ANTIMICROBIALS IN OXIDIZED BANANA STARCH FILMS: EFFECT ON ANTIBACTERIAL ACTIVITY, MICROSTRUCTURE, MECHANICAL AND BARRIER PROPERTIES.

ABSTRACT

Antimicrobial activity of films was evaluated with two bacterial strains (Listeria innocua and Staphylococcus aureus). Solubility, mechanical and water vapor barrier properties were also determinate to observe film functionality. Cinnamon essential oil had higher antimicrobial activity compared with potassium sorbate in the two studied strains. Incorporation of cinnamon essential oil decrease water vapor permeability from 18:34 _ 10□10 to 5:07 _ 10□10 g m□1 s□1 Pa□1 but percentage of elongation was not modified. On the other hand, potassium sorbate increase solubility (from 35.2% to 68.8%) and water vapor permeability (from 18:34 _ 10□10 to 22:52 _ 10□10 g m□1 s□1 Pa□1). Oxidized banana starch with cinnamon essential oil could be an alternative to elaborate films with potential as packaging material.

http://rmiq.org/new%20page/eVol10No3.html

Autores: C.A. Romero Bastida*, P.B. Zamudio Flores, Luis Arturo Bello Pérez.

Revista: Revista Mexicana de Ingeniería Química.
Volume 10, Issue 3, pages 445 -453.