

Title Alginates coatings for preservation of minimally processed 'Gala' apples
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Abstract

Edible coatings made from alginate were investigated for their capacity to preserve the quality of minimally processed 'Gala' apples. Apple wedges were immersed in a calcium chloride solution and subsequently coated with one of three different coating formulations: alginate, alginate-acetylated monoglyceride-linoleic acid, and alginate-butter-linoleic acid. Apple wedges were stored at 5 °C in 85% RH. Weight loss, color, texture, volatiles profile, microbial load, titratable acidity, and soluble solids were assessed over storage. Overall, it was found that alginate coatings prolonged the shelf-life of cut 'Gala' apples without causing anaerobic respiration. All coatings used minimized the weight loss during storage, and apples with coatings containing acetylated monoglyceride in particular remained the closest to original weight. Firmness of coated apples remained practically constant regardless of the type of coating, while control apples had a large decrease in firmness during storage. Browning of 'Gala' apple slices was retarded in all coated apples. A higher production of hexanol and trans-2-hexenal was observed in coated apples containing butter and acetylated monoglyceride.