CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
Rachel J. Linton

Project Number
34455

Project Title
Mycoremediation

Abstract

Objectives/Goals
The purpose of this experiment was to see whether Pleurotis Ostreatus can break down diesel in contaminated wheat straw substrate. The hypothesis states that the trials with the mycelium treatment will have a lower concentration of hydrocarbons at the end of three weeks than the controls.

Methods/Materials
The procedure involved spraying 10 ml. of diesel mixed with water onto 2.5 pounds of substrate for two treatment samples (inoculated with mushroom mycelium) and two control trials (without mycelium). All 4 samples were stored in the same location, under the same conditions. At the end of a three week period, each sample (2 treatments and 2 controls) were broken up and thoroughly mixed, for uniformity. Samples were analyzed at APPL labs.

Results
The average concentration of diesel for the control trials, in ppm, or parts per million, was 1,317 ppm, and the average concentration for the treatment trials was 1,819 ppm. This means that the hypothesis was rejected. The control levels were higher than the treatment levels.

Conclusions/Discussion
The results were inconclusive, possibly because evaporation was not accounted for. These results show that oyster mushrooms may or may not be able to absorb the hydrocarbons in their substrate.

Summary Statement
The project examines the ability of oyster mushrooms to break down hydrocarbons in thier substrate.

Help Received
Used lab equipment at APPL Labs under the supervision of Sharon Dehmlow, lab director.