CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
J1607

Project Title
Determining the Effects of Water Temperature and Exposure Terms on Seed Germination

Abstract

Objectives/Goals
I wanted to find out if long term exposure to water of different temperatures would affect different types of seed's germination. This year has proven that the world's weather patterns, and water distribution volumes are everchanging. I wanted to see if sweet corn, watermelon, cantaloupe, and green bean seed germination is altered by long term exposure to water of different temperatures.

Methods/Materials
I seperated the seeds into groups of five. I placed five seeds into a clear 10 ounce labeled cup, with 8 ounces of purified water. I put the cups in three different temperatures; hot(85 degrees F), room(60 degrees F), and cold(35 degrees F). The hot was created with a light bulb, the room was done in a windowsill in my house, and the cold was done in my refrigerator. I repeated my tests five times to gain conclusive results.

Results
In the room temperature tests, the sweet corn germinated the most seeds. In the hot temperature tests, the watermelon seeds germinated the most. In the cold temperature tests, the sweet corn again germinated the most seeds. The cantaloupe and green bean seeds did not germinate well in the hot and cold temperatures. All four seed types germinated well at room temperature.

Conclusions/Discussion
The different water temperatures did affect the number of seeds that germinated. The cold water had the most adverse effect on each seed type. The hot water almost halted all germination in the cantaloupe seeds. The long-term exposure to water in general had an adverse effect on every seed type in comparison to the results that were listed on the back of each seed packet. I guess water, and it's temperature can alter seed germination rates.

Summary Statement
Long-term water exposure, and it's temperature's effect on four different seed types

Help Received
Mom and Dad helped with typing, and project board/data book assembly