

Title Shellac and aloe-gel-based surface coatings for maintaining keeping quality of apple slices

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Abstract

Apple slices, ozonised in water (1:2 w/v; 200 mg O₃/h, for 5 min) and then soaked in a solution containing ascorbic acid (200 mg kg⁻¹), citric acid (200 mg kg⁻¹) and sodium benzoate (200 mg kg⁻¹) for 10 min, were coated with edible surface coatings made up of shellac and aloe gel (AG), separately and in combination. Application of coatings was found to significantly ($p < 0.05$) reduce the respiration and ethylene synthesis rates as well as electrolyte leakage. The AG-coated samples showed reduced polyphenol oxidase (96.1) and peroxidase activity (211.2) followed by the samples coated with combination of shellac + AG, and shellac alone; the uncoated samples being showing maximum values (122.8, 288.5) for these enzymes in terms of units/g/min, respectively. The L^* , a^* and b^* values, firmness, microbiological and keeping quality of the coated slices also showed reduced changes during storage for 30 days at 6 ± 1 °C.