Increasing Soil Decomposition Rates With Organic and Natural Soil Additives

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Having active and healthy soil is important. Decomposition of organic matter is vital to healthy soil and better for the health and growth of plants. The amount of microflora activity of fungus and bacteria as well as the number of decomposers in the soil ensure the breakdown of organic materials and ensure natural nutrients are being put back into the soil. The objective of my project was to compare decomposition rates of soil when different soil additives and application practices are used to enhance the decomposition process. Decomposition promotes healthy soil and higher nutrient content. I compared composition rates of the same soil with seven different natural additives and alternating the type of application processes. My goal was to find an additive that could be applied to fields to increase the decomposition rate. Cotton t-shirts were used to determine the rate of decomposition. I collected decomposition data from the samples at 30, 60, 90 and 120 days and compared the weight loss of the samples from the first day of submersion to the respective end dates. The difference in weights represented the decomposition rate found within the soil samples. I predicted that the combination of orange peel and bio microbes would decompose the cotton t-shirts at a greater rate than other samples. I also predicted that the process of knifing the additives into the soil would increase the decomposition rate. Application types, additive comparisons, and length of time to decompose was compared and analyzed statistically.

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