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The Effect of Eco-friendly or Conventional Dish Soaps on Lumbricus terrestris Population

This experiment was designed to test the toxicity of eco-friendly and conventional dish soaps, using worms as test organisms. In today's society, eco-friendly products are gaining popularity. These products are supposed to have less of a harmful impact on the environment, in comparison to traditional products. The researcher hypothesized that the eco-friendly products would be preferred by the worms because they contained less harmful and artificial ingredients.

To do this experiment, the researcher started with four clean protein tubs. Eight plastic containers were then placed around the tubs at equal distance from the center and a mixture of peat moss, Magic Worm Bedding, and spring water was added to the tubs at an even level. Each plastic container contained a different percentage of dish soap concentration and the four feed tubs held four different brands of dish soap. Ten worms were then placed in the center of each feed tub and the worms' activity level was tested over time.

In the case of the Palmolive dish soap, worms would only bury in the control containers that contained no dish soap. In the protein tub with Dawn, there was at least one non-control container holding a worm through most of the experiment. However, in the case of the Mrs. Meyers and Green Works dish soaps, two containers with dish soap contained at least one worm most of the time. Based on these results, the worms tolerated the eco-friendly detergents much more so than the conventional dish soaps, supporting the researcher's hypothesis.