

**Water absorption and water solubility properties of sago starch biopolymer composite films filled with sugar palm particles**

**ABSTRACT**

The influence of addition of 10, 20, 30, 40 and 50 wt % sugar palm particles (SPP) on the water absorption properties of thermoplastic sago starch biopolymer composite films was investigated. The fillers were mechanically stirred with thermoplastic sago starch mixtures for 30 minutes at 80 °C. The prepared films were then characterized for water absorption and water solubility. The SPP successfully reduce water absorption and thus increase barrier properties of thermoplastic sago starch biopolymer composite against water penetration, resulting in a more durable biocomposite films.

**Keyword:** Thermoplastic sago starch; Biopolymer composite films; Water absorption; Sugar palm particles