CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)
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Project Number
J2015

Project Title
Effect of Increased Gravity on Root Growth

Abstract

Objectives/Goals
My objective was to see what effect increased gravity would have on root growth (not on root direction). I wanted to see if increased gravity would result in increased root length.

Methods/Materials
4 different sets of red bean seeds were germinated. 3 sets were spun at different RPMs (33, 45 and 78)to provide the increased force, and the 4th set was germinated with no spin. After 7 days, the root lengths of the germinated seeds were recorded and the seeds were planted in cups and placed back on the turntables to continue growing for the next 22 days. At the end of the 22 days, the roots were rinsed and measured and the root lengths were recorded and graphed.

Results
The roots of the plants spun at 78 RPM were significantly longer than the roots of the plants spun at 33 RPM or 45 RPM, or the roots of the plants that were grown with no spin. The shoots of the 78 RPM plants were significantly shorter than the roots of the plants spun at a lower RPM or not spun at all.

Conclusions/Discussion
Increased gravitational force increases root length, but decreases shoot length.

Summary Statement
My project is about the effect of increased gravity on root growth.

Help Received
I used school record players for turntables. My teacher helped me take the pictures