A Novel Approach to Marine Hydrocarbon Bioremediation

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The purpose of my experiment was to determine if seeding Pseudomonas putida (applying a bacterial aerosol treatment to the surface of the sheen) will reduce the area of oil sheen on hydrocarbon contaminated ocean water. I tested to see if seeding a bacteria known for breaking down hydrocarbons into oil sheen contaminated water, would reduce the surface area and thickness of the oil sheen. I made simulated ocean water and filled 36 labeled petri dishes with it. I then put one drop of crude oil in all Level 1 petri dishes and two drops of crude oil in all Level 2 petri dishes. I let the bacteria sit in the oil sheen contaminated water for ten days and then took pictures of what the sheen looked like under a black light. I then measured the surface area of the oil sheen. I accepted my hypothesis because the results showed that the reduction of oil sheen was statistically significant compared to the control.

Awards Won: