

Title Seasonal effects on postharvest quality of imported Spanish avocado cv. Hass
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Abstract

Avocado (*Persea Americana* Mill.) is tropical-subtropical fruit with three main productive periods (viz. early, middle and late season). Within Europe the most productive area is the southern Spanish region of Malaga. The influence of the picking date on the fruit composition and postharvest behaviour is acknowledged but no research has been published on imported fruit derived from Spain. The aim of the present study was to assess the effect of season on ripening characteristics (viz. softening, respiration rate and objective colour change) and further elucidate changes in the fatty acid profile of Spanish avocado cv. Hass fruit. Accordingly, three different experiment were performed with fruits (n = 100 per experiment) harvested from the same orchard in Malaga, Spain, at three different periods (viz. February, March, April 2008). Upon arrival at the laboratory, fruits were store overnight at 5°C and then held at 18°C for seven days. Objective colour, firmness and respiration rate were measured on days 0, 1, 2, 4, 7. Predictably, fruit colour and fruit firmness decreased during storage and were closely associated with respiration rate, For early, middle and late season fruit respiration rate and climacteric ethylene peaked in the first 4 days of storage. Late season fruit were more firm after harvest and fruit required less time to soften as compared with early and middle season. In addition, significant differences were also encountered in the fatty acid profile of fruit from each season. Early season fruit has higher proportions of palmitic acid (22.41%) and lower amounts of oleic acid (53.89%) as compared with middle (palmitic acid=18.78%; oleic acid=58.51%) and late season (palmitic acid=19.79%; oleic acid=59.89%) fruit. This work underlines importance of picking date and horticultural maturity in characterising avocado fruit quality and defining the ripening process.