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# Science Project Reports For Students

## Science Project Report: The Effect of Organic vs. Chemical Fertilizers on Plant Growth

### Title Page

- **Title of the Project:** The Effect of Organic vs. Chemical Fertilizers on Plant Growth
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- **Class:** 7th Grade Science, Section 1
- **School Name:** Maplewood Middle School
- **Date:** November 10, 2024

### Abstract

This experiment aimed to compare the effects of organic and chemical fertilizers on the growth of tomato plants. Over a period of six weeks, two groups of tomato plants were grown under controlled conditions, one with organic fertilizer and the other with chemical fertilizer. Growth was measured weekly in terms of plant height and number of leaves. The plants with organic fertilizer showed more consistent and healthier growth, suggesting that organic fertilizers may be more beneficial for tomato plants.

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## Introduction

- **Background Information:** Interest in sustainable agriculture has prompted comparisons between organic and chemical fertilizers. Organic fertilizers are believed to improve soil health and long-term plant vitality.
- **Statement of the Problem:** How do organic fertilizers compare to chemical fertilizers in promoting plant growth?
- **Hypothesis:** Tomato plants grown with organic fertilizer will exhibit more robust growth compared to those grown with chemical fertilizers.

## Materials and Methods

- **Materials:**
  1. 10 tomato plants
  2. Organic fertilizer (compost)
  3. Chemical fertilizer (NPK 15-15-15)
  4. 10 planting pots
  5. Ruler
  6. Notebook for observations
- **Procedure:**
  1. Label five pots as 'Organic' and five as 'Chemical.'
  2. Plant one tomato plant in each pot.
  3. Apply organic fertilizer to the 'Organic' group and chemical fertilizer to the 'Chemical' group according to package instructions.
  4. Water the plants equally.
  5. Measure and record the height and number of leaves of each plant every week.

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## Results

- **Data Presentation:** Graphs showing the weekly growth in height and leaf count for each group.
- **Observations:** Plants in the 'Organic' group generally exhibited more consistent growth and appeared healthier with greener leaves.

## Discussion

- **Interpretation of Results:** The hypothesis was supported; organic fertilizer led to better overall plant health and growth.
- **Limitations:** Small sample size and limited duration of the experiment.
- **Suggestions for Future Research:** Future studies could extend the duration of the experiment or test different types of plants to see if results are consistent across species.

## Conclusion

The experiment demonstrated that organic fertilizers might be more beneficial for tomato plants than chemical fertilizers, supporting the hypothesis and suggesting broader applications in gardening and agriculture.

## References

- Johnson, E. (2024). School Science Textbook, Maplewood Middle School Library.
- Green, L. (2024). "Fertilizers and Plant Growth," Science Journal for Middle School.

## Appendices

- Appendix A: Raw Data Tables
- Appendix B: Photos of Plants Weekly

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This structured format ensures the report is thorough and covers all aspects of the scientific process, making it a valuable document for evaluation at a science fair. If you have specific requests or need more examples, just let me know!