



203/B/Poster

Comparison of physico-chemical and phytochemical properties and antioxidant capacity of three locally available Citrus varieties (*Jamanaran*, *Heennaran*, *Penidodam*) with imported sweet orange

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Citrus species are highly valued for their nutritional value, therapeutic properties, and food value. Since citrus fruits contained therapeutically active phytochemicals such as flavones, carotenoids, and limonoids, citrus are used to treat excessive accumulation of phlegm, thoracic distress, distension of the coastal region, dyspepsia, eructation, vomiting, dysentery with tenesmus, and prolapse of the uterus or rectum. Even though, Sri Lanka has many commercially cultivated and underutilized citrus species available, information on phytochemical composition and antioxidant capacity of existing citrus species are lacking or scattered. Therefore, the present study was undertaken to compare the physical parameters, phytochemical contents, and antioxidant capacity of 3 local varieties of citrus fruits at correct physiological maturity stage, with imported sweet orange. Total Phenolic Content (TPC), Total Flavonoid Content (TFC), vitamin C content, and Total Antioxidant Capacity (TAC) were determined by using previously published methods. Results revealed that a higher fruit weight, fruit diameter, peel thickness, and number of seeds per fruit were reported in *Penidodam*, while higher TSS was recorded in imported sweet orange. Significantly highest TPC, TFC and TAC were observed in imported sweet orange (43.29 ± 1.45 mg GAE/100g FW, 19.75 ± 1.08 mg RE/100g FW and 70.26 ± 2.30 mg TE/100g FW respectively). Interestingly TAC of imported sweet orange and *Penidodam* were not significantly different from each other. However significantly highest vitamin C content was recorded in *Penidodam*. Further, results revealed that all tested citrus species contained considerable amount of all tested phytochemicals. Moreover, most of the physical parameters, vitamin C content, and phytochemical properties were approximately similar or higher in local *Penidodam* and *Jamanaran*, they can be introduced as commercial cultivation for future production.

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