

**Title** Changes in volatile production and sensory quality of *Actinidia arguta* fruit during fruit maturation

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#### **Abstract**

Fruit of *Actinidia arguta* ('Hortgem Tahī', 'Hortgem Rua', 'Hortgem Toru' and 'Hortgem Wha') were evaluated at different softening stages during ripening. The volatiles released from the fruit and their sensory qualities, as assessed by a trained taste panel, were compared with those of *A. deliciosa* 'Hayward' and *A. chinensis* 'Hort16A' fruit. Gas chromatography-mass spectrometry (GC-MS) data indicated that each species had different characteristic volatiles. Straight chain aldehydes and esters were the dominant volatiles detected during the ripening of *A. arguta* fruit. As in 'Hayward' fruit, the total percentages of (E)-2-hexenal and hexanal, which impart green characteristics, decreased as the fruit softened. Butanoates (fruity characteristics) detected in the fruit increased as fruit firmness decreased. However, in the *A. arguta* fruit, higher levels of terpenes and aldehydes were detected. With fruit softening, sensory perception of acidity decreased but typical kiwifruit odour and flavour intensity (ethyl butanoate) increased. More tropical aroma and a slightly bitter skin taste were also noted by panellists for all tested fruit.