

Title Pre-harvest calcium effects on sensory quality and calcium mobility in strawberry fruit
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Abstract

Plants of the strawberry (*Fragaria x ananassa* Duchesne) cultivar 'Selva' were planted in Mount Compass sand supplemented with three calcium sulphate treatments such that Ca contributed was 300 ppm, 900 ppm or 1800 ppm, to assess effects on post-harvest fruit quality. Sensory panellists evaluated appearance, texture, and flavour, while objective analysis was performed on the same fruit by means of a penetrometer, and determination of titratable acidity, yield and total soluble solids. Fruit from plants receiving the low calcium sulphate (Brix° treatment were consistently larger and had greater total soluble solids) and titratable acidity than fruit from the other calcium treatments. However, fruit from the median calcium treatment had the best postharvest quality. This directly correlated with fruit firmness, measured using a penetrometer. None of the treatments was identified by panellists as being ideal for obtaining desirable strawberry fruit flavour or texture. The concentration of macro- and micronutrients present in petiole, leaf and strawberry fruit tissues was analysed to assess calcium mobility. Increased calcium application rates resulted in increased calcium concentrations in leaf tissues but not fruit, suggesting that calcium is not mobilised to fruit tissue.