



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

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| Name(s) Grant A. Coe | Project Number J1002 |
| Project Title Plastic or Fungi? | |
| <p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project was to find an alternative to plastic and Styrofoam that does not pollute the Earth and does not harm the people and animals on it. My hypothesis for this project was that the Espresso Oyster fungi on both substrates would have the most mycelial growth out of the other fungi species used in this project.</p> <p>Methods/Materials The control in the experiment was coffee grounds with water and no mycelium, and wood chips with water and no mycelium. The variable in my project was the four different fungi species. The Espresso Oyster, Shiitake, Lions Mane, and Wine-Cap were the four fungi species used in the experiment. The way that I measured this variable was by measuring the height of the mycelium and substrate mix and by rating the mycelial growth on a scale of 0-5, five being the most ideal packing material.</p> <p>Results The results I found were that the Espresso Oyster on coffee grounds grew zero millimeters in height, but I gave it five on the mycelium scale. It did not break at all, and it held together well. The Wine-Cap on wood chips grew zero millimeters in height, and I gave it a zero on the mycelium scale. It crumbled in my hands, and it did not hold together at all.</p> <p>Conclusions/Discussion These results show that part of my hypothesis was correct. The Espresso Oyster on coffee grounds had the most mycelial growth, but the Espresso Oyster on wood chips did not do so well. If I were going to do this project again or expand on it, I would use other substrates such as corn cobs, horse manure, rice hulls, denim, or recycled paper. Something else I might try would be to compare this mycelium alternative to other alternatives to find out which worked best.</p> | |
| Summary Statement If people stopped using plastic and used fungi mycelium, there would be less pollution, less oil use and the environment would be much better. | |
| Help Received Aunt helped with gathering materials. Dad and Aunt (via the telephone) helped with assembly. | |