226/B

Comparison of physico-chemical parameters, phenolics and antioxidant capacity of four local mango varieties with newly introduced variety TomEJC

T.H.A.Dilshani,[1] D.C. Abeysinghe,[1] and R.M.Dharmadasa[2*]

[1]*Department of Plantation Management, Faculty of Agriculture and Plantation Management, Wayamba University of Sri Lanka, Makandura, Gonawila*

[2]*Industrial Technology Institute, BaudhalokaMawatha, Colombo 07*

Mangifera indica L. (Mango) is a tropical, seasonal fruit, which is extensively consumed as a fruit, a vegetable, as well as processed products. The demand for the mango mainly depends on its strong aroma, intense peel coloration, delicious taste, and high nutritional and therapeutic values. Even though Sri Lanka has a large number of mango varieties, information on their phytochemicals and antioxidant capacity is scattered. Therefore, the present study was undertaken to compare the phytochemicals and antioxidant capacity of four different local mango varieties (*Kohuamba, Meeamba, Karuthakolomban and Willard*) with newly introduced variety *TomEJC*.The total antioxidant capacity (TAC) and total phenolic content (TPC) were determined using the Ferric Reducing Antioxidant Power Assay (FRAP) and modified Folin-Ciocalteu method respectively. A significantly higher TAC (109.0 ± 5.9 mgTE/100g FW), and TPC (71.68 ± 0.25 mg GAE/100g FW) were recorded in variety *TomEJC*. The order of TAC increase was *Karuthakolomban* < *Kohuamba* < *Meeamba* < *Willard* < *TomEJC*. The same increasing pattern was observed for TPC too. Accordingly, phenolics and antioxidant capacity were significantly higher in the introduced variety *TomEJC.* Tested physical parameters such as fruit length, fruit width, and fruit weight also were significantly higher in variety *TomEJC.* However, significantly higher moisture content was observed in *Kohuamba* (84.23±0.22%),while significantly higher pH and total soluble solids percentage (TSS %) were observed in variety *Meeamba* (6.04 ± 0.04 and 21.0 ± 0.2% respectively). Further, order of TSS percentage was*Kohuamba* < *Willard* < *Karuthakolomban* < *TomEJC* < *Meeamba*. Based on the above observations, it could be concluded that all tested varieties possesses marked content of phenolics and antioxidant capacity. However, the introduced variety *TomEJC* showed significantly higher physical parameters, phenolics and antioxidant capacity except pH, TSS and moisture content.

Keywords: Anacardiaceae, Antioxidant capacity, *Mangiferaindica*, phenolics.

E-mail: dharmadasarm@gmail.com