CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
J1604

Project Title
Suck It Up!

Abstract

Objectives/Goals
I wanted to find out how temperature affects a plant's ability to transport nutrients. From my research, I learned that transpiration and respiration increase as temperature increases. I thought the plants in room temperature would transport the most nutrients because the plants in the other temperatures were too hot or too cold.

Methods/Materials
Ten white carnations were placed in each of three mugs with 200 ml of water. Then 1/4 teaspoon of food coloring was added into each mug. Each mug was placed in a box in a different temperature zone with a thermometer in each mug. A plant light was placed over each box and observations and measurements were made every few hours recording the results.

Results
The results showed that flowers which were in 110 degrees Fahrenheit soaked up the most water. However, the petals of the flowers dried out. The flowers in the 68 degrees Fahrenheit transported a little more water than the flowers at room temperature (78 degrees Fahrenheit).

Conclusions/Discussion
The hypothesis was incorrect because it was thought that the flowers in room temperature would transport the most nutrients, but actually, the flowers in the heated temperature soaked up the most water. This information is important for growing plants at the right temperature so they will be healthy. If this project was repeated, the flowers would be placed in solutions 10 degrees apart to find out how much the slightest temperature change would affect the plant's ability to transport nutrients.

Summary Statement
The purpose of this project was to determine if different temperatures would affect a plant's ability to transport nutrients; the data showed that plants exposed to warmer temperatures soaked up the most water.

Help Received
Mother helped type report