

18th Global Summit on

FOOD & BEVERAGES

October 02-04, 2017

Chicago, USA

Anti-microbial and anti-oxidant activity of impregnated pectin based packaging material

Tanweer Alam, Mohd Mujeeb Ahmad and V Ravishankar Rai
Indian Institute of Packaging, India

The main aim of this research work is to prepare and characterize pectin based bio degradable, protective, proactive, active packaging blend films of low methoxy pectin and sodium alginate (75-25% w/w). Different blend films were prepared (75:25 P+SA, 100 P, 100 SA, 100+0.2% P+C, 75:25/0.7% P+SA+C in this ratio. The antimicrobial activity of different blends tested against food borne pathogen *E. coli* O157:H7 (MTCC 90), *Salmonella typhii* (MTCC 733) significance effect was showed for zone of inhibition. The free radical scavenging activity of 10% bio-composite incorporated cinnamaldehyde 0.30% blends based on linear correlation analysis (R_s) which is 0.9235 for DPPH scavengers and citric acid was used as positive control. Statistically significance $p<0.001$ correlations were found between cinnamaldehyde significantly modified polymer tensile properties. The films were characterized by TGA, DSC, ATR-FTIR, XRD analysis results showed $p<0.05$ significant effect on thermal behavior of polymeric structures.

amtanweer@rediffmail.com