Effect of Boiling on the Antioxidant Capacity of *Dioscorea alata* (Raja Ala) Grown in Sri Lanka

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ABSTRACT. *The present study evaluated the effect of boiling on the antioxidant capacity of Dioscorea alata (raja ala) using water extracts; raw yam extract, boiled yam extract prepared with water used in boiling, boiled yam extract prepared with fresh water. The total antioxidant capacity was measured by ferric reducing antioxidant power (FRAP), 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging and reducing power assays. The total phenol, total flavonoid, monomeric anthocyanin and condensed tannin contents were measured by Folin-Ciocalteu, aluminium chloride, pH differential and vanillin assays respectively. The results indicated that FRAP, reducing power, total phenol and monomeric anthocyanin contents of the boiled yam extract prepared with fresh water were significantly lower ($p < 0.05$) than that of the other treatments. The DPPH radical scavenging capacity, total flavonoid and condensed tannin contents of the boiled yam extract prepared with fresh water were significantly lower ($p < 0.05$) than that of the raw yam extract. The discarding of water used for boiling the yam has resulted in significant ($p < 0.05$) loss of antioxidants due to loss of water soluble antioxidant compounds. Hence, processing of yam with minimal water and without discarding it can be recommended to get the maximum benefit. Total phenol, total flavonoid and condensed tannin were the major antioxidants found in raw and boiled yam extracts while the monomeric anthocyanin was only a minor antioxidant.*

Keywords*: Antioxidant capacity, boiled yam, Dioscorea alata (raja ala), raw yam*

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