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*Anaerobic Digestion of Food Waste Part 3: Comparing Different Conductors in the Production of Food Waste Generated Electricity*

This experiment is comparing conductors (carbon, copper, and aluminum) to determine which is the best at conducting the electricity produced by the anaerobic digestion of used coffee grounds. To perform this experiment, I made several fuel cell systems in which the electricity would be produced and held similar to a battery. Each fuel cell had the same amounts of coffee grounds, yeast, and water and each cell had either a copper sheet, aluminum foil, or carbon paper acting as a conductor. The object of this experiment was to see which fuel cell displayed the most voltage because of how well the conductor in each cell worked. My hypothesis stated that the copper sheet would be the best at conducting the electricity, was not supported by the data. In fact, both the copper and aluminum killed off the bacteria in the fuel cells and no electricity was produced. The fuel cell with the carbon paper was the only fuel cell that produced any electricity at all.