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*Mycoremediation: The Effect of Mycelium Growth on Levels of Petroleum Hydrocarbons in Soil*

The purpose of this project is to investigate how the growth of mycelium (mushrooms) affects the levels of contaminants in soil, in this case, the Total Recoverable Petroleum Hydrocarbons (TRPH). In order to do so, mushrooms were ordered through the company Fungi Perfecti. The mushrooms used were Oyster mushrooms (*Pleurotus ostreatus*); half were packaged in straw and the other half were packaged in sawdust. Three trials were made for each mushroom. For the control samples, the mycelium was layered into a mixture of top soil and straw. Eight ounces of used motor oil was added to the mixture for the second group to be tested. For the third trial, dirt was extracted from a nearby workshop at the local Western Sugar factory and mixed with straw. Samples of the soil from each trial were sent to Weld Labs in Greeley, Colorado. Observations and measurements were made every other day during the growth period. Mushrooms have a very quick growth rate, and they show indications of decay within ten days of blooming. After the growth period, more soil samples were taken back to Weld Labs for a final analysis. The results showed that the mycelium significantly affected the TRPH levels. The difference percentage ranged from 22% to 65% among the six trials.