

**Preparation and Characterization of Starch/ Banana Pseudostem
Biocomposite from Banana Pseudostem
(*Musa sapientum* var. *arakunensis*)
Rakhine Nget Pyaw**

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Abstract

In this project, light-weight packaging material, biocomposite films were created using agricultural waste materials, specifically banana pseudostems (BP). Only one bunch of bananas can be produced by each banana plant, after which it cannot be used for the next harvest. BP was chosen to produce biocomposite because BP produces a significant amount of waste in a large-scale farming process and that their disposal has become a significant environmental issue. Firstly, Energy Dispersive X-Ray Fluorescence (EDXRF) and Scanning Electron Microscopy (SEM) were used to examine the elemental compositions and morphology of BP powder, respectively. Secondly, starch-based biocomposites were prepared using glycerol as a plasticizer and BP powder as filler. The effects of the amount of BP powder and glycerol on the physicochemical properties of prepared biocomposite films were investigated in this project. Fourier Transform Infrared Spectroscopy (FT IR) was used to examine the functional groups of prepared biocomposite films. Finally, the soil burial method was used to assess the biodegradability of the generated samples. The current research help the development of small and medium enterprise (SME) as a regional benefiting research for people in Ayeyarwady Region.

Keywords: Banana pseudostem, filler, plasticizer, biocomposite films, biodegradable property