



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

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Project Title
"Lettuce" Feed the Seed

Abstract

Objectives/Goals
 My objective was to determine which of four pre-planting treatments to lettuce seed would cause the seed to germinate the fastest. The four pre-treatments I used were: pre-watered seed, fertilized seed, refrigerated seed, and non-treated seed.

Methods/Materials
 I placed 1/4 cup of "Helena" Iceberg lettuce seed into four Ziploc baggies. Baggie #1 was labeled REFRIGERATION, and placed in a 45 degree area. Baggie #2 was labeled WATER, and 1 cup of purified water was added to the seed inside, and place in a 75 degree area. Baggie #3 was labeled FERTILIZER, and 2Tbs of Liquinox fertilizer and 1 cup of purified water were added to the seed inside, and placed in a 75 degree area. Baggie #4 was placed in a 75 degree area. After 24 hours I filled 4 egg cartons with potting soil to use as my planting trays. I planted 18 seeds from each pre-planting treatment into separately marked cartons. I gave each carton 1 cup of purified water and put them side-by-side in a 75 degree area. They had the same amount of sunlight during the day, and all cartons were in the dark at night. Every 24 hours I looked at the cartons and counted any sprouts that were above the soil. I marked the counts down on paper. Then I watered each carton with 1 cup of purified water. I repeated this procedure for 5 days. On my final count, I looked at each carton, and and judged which sprouts were the strongest.

Results
 My conclusion was that the seed treated with water germinated the fastest, and the plants were the tallest and sturdiest. Below are the # of sprouts counted for each pre-treatment:

HOURS	WATER	FERT.	REFRIG.	NONE
48	2	0	0	1
72	13	0	6	9
96	17	0	17	17
120	18	4	18	17

Conclusions/Discussion
 I originally thought the seed pre-treated with fertilizer would germinated the fastest because many farmers and gardners use fertilizer to help their plants grow quickly and healthy. There are also many agricultural companies that continually research, test, and market new types of fertilizer. I think I burned the seed with too much fertilizer. I would be interested in experimenting with different amounts of fertilizer to see what

Summary Statement
 My project was to determine which pre-treatment method would help lettuce seed germinate the fastest.

Help Received
 Dad helped coordinate the project and Mom helped type report.