Production of Multipurposed Bio-Bag with the Compound of Wild Asphodelus aestivus Root and Residual Marble Powder

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In this project an environment friendly, multi purposed, biodegradable bag dissolved in short span of time is going to be produced. As natural raw material, Wild Asphodelus aestivus Plant Root and Residual Marble Powder, amount of which is 2.7 million tons in our country, are used. Primarily, in this project we aimed to utilise our unexploited natural wealth. With the encouragement of Ministry of Environment and Urbanization on the basis of biodegradable bag usage instead of synthetic plastic bag, usage of biodegradable polymer has become more of an issue progressively. To procure biodegradable polymer wild Asphodelus aestivus root, marble powder, polyvinyl alcohol (PVA) and glycerin were used. Wild Asphodelus aestivus root as the source of natural carbohydrate was prefered.Glycerin was tested in different quantity as of plasticizer agent and optimal value was detected. According to prescriptive contents, extruder, raw material of bio-bag that can dissolve and degrade in nature was procured. There after, acquired granules were rendered to bio-bag film to make study of their physical and chemical feature. Within the process plasticization of polysaccharide, raw material was necessary. The first procured samples were fragile and unable to plasticize without elasticity. Later on, with the change of extender quantity, elasticity was provided.

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