

Title Changes in volatile production and sensory quality of kiwifruit during fruit maturation in *Actinidia deliciosa* ‘Hayward’ and *A. chinensis* ‘Hort16A’

Author Mindy Y. Wang, Elspeth MacRae, Mark Wohlers and Ken Marsh

Citation Postharvest Biology and Technology, Volume 59, Issue 1, January 2011, Pages 16-24

Keywords Kiwifruit; Volatiles; Sensory; Firmness; Fruit softening; GC–MS

Abstract

Although volatiles have been previously studied in kiwifruit (*Actinidia* spp.), there has been no coordinated study of volatile release and softening through the full edible period. In this report, the two most important commercial cultivars *A. deliciosa* ‘Hayward’ and *A. chinensis* ‘Hort16A’ were evaluated for volatiles released at different ripening stages corresponding to their typical commercial shelf life, and compared to the sensory quality assessed by a trained taste panel. Gas chromatography–mass spectrometry data indicated that large amounts of straight-chain aldehydes and esters were the dominant volatiles in the two cultivars. In particular, butanoates, the main fruity esters in both fruit, significantly increased during ripening and an extremely high level of butanoates was found in the over-ripe fruit. Sensory results indicated that with fruit softening, some of the changes in volatile content could explain changes in fruit flavor detected by a trained panel, and differences in characteristic flavor of the two cultivars. The results have implications for fruit sample handling and volatile assessment.