

Development of thermoplastic starch nanocomposites for wet conditions. / M. Oishi, Ch. Dal Castel, R. Park, B. Wolff, L. Simon. / Nano Studies. – 2015. – # 11. – pp. 69-74. – eng.

The need for environmentally friendly materials for applications in packaging has never been greater. One of the challenges in packaging applications is to have a material that has the right balance of properties and cost. A new type of thermoplastic starch copolymer has been investigated for its physical properties; this thermoplastic starch copolymer was prepared by reacting starch and polyesters. This paper will discuss the investigation on the use of cassava starch and clay to further improve the formulation of thermoplastic starch copolymer. The objective of adding cassava starch is to reduce cost, whereas the objective of adding clay is to further improve the properties under wet conditions. The materials were processed using a lab-scale twin screw extruder and injection molding. Addition of Na-montmorillonite improved water resistant and mechanical properties. Fig. 2, Tab. 2.

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