

Title Is the 6.2 °brix soluble solids harvest index suitable for 'hayward' kiwifruit from high productivity orchard management systems?

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Abstract

Recent changes to 'Hayward' kiwifruit vine management, productivity and climate may affect maturation, softening behaviour and storage performance of the fruit and, in particular, the relationships between maturation and storage performance. If so, is the 6.2 °Brix soluble solids harvest index used by the New Zealand industry still relevant under these changed circumstances? The relationship between soluble solids accumulation and postharvest performance was investigated using fruit from ten orchard management regimes. Soluble solids content (SSC) was monitored throughout April and May 2009 and fruit were harvested for storage when on average at an SSC of 5.2, 5.9, 6.4, 8.0 and 10.0 °Brix. Current orchard management practices for high productivity affect fruit carbohydrate metabolism, resulting in higher SSC values earlier in the season. The pattern of SSC accumulation is also changed, with the rate of SSC accumulation when fruit are at 6.2 °Brix being slower. The postharvest implications are that fruit may be harvested when less mature than equivalent fruit from orchards not using high productivity practices: this may result in reduced capacity to ripen normally and tolerate low temperatures and thus shorter storage and shelf-life. If harvested later, at a higher SSC, the fruit are more likely to have more typical storage and shelf-life behaviour. Overall, whilst 6.2 °Brix as a harvest index is not incorrect, more attention should be paid to the actual nature and pattern of change in SSC accumulation when fruit are at 6.2 °Brix, rather than the simple numerical value.