

Example of report on hypothesis

[Technology](#), [Development](#)



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Lab Report

Lab Report to Investigate the Effects of Indole acetic Acid On The Tip Of The Coleoptiles.

INTRODUCTION

The purpose of the lab report is to examine the effect of the artificial auxin hormone on the stems of the coleoptiles. Coleoptiles are protective sheath which encloses the growing shoot of the monocot seedlings. The coleoptiles have high concentration of the hormone auxin which acts as a natural growth regulators. SONI (2010)The source of the auxin is in the tip of the growing coleoptiles. This implies that when the tip is removed, the source of the auxin is also removed hence severing the growth of the coleoptiles. Mishra (2009). This paper therefore will examine the effect that the auxin has on the tip of the coleoptiles.

- Coleoptiles tips which are cut and then treated with indole acetic acid will record an increase in height.
- Coleoptiles tips which were cut and then not treated with indole acetic acid recorded no change in height.
- The tips which were not cut recorded a positive increase in height.

METHODS

In an attempt to determine the effect of the indole acetic acid on the coleoptiles, the class was divided into groups after which each group was assigned work for preparing ten oat coleoptiles as described below and then eventually exposes them to a treatment which was to be assigned by the instructor. The different treatments assigned were as follows.

- Water-control, apex intact
- Water-control, apex removed
- 0. 1 ppm IAA
- 1. 0 ppm IAA
- 10 ppm IAA
- 100 ppm IAA
- 1000 ppm IAA

Procedure for the Experiment.

Ten coleoptiles will be used for this experiment. The scissors will be used to cut the ten coleoptiles from the pan of the growing oat seeds. The coleoptiles should be cut at the base near the seed. While doing this, the person carrying out this experiment ought to consider using coleoptiles which are straight. The coleoptiles will then be subjected to two treatments as follows.

Treatment 1 only-control experiment.

In this treatment, the razor blade shall be used to cut off the apical 18mm of the coleoptiles. The coleoptiles will then be placed into a Petri dish that had been prepared earlier by the instructor.

Treatment 2-7

Here the ten coleoptiles assigned to different groups will be prepared as follows. The razor blade will be used to cut each coleoptile 3mm from the apex. Discard the tip and then measure 15mm down from the cut and then make a second cut. Ensure that the cuttings is done accurately failure of which shall force you to start a fresh 1 order to avoid errors which might interfere with the experiment. Kindly live the experiment for some times probably one week and then calculate the change in the length of the stem.

DISCUSSIONS AND RESULTS**Treatment 1 results**

In coleoptiles which apex was cut, the source of auxins was severed. Therefore, in this type of stems, there was no change in the height of stems. This is because, the source of auxin was removed and then the cut sections were not treated with indole acetic acid. The result is that there will be no change in height because the hormone responsible for cell elongation and therefore increase in height has been severed.

On the other hand, in coleoptiles where apexes were cut and then treated with the natural auxin (indole acetic acid) recorded a positive stem growth. This was because of the presence of auxins which facilitates cell elongation in stems hence increase in length of the stem. This could also have applied

to the stems in which the source of the auxins was not removed. This implies that even the stems where tips were not cut down recorded a positive increase in height.

SUMMARY

The paper has discussed the effect of indole acetic hormone on the tips of the coleoptiles. Different coleoptiles were subjected to different levels of indoleacetic acid after which the results was obtained and interpreted as indicated in the results and discussions. It was found that coleoptiles which were cut then treated with indole acetic acid recorded a positive increase in height while the one which was cut and then not treated with indole acetic acid recorded no change in height. This shows that indole acetic acid is responsible for the cell elongation.

CONCLUSION

References

- Mishra, S. R. (2009). Understanding Plant Reproduction. U. S. A: Discovery Publishing House.
- SONI. (2010). FUNDAMENTALS OF BOTANY VOL 2, Volume 2. U. S. A: Tata McGraw-Hill Education.