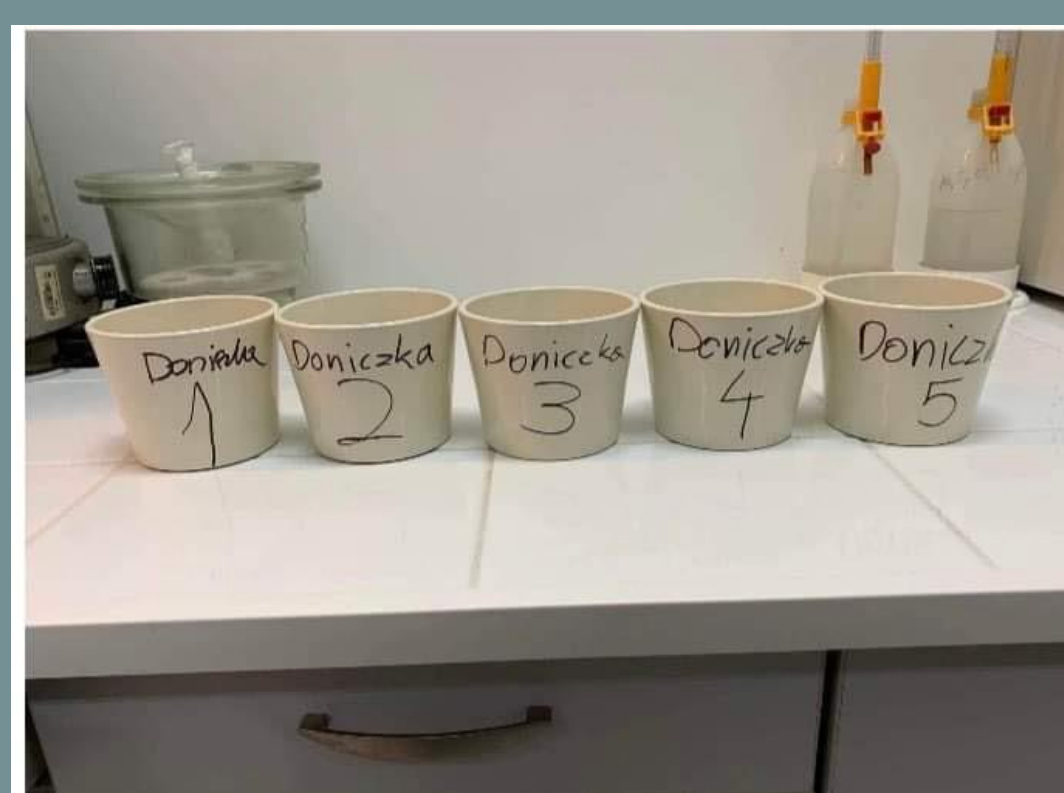
## Introduction

Throughout the ages people tried to discover the best way of planting crops. Because of huge population growth since XIX century, lack of food became serious problem, especially in poorer regions of our planet. Our goal is to check if lighting contributes to amount of crops of plants, if it does, then what concentration of light or what type is the best to get the biggest amount of crops. If there will be more crops then there will be more food so less people will suffer from hunger.

