Title Comparison of selected antioxidant compounds and antioxidant capacity between three different Malaysian carambola (*Averrhoa carambola* L.) fruit cultivars (B2, B10 and B17)

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Abstract

This study was conducted to compare selected antioxidant compounds and antioxidant activity ofthree different carambola cultivars (B2, B17 and B10) planted in Malaysia. Ripe carambola fruits were analyzed for ascorbic acid (AA), total phenolic compound (TPC), total flavonoid content (TFC), β-carotene and tocopherols. 2,2-Diphenyl-2picrylhydrazyl (DPPH) and β-carotene/linoleic acid emulsion system assays were performed to evaluate their antioxidant activities. Results of the study showed that among the cultivars tested, ascorbic acid content in B17 was the highest followed by B2 whereas B10 was the lowest. B17 was found to consist the highest β-carotene and γtocopherols levels. In contrast, B10 had significantly ($P<0.05$) higher content of γ-tocopherol. B10 and B17 did not showed any significant ($P>0.05$) difference in TPC, TFC, α- and δ-tocopherol content. B10 and B17 exhibited significantly ($P<0.05$) higher antioxidant activity than B2 for both DPPH and β-carotene/linoleic acid emulsion systems. Correlation between antioxidant activity and compounds showed TPC, a-tocopherol and (β-carotene were highly correlated with DPPH only while TFC, γ- and α- tocopherol were highly correlated for DPPH and βcarotene/linoleic acid emulsion system assays. However, γ-tocopherol and ascorbic acid expressed insignificant correlation in both assays.