Increasing the Buoyancy of Potato-Based Bioplastics

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The current plastics we use take around 500 years to degrade and release harmful chemicals into our environment. Therefore, a solution to this epidemic must be found. Drawing from a variety of government sources, this paper examines reasonable solutions to this problem. Last year, I centered my project around bio plastics, which are plastics that degrade in 6-12 months and releases Eco-friendly chemicals since it is made out of renewable resources. I also wanted to test potato-based bio plastics because I found out that 5.8 billion potatoes are wasted every year. I was successful in creating a bio plastic, however, when I place the plastic in the water, it immediately sank to the bottom. This is a problematic situation because one of the key components that help to degrade bio plastic is the sun. I wanted to figure out what method allowed the bio plastics to successfully float. I did this by distributing the weight of the bio plastic in different areas to test which increase the amount of grams it would hold. I devised a way to test the buoyancy of the bio plastic by placing it in water and constantly adding pennies, from years 1983-present, to see the number of grams it could hold. From this research, I found the bio plastic created with a middleweight distribution held the most amount of grams, and the plastic with no distribution held the least amount of grams, from my experimental groups. This did not support my hypothesis. This paper encourages people to change to a more Eco-friendly plastic substitute.

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