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(57) Abstract :
 ABSTRACT The Present invention relates to an eco-friendly bioplastic composition derived from pumpkin peels and seeds, combined with a binder solution of sodium alginate and glycerol. The bioplastic is created by processing the pumpkin material into a fine powder, blending it with the binder solution, and drying the mixture under ambient conditions. The resulting material is flexible, biodegradable, and water-soluble, making it suitable for a variety of applications, including packaging and crafts. The bioplastic demonstrates moderate tensile strength, biodegradability in soil, and the potential for rapid degradation in aqueous environments. This invention offers a sustainable alternative to traditional plastics by utilizing agricultural waste and reducing reliance on synthetic polymers. The production process is energy-efficient, and the material supports environmentally responsible product design.

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