

Full corrected version of lab report:

The Influence of Light on Plant Growth and Development

Introduction:

The purpose of the experiment is to investigate the impact of varying light conditions on seed germination rates.

Or

This experiment aims to investigate the impact of varying light conditions on seed germination rates.

Materials and Equipment:

- Three identical pots with drainage holes
- 25 bean seeds
- Potting mix
- Water spray bottle
- Three Labels
- Cardboard box
- Lamp

Method:

1. Each pot was filled with the potting mix.
2. Seven seeds were planted in each pot at an equal depth.
3. The pots were labeled: "Light," "Partial Shade," and "Darkness."
4. The "Light" pot was placed directly under the lamp providing twelve hours of light per day.
5. The "Partial Shade" pot was positioned further away from the lamp, receiving approximately six hours of indirect light daily.

6. The "Darkness" pot was placed inside a closed cardboard box to completely block out light.
7. All pots were watered regularly to maintain consistent moisture.
8. The number of germinated seeds (emerging sprouts) was recorded every two days for a period of two weeks.

Results:

- The "Light" group exhibited the highest germination rate, with all seven seeds sprouting within the first week.
- The "Partial Shade" group showed a slower germination rate. Four seeds in that group germinated within two weeks.
- No seeds germinated in the "Darkness" group throughout the observation period.

Discussion:

The results support the understanding that light plays a crucial role in seed germination. The seeds exposed to the most light ("Light" group) germinated the fastest and with the highest rate. This is likely because light triggers hormonal changes within the seeds, stimulating the growth process. The "Partial Shade" group's slower germination suggests that while some light is present, it is insufficient for optimal seed development. The complete absence of light in the "Darkness" group prevented germination entirely, highlighting the essential role of light in this initial stage of plant growth.

Conclusion:

This experiment demonstrates that availability of light significantly influences seed germination rates. Seeds exposed to more light germinated faster and at a higher rate. Further investigation could explore the effects of different light wavelengths on germination rates.