

Production of Bioplastic from Natural Raw Materials & Its Assessment of degradation under the influence of different Environmental Conditions

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Abstract : One of the main harmful pollutants endangering the environment is plastic. This study examines that bioplastic can be prepared from starch, gelatin, potato peels and banana peels, with recommendations to be used in the production of the biodegradable plastic. The purpose of this study is to look at how bioplastics deteriorate. Compared to bioplastics, synthetic plastics do greater environmental harm. Degradation of bioplastic under soil, aqueous, microbial conditions was determined. Water, compost, and soil are just a handful of the conditions in which bioplastics might break down. To weigh and photograph the breakdown activity, the bioplastic components are buried in either loam sand or composite soil. Based on all the testing that was carried out, the biodegradable starch based bioplastic was found to be the best and ecofriendly than synthetic plastic. Hence, it can be used in the industry for various application such as molding and packaging, at the same time rescuing the environment from potential harm by synthetic plastics.

Keywords : *Bioplastics; Starch ; Banana Peel; Potato Peel; Gelatin; Biodegradation*

1. Introduction :

Plastics are widely used all around the world. It can be applied to a variety of packaging applications. It is also extensively utilized in households. Given the growing use of plastic, Plastic-related pollution is also getting worse. The buildup of plastic-containing items and particles in the environment that continuously harms wildlife is known as plastic pollution. The replacement of inert synthetic plastics with biodegradable or single-use disposable objects is becoming increasingly popular because it has the ability to resolve, or at least lessen, problems related to the management of synthetic plastic waste after consumption. Plastics that are biodegradable can be entirely broken down by naturally existing microbes in composters, sewage treatment facilities, and landfills. (Adhikari et al., 2016). After breaking down, truly biodegradable plastics are incapable of leaving behind any harmful, noticeable, or identifiable traces. Microbes can easily attack and break down the