CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
22543

Project Title
Toxic Impact on Plants

Abstract

Objectives/Goals
The most toxic products should have the greatest impact on growth of plant seeds.

Methods/Materials
3 dilutions of each product were prepared(eg.1%bleach,3.2%bleach,10%bleach,1%,3.2% & 10%ammonia & same for alcohol).30 dishes of each seed type were planted.3 dishes of each seed were kept as controls.3 dishes were prepared for each seed-product-%solution combination to be tested.The dishes were enclosed in a polyethylene bag labelled by seed type,household product & %solution.After 2 weeks height & emergence of seeds were recorded.

Results
The controls presented the greatest no.of seeds emerged in 5 days & the highest average shoot height in 14 days.The data show that the 10%concentration of all 3 products had the greatest impact on %emergence & seedling height for radish,lettuce,spinach seeds.Bleach was the most toxic product that had the greatest impact across all 3 concentrations.Ammonia & alcohol were similar in their toxicity.Spinach was the most sensitive.

Conclusions/Discussion
As the concentration of the contaminant solutions increased the % of emergence & average shoot height decreased.Bleach was found to be the most toxic & Spinach was found to be the most sensitive seed.The hypothesis appears to be correct.

Summary Statement
The effect of diff. concentrations of chemicals on emergence & shoot height of diff.seeds.

Help Received
Mother helped in making up diff.concentrations of ammonia,bleach , alcohol.