CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
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Project Number
S1419

Project Title
The Effects of Oil Spills on Underwater Plant Life

Abstract

Objectives/Goals
The objective is to discover at what rate an oil spill effects the growth rate per gram of underwater plant life, and how it effects its photosynthetic rate.

Methods/Materials
Mass each sprig of Milfoil Weed and place each in a test tube. Fill the test tube with water then find the volume of that water using a graduated cylinder. Flip each of the test tubes upside down once underwater allowing no excange of water from the test tube with the environment. Let it sit for 2,4, or 12 hours. Remove the test tubes and find the difference in volume and the difference in mass. Record the data.

Results
The plants with no oil on the surface had a constant photosynthetic rate per gram, and a constant percent change in mass per gram. When the oil cover was applied, the plants photosynthetic rate dwindled over time, and its percent mass change per gram was extremely small and sometimes negative, showing that over time they lost mass.

Conclusions/Discussion
I think that the plants with the oil over them may have ceased to progress in areas such as photosynthesis and growth not due to the reduced amount of sunlight, but possibly due to the inability for the carbon dioxide to diffuse into the water. This would decrease the photosynthesis rate, and the plants would have to use sugars from their cellular structures to compensate for the lack of sugars produced for metabolism.

Summary Statement
It demonstrates the way aqueous plants are effected by oil spills.

Help Received
My father showed me how to use Microsoft Excel