

Title Mixing and dipping 'Gala Brookfield' and 'Granny Smith' fresh-cut apples
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Abstract

Fresh-cut fruit is continuously increasing its share in the fresh-cut sector and apples are part of the offer. As for freshcut vegetables, the need to study mixes of different colored species is growing for consumer's appeal. In fruit, dipping is the most common way to control browning and softening phenomena. Thus, the research aimed to study dipping treatments and cultivar mixing on shelf-life and quality of fresh-cut apples. 'Gala Brookfield' and 'Granny Smith' apples were cut unpeeled in slices and washed with deionized water (control) or dipped in ascorbic acid at 0.25% (w/w). 160 g (two serving sizes) of 'Gala Brookfield' mixed with 'Granny Smith' (100:0, 50:50, 0: 100) were packaged in film with a permeance to O₂ of 1990 cm² m⁻² d⁻¹ bar⁻¹ and stored at 4 °C without light for 8 days. Gas composition (O₂ and CO₂), Antioxidant Power (AP), Total Phenolic Content (TPC), vitamin C and sugars content were considered at harvest and during shelf-life (1 and 8 days after packaging), while fresh weight loss was recorded daily. During shelf-life, O₂ and CO₂ in the head space of the bags were independently affected by dipping treatments and apple variety. At d1 the O₂ level was lower in bags with dipped slices than in bags with control slices; at d8 the O₂ level reached ca 8% in both treatments. CO₂ was not affected by dipping treatments. O₂ decreased more in bags containing 'Granny Smith', sole or mixed, than in bags containing 'Gala Brookfield' from d1 to d8, while CO₂ had the opposite trend. Fresh weight loss did not change due to apple mixing, but did due to dipping: it significantly increased during shelf-life in dipped apples while it decreased in control samples. Dipping did not affect AP, TPC and vitamin C during shelf-life while cultivar mixing affected them at d8: AP and TCP were higher in 'Granny Smith', sole or mixed, vitamin C was higher in sole 'Granny Smith'. In general, glucose, fructose and sucrose values were not affected by treatments and did not decrease during shelf-life up to d8, still revealing good organoleptic properties.