Harnessing Energy Using Soil-Based Microbial Fuel Cells (MFC)

Wickramasundara, Ashi (School: Manhattan High School)
Wickramasundara, Eshi (School: Manhattan High School)

Soil based microbial fuel cells (MFCs) use soil bacteria to convert chemical energy of soil components into electricity directly. Organic matter (food source for microbes) addition helps create more energy with soil based microbial fuel cells, we tried to answer the question of which amount of soil will harness the most energy as well as will manure enhance MFC performance? We believe all soil amounts will produce approximately the same amount of energy, however, the 400g system will be able to sustain this energy for a longer amount of time. We also believe that manure will enhance energy production in each system. We tested this hypothesis by setting up MFCs using three different soil quantities as well as trials using manure. The MFCs generated approximately the same amount of energy, regardless of soil quantity. The manure also enhanced energy production towards the beginning of the experiment, due to it being an immediate food source for microbes.

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