

## Analysis of water absorption properties and bio-degradable behaviour of bio-plastics produced from fruit peel waste

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**B**io-plastics were synthesized from fruit peels such as Orange, Pomegranate, Lemon, Papaya, Banana and Mix-fruits. The bio-plastic were prepared with combination of fruit peels, Starch, Acetic acid and Glycerin in molar proportion. Absorption properties of these newly synthesized bio-plastics were carried out in water with different time intervals at room temperature. Also bio-degradability of these newly synthesized bio-plastics were tested in soil and weight loss is observed after one month. In this paper, an attempt has been made to investigate the absorption properties of the newly synthesized Bio-plastics with the help of the first order Fick's model and second order Schott's absorption kinetic equation model. Analysis shows that the models applied

were in agreement with the experimental data. Results have shown that absorption of water by these newly synthesized bio-plastics increases with time. The bio-degradability study shows that there is a weight loss in synthesized bio-plastics indicates good decomposition behaviour of bio-plastic.

### Biography

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