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*The Uses of Darkling Mealworms in Plastic Degradation*

In my experiment I tested what type of polystyrene plastic can get eaten the fastest by darkling mealworms. In each container of 100 mealworms, I placed 4 grams of a type of plastic, 3 containers with styrofoam, 3 containers with Red Solo plastic, 3 containers with translucent plastic, and 3 containers with clear plastic. I found that the Styrofoam was eaten the most, when all three test groups were averaged, though the Red Solo and the translucent plastic were close behind. I came up with my idea while thinking how we can reuse or deteriorate plastic, without it sitting underground for hundreds of years. I hope to open a new door into how we will deal with the rising problem of landfills. If we apply decomposition using *Ideonella sakaiensis*, the bacteria in the mealworm stomachs that break down the plastic, we can help decrease the continuous flow of garbage into landfills and the ocean. If we continue filling our fields and valleys with landfills that cannot be farmed on and trees cannot grow on, what will our countryside be in 100 years? There will be large swathes of land that cannot be used for anything useful. What will our oceans look like when we allow tons of plastic to drift into them, when the toxins from the plastics kill off life, breaking food webs and causing species to become extinct?