

Title Antioxidant properties of durian fruit as influenced by ripening

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Abstract

The antioxidant properties of durian (*Durio zibethinus* Murr., cv. Mon Thong) at different stages of ripening were investigated using fluorometry, UV spectroscopy, and HPLC/DAD analyses. Total polyphenols, flavonoids, anthocyanins and flavanols in ripe durian were significantly higher ($p < 0.05$) than in mature and overripe fruits. Free polyphenols and flavonoids were at lower levels than hydrolyzed ones. Caffeic acid and quercetin were the dominant antioxidant substances in ripe durian. In these fruits, methanol extracts contained a relatively high capacity of $74.9 \pm 7.1\%$ inhibition using β -carotene–linoleic acid assay. Ferric-reducing/antioxidant power (FRAP) and cupric-reducing antioxidant capacity (CUPRAC) assays supported this finding. The correlation coefficients between polyphenols and antioxidant capacities of durian samples with all applied assays were about 0.98. In conclusion, the bioactivity of ripe durian was high and the total polyphenols were the main contributors to the overall antioxidant capacity.