

Title Harvest date affects colour and soluble solids concentrations (SSC) of *Uapaca kirkiana* (Muell. Arg.) fruits from natural woodlands

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Abstract

Uapaca kirkiana (Muell. Arg.) is a woodland fruit tree that is native to parts of eastern, central and southern Africa. Unripe fruits are harvested from wild and semi-wild sources by dislodging them from trees. Ripe fruits are gathered from the ground after abscission. Utilization of the fruits is affected by problems such as variability of fruit quality and high perishability. Quality attributes of fruits harvested on 1 and 17 November, and 3 December 2003 and kept at 25–30°C, have been evaluated. On the second and third harvests, fruits were also stored in polythene bags to investigate a common incubation method to hasten ripening. Fruit weight and colour before and after ripening, and the soluble solids concentrations (SSC) of ripe fruits were measured. The redness (a^*) values at harvest increased from 3.5 to 5.3 units from 1 November to 3 December. Over this period there was a significant decline in both lightness (L^* ; 63.8 to 58.9 units) and yellowness (b^* , 39.6 to 36.4 units). Skin colour became darker during storage as reflected by the decreasing lightness (L^* values from 63.8 to 44.5 units), yellowness (b^* values from 36.6 to 20.1 units) and increasing redness (a^* values from 3.5 to 8.8 units). Fruits harvested on 17 November and 3 December did not darken during storage as much as fruits harvested on 1 November. Fruits harvested on 3 December lost less weight (13.7%) during storage than those harvested on 1 November (34.0%), while the respective SSC measured 6 days after harvest were 18.1% and 9.9%. Fruits kept in polythene bags had 5.3% lower SSC than those kept on plates. The results demonstrate the benefits of delaying fruit harvest to improve quality attributes such as fruit skin colour at harvest and during storage, to reduce weight loss and to obtain higher SSC during storage.