CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY

Name(s)
Celine Izsak

Project Number
J1315

Project Title
Save Our Seas 3

Abstract

Objectives/Goals
Over the past three years I have been studying crude oil and ways to help prevent oil spills. This year my project was to determine what aquatic environment freshwater or saltwater has the highest amount of weight lost with the use of oil-hungry bacteria as a result of oil degradation over a 5-day period. I hypothesized that the freshwater aquatic environment will have the highest amount of weight lost as a result of oil degradation over a 5-day period.

Methods/Materials
I used 12 sterile containers with caps,3 for the freshwater control, 3 for the saltwater control, 3 for the freshwater with bacteria, 3 for the saltwater with bacteria. All my controls contained crude oil and water, and all my containers with bacteria contained oil-hungry bacteria. Half of the controls and half of the containers with bacteria had kosher salt to make a saltwater environment. Then over a 5-day period I weighed each container each day with a stamp postal scale to see the reduction of oil in the different environments.

Results
On day five the results for the freshwater control was that it lost 1/4 oz. and it weighed a total of 2 1/2 oz. On day five the results for the saltwater control was that it lost 1/4 oz. and it weighed a total of 2 3/4 oz. On day five the results for freshwater with bacteria was that it lost a total of 1/4 oz. and it weighed a total of 2 3/4 oz. On day five the results for the saltwater with bacteria was that it lost a total of i/4 oz. and it weighed a total of 2 3/4 oz.

Conclusions/Discussion
My hypothesis was correct that the oil-hungry bacteria would clean up the most oil in the freshwater aquatic environment. I learned that the oil hungry bacteria reacts better and faster in freshwater environments. I have found out that oil-hungry bacteria works in a saltwater environment well but it is a little slower then the freshwater environment when it comes to oil degradation.

Summary Statement
My project was to determine what aquatic environment freshwater or saltwater has the highest amount of weight lost with the use of oil-hungry bacteria as a result of oil degradation over a 5-day period.

Help Received
Parents purchased materials.