Development of biodegradable plastic from sago and Bario rice starch blend.

ABSTRACT

Biodegradable plastic composites were prepared by casting thermoplastic starches (Bario rice/Sago starch at ratio 2:3) with natural rubber (0.5 - 10 %) in the presence of a plasticizer. Bioplastics produced were characterized by differential scanning calorimetry (DSC), Fourier transform infrared spectroscopy (FTIR), water absorption test, biodegradable test, and mechanical analysis. Increasing natural rubber latex content in the composites showed shifting of melting temperature with increment by 8 - 23 degrees C, decreased water absorption ability by 18.2 %, decreased biodegradability by 15.0 to 36.8 % and reduced tensile strength by 1.8 to 7.6 %. These properties suggested that Bario rice has good potential in bioplastics casting.

Keyword: Thermoplastic starch; Sago; Bario rice; Biodegradable; Natural rubber latex.