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Production of Biodegradable Bioplastics Filled with Jordanian Olive Tree Leaves

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Abstract: Petroleum-based plastics have been causing severe ecological problems to the environment, posing a threat to the marine life as well as the quality of air. A biodegradable bioplastic was produced using natural and biodegradable materials, such as gelatin, glycerol, and water, together with natural agricultural wastes, such as Jordanian olive tree leaves as reinforced fillers within the bioplastics. The study aimed to investigate the type and percentage of each bioplastic component (biopolymer + plasticizer + other additive) and the influence of the percentage of the olive leaves on the mechanical properties of the produced bioplastic. It was found that, as the concentration of olive leaves increased, the density decreased; the ductility also decreased down to 7 %, then increased.