CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
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Project Number
J1407

Project Title
How Are Plants Affected by Gasoline Vapors?

Abstract

Objectives/Goals
The objective of this project was to determine if gasoline vapor exposure is harmful to living plants.

Methods/Materials
Six organically grown plants, identical in age and variety, were exposed to gasoline vapors in a controlled environment for varying lengths of time. The plants were carefully monitored for overall health, cell samples were taken for comparison, and vapor levels in the containers were tested for control purposes and also to assure that there were no leaks in the containers.

Results
The project brought immediate results in that the plants exposed to the gasoline began to show brown spots on leaves within 6 hours of exposure. All of the plants, except for our control died within one week. Plant cell breakdown was apparent throughout the process.

Conclusions/Discussion
Despite reports that gasoline vapors released into our environment have no known ill effects on our local plant life, I have found through my experiment that gasoline vapors most definitely do have a major impact on flora. All of the plants, whether exposed to a few hours of vapors or continuously, showed the effects of the vapors soon after the start of exposure.

Summary Statement
This experiment evaluated the effects of gasoline released into our environment on local flora.

Help Received
Father taught safe hadling of gasoline; Mother add/removed gasoline at specified times during school hours; Advisor told how to stain plant slides; All American Service Station Maintenance loaned equipment to measure vapor levels in containers.