ANTIOXIDATIVE PROPERTIES OF THE FRUITS OF SELECTED TOMATO (*Lycopersicon esculentum* Mill.) VARIETIES

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ABSTRACT

This study was conducted to compare the antioxidative properties of green-stage fruits of selected *Lycopersicon esculentum* Miller varieties (Diamante, Diamante Max, and Pidada) from Barangay Durog, Miagao, Iloilo. The fresh fruit samples were extracted with 95% ethanol. The crude extracts were concentrated using rotary evaporator. The antioxidant activity of the ethanolic fruit extracts was assayed for DPPH radical scavenging activity and the IC_{50} values were determined. The determination of the phenolic and flavonoid contents was done employing Folin-Ciocalteu method and aluminum chloride spectrophotometric method, respectively.

The results show that the fruits of the studied *L. esculentum* varieties exhibit DPPH radical scavenging activity. The IC_{50} values, however, differ significantly among the varieties. The IC_{50} values for Diamante (24.22 ± 1.41 g/L) and Diamante Max (25.08 ± 0.45 g/L) are comparable but are significantly lower than Pidada (29.47 ± 1.33 g/L). These findings imply that Diamante and Diamante Max varieties have stronger antioxidative capacity than the Pidada variety. Moreover, the results indicate that the antioxidative property of *L. esculentum* is variety-dependent.

The results of the determination of the total phenolic content, expressed in mg gallic acid equivalent (GAE) per g fresh sample, are in the order of 0.16 ± 0.02 mg GAE/g for Diamante > 0.15 ± 0.02 mg GAE/g for Diamante Max and Pidada. On the other hand, the results of the determination of the flavonoid content, expressed in μg quercetin equivalent (QE) per g fresh sample, are in the order of 6.31 ± 1.27 μg QE/g for Diamante > 6.21 ± 0.88 μg QE/g for Diamante Max > 5.63 ± 0.94 μg QE/g for Pidada. No significant difference in the total phenolic and flavonoid contents was found among varieties. Nonetheless, the detection of phenolics and flavonoids, known antioxidants, supports the present results on the antioxidative property of the fruits of the *L. esculentum* varieties studied.

The present findings suggest that the local tomato varieties in Miagao, Iloilo are potentially good sources of antioxidants.