

# Cultivar and tissue-specific changes of abscisic acid, its catabolites and individual sugars during postharvest handling of flat peaches (*Prunus persica* cv. *platycarpa*)

María E. García-Pastor, Natalia Falagán, Jordi Giné-Bordonaba, Dorota A. Wójcik, Leon A. Terry and M. Carmen Alamar

Postharvest Biology and Technology, Volume 181, November 2021, 111688

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## Abstract

The role of abscisic acid (ABA) during postharvest ripening of peaches remains unclear. This study aimed to investigate the temporal and tissue-specific changes in ABA, and ABA catabolites, of two flat peach cultivars, 'Plane Sun' and 'Platibell', during the stone fruit supply chain. The relationship between ABA catabolism, ethylene production, individual sugar changes and fruit firmness was also studied. We found that flat peaches can produce and metabolise ABA during postharvest ripening, and that this is cultivar and tissue dependent. Our results demonstrated that a burst in ABA concentration preceded that of ethylene production in 'Plane Sun' fruit, suggesting cross-talk between the two hormones. ABA and ethylene were both negatively correlated with fruit firmness, whilst sugar content, especially glucose, was only correlated with ABA. In conclusion, ABA may trigger ethylene production changes while also affecting sugar metabolism leading to fruit softening and over-ripening associated processes during stone fruit postharvest handling.