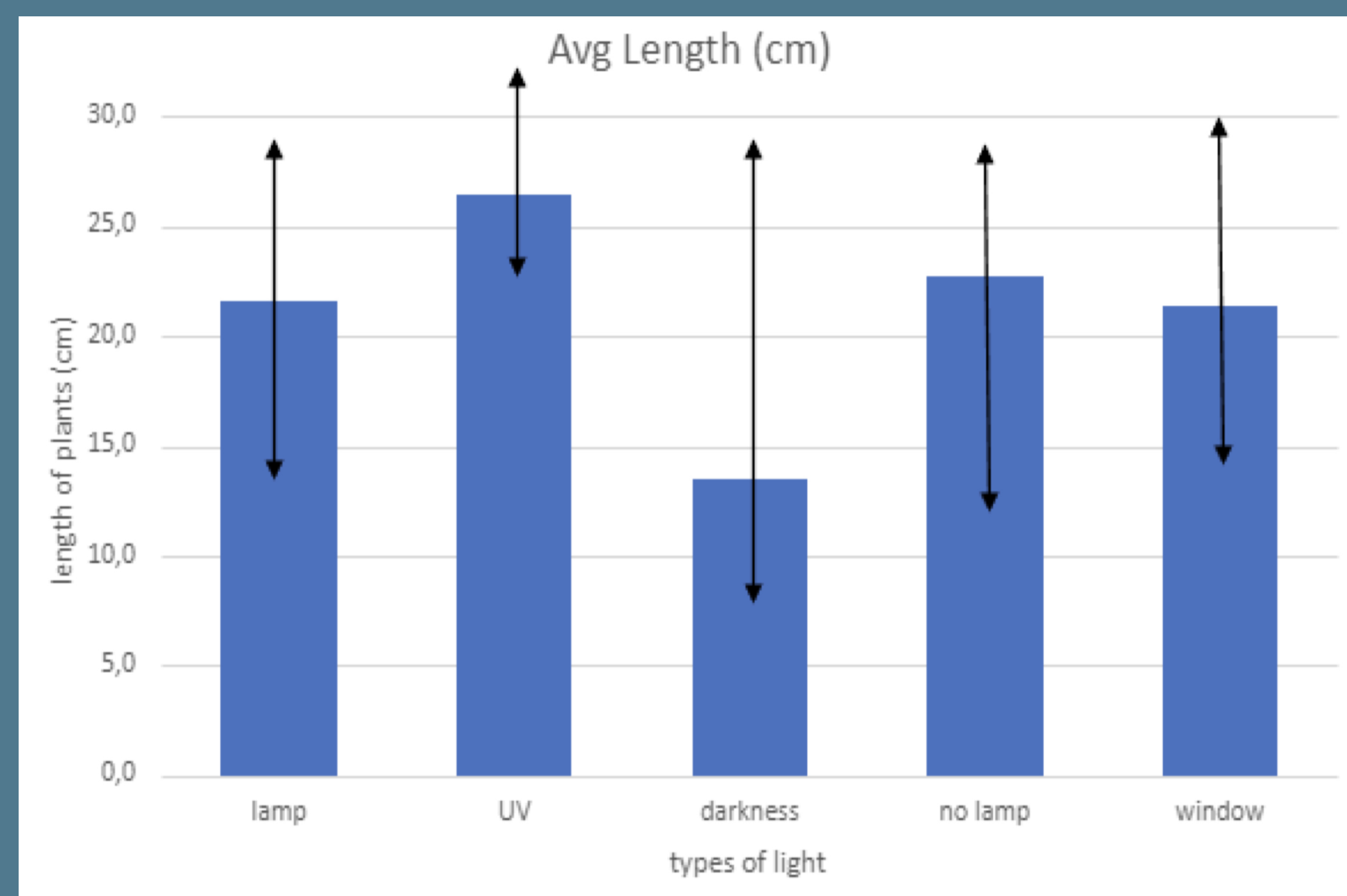


## Method

We put 20 cm of soil in each one of the 5 pots made from clay. Then we put 9 g of seeds in every pot and pour some tap water until the soil is wet but not spill it. On the 1st pot we stick a note and write on it the following text: "Daylight". We place it on a window sill next to the window. This pot will be growing under daylight. The temperature here usually varies between 26°C during the day and 15°C during the night. On the 2nd pot we stick a note and write on it the following text: "Dark". We place it in a dark basement. The temperature there usually oscillates between 17-20 °C. On the 3rd pot we stick a note and write on it the following text: "Lamp". We place it under a table lamp placed in the living room. The temperature there is estimated around 23-24°C. On the 4th pot we stick a note and write on it the following text: "UV". We place it under a UV lamp placed in the kitchen. The temperature there is estimated around 22-23°C. On the 5th pot we stick a note and write on it the following text: "Relative darkness". We place it under the desk in a bedroom, in a shade. The temperature there is estimated around 17-20°C. During the experiment, we check 2 times a week whether the soil is wet enough. If it is not, we pour the tap water until it is properly wet enough. The experiment was conducted within 2 weeks.



## Results



## Conclusion

- Our experiment aims to show the most efficient way of growing crops to increase their production. Our results show that the most efficient form of growing plants is by keeping them under a UV lamp.
- Most of the crops grew to at least 20cm in height under the UV lamp. Alternatively, any type of light can be used, with the average length of crops being about 20cm. In contrast, the plants in pots that didn't have any access to light had an average length that was only half as small as the other types.
- Although there were some excuses for this, it clearly demonstrates the importance of light for plant growth.
- Growing plants on your own is beneficial because it allows you to save money and obtain fresh food from your own garden.
- On a global scale, our experiment has shown that keeping plants close to a UV lamp is the most efficient method. International companies can benefit financially from this approach, and if more food is produced, the world's food shortage would decrease.
- Ultimately, the goal is to eliminate hunger worldwide, which is a crucial problem considering the current presence of over 800 million starving people. Although this number is decreasing, the lack of food remains one of the most significant challenges in modern society.