

Maintaining Our Yield

Germination Sample Write-Up

Germination Sample Write-Up Hypothesis: Seeds germinated and grown in soda will not grow as well as those grown in water.

Materials

20 Seeds
Paper Towels
Water
Dr. Pepper
4 Petri Dishes
Ruler

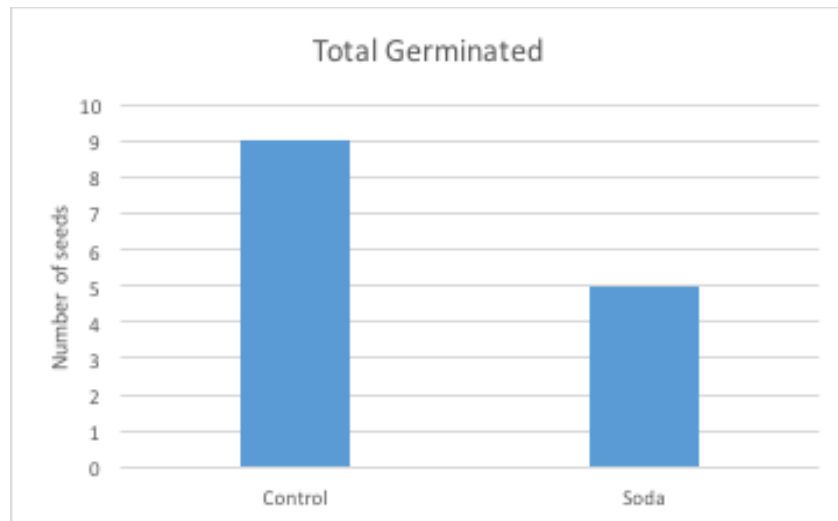
Procedure

1. Place 5 seeds in each of 4 pertri dishes. Two of the dishes will be the control and two will be treated with the independent variable (soda).
2. Dampen each paper towel with the same amount of liquid and replace the lid.
3. Check the paper towels daily and moisten as needed, keeping each treatment amount the same.
4. Record the number of days it takes for each seed to germinate. A seed is considered ungerminated if it has not germinated within 7 days.
5. Measure growth in seeds by measuring the length of the plant with a ruler each day after germination.
6. Measure growth for 7 days after germination.
7. Record data in chart, then graph with mean number of days for germination on y-axis and treatments on x-axis.
8. Record data for growth and graph data.

Data Table

| Number of seeds/ Treatment | Day 1 | Day 2 | Day 3 | Day 4 | Day 5 | Day 6 | Day 7 | Day 8 | Day 9 | Day 10 | Number germinated |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------------------|
| Control | 0 | 0 | 0 | 3 | 5 | 7 | 8 | 8 | 9 | 9 | 9 |
| Soda | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 3 | 4 | 5 | 5 |

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Conclusion

This experiment was designed to determine the effect of different liquids on the germination of soybean seeds. The data shows that the plants that received water germinated more often than those with soda, 9 out of 10 in water and only 5 out of 10 with soda. That means that there is an 80% better chance that seeds germinated in water will germinate when compared to trying to germinate in soda.

Some reasons for this may include differences between the factors that seeds need to germinate, for instance, temperature, oxygen and pH. These are things that may need further investigation.

Some things that might have gone wrong include the fact that the amounts of the liquids used may have evaporated off the paper towels and kept some seeds from germinating. Also, the placement in the room was not always back to the same place after measurements were made. Ways to improve these factors could be to measure the amounts of each liquid and always apply the same amounts even if one towel is wet while another dries out, and make sure the lids are properly seated on the dishes after measuring. The plates should be returned to the same spot after measuring, to maintain uniform conditions for germination and growth.

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