

Mechanical stability of biobased food packaging material

ABSTRACT

The increasing demand for food packaging materials which satisfy people requirement provided trust for the development of many biobased materials derived from renewable sources with reduced cost and optimized performance. Mechanical stability properties such as tensile strength, young modulus, elongation at peak, lightness, Softness, transparency and loading force helps to ascertain the new innovations in biobased food packaging for commercial use. This review reflects on biobased polymers such as polymers directly extracted and removed from biomass such as polysaccharides (starch or cellulose) and protein (casein or gluten). Polymers produced by classical chemical synthesis using renewable biobased monomers such as polylactic acid and biopolyester. Polymers made from genetically modified bacterium or microorganism such as polyhydroxylalkanoates. Hence it is necessary to review the mechanical stability of biopolymer packaging materials based on complexity possibilities to control food stability and interreaction and absorption between chemical compounds and polymers.

Keyword: Mechanical stability; Biobased polymers; Packaging material; Food application