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 $18.34 \times 10^{-10}$ to $5.07 \times 10^{-10}$ 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 $18.34 \times 10^{-10}$ to $22.52 \times 10^{-10}$ 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