

TAPIOCA STARCH BASED BIODEGRADABLE FILM: A PRELIMINARY STUDY

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Abstract - Polyethylene (PE) is one of the mass produced non-degradable polymers and various types of PE are used extensively in many fields, including food-packaging films. There has been an increased interest in enhancing the biodegradability of PEs by blending them with a cheap natural polymer. Low density polyethylene (LDPE)/tapioca starch biodegradable film were prepared by twin-screw extrusion with the addition of glycerol as processing aid. The extrudates were then blown using blow film extrusion machine to produce plastic sheet. Studies on the characteristics of the films were carried out by Fourier transform infrared spectroscopy and melt flow index. The spectra show all the significant features of LDPE and tapioca starch in the film. Peak at 3300 to 3490 cm^{-1} refers to stretching vibration -OH groups from starch and this peak is increase as the starch loading increase. Addition of starch and glycerol to the film has increased the melt flow index of the blends.