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**Assessment of phenolics in selected *Phalaenopsis* cultivars**

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Orchidaceae ranks as the second-largest family of flowering plants. *Phalaenopsis* species belong to the family Orchidaceae are highly prevalent and commercially significant. Because of the floricultural significance, range of cultivars and hybrids resulted by performing crosses using parents with desirable characters, beneficial to the floriculture industry. Phytochemicals play an important role in plant defense mechanisms and dispersal mechanisms. They are unique to specific plants and parts of plants and usually increase in abundance during stressful events. The main groups of phenolic compounds include flavonoids, phenolic acids, tannins, and lignan compounds. Flavonoids are naturally occurring compounds and possess distinctive biological activity with high antioxidant capability. This study was conducted to quantify the total phenolic content, and total flavonoid content of six different *Phalaenopsis* cultivars to select parental materials with promising characters which are essential for plants to cope with stress in relation to plant physiology. Six self-pollinated *Phalaenopsis* cultivars were selected based on the color, shape, and overall attractiveness of the flowers to represent different colors and pigmentation patterns and maintained in the greenhouse. Total phenolic content and flavonoid content were quantified using methanolic extracts of known weight of leaves and roots following the standard methods used in the phytochemical analysis. According to the obtained data, Purple-colored *Phalaenopsis* cv. Queen Beer 'Mantefon' root extract recorded the highest flavonoid content ( $5.50 \pm 0.01$  mg QE g<sup>-1</sup> DW) and yellow-colored *Phalaenopsis* cv. Golden Sands 'Canary' leaf extract recorded the highest phenolic content ( $335.77 \pm 0.02$  mg GAE g<sup>-1</sup> DW). The highest phenolic and flavonoid content in a plant could contribute for developing the potential for high antioxidant activity. Therefore, these cultivars which have the most favorable characteristics than other studied cultivars can be used as parental material in future quality improvement and plant breeding programs.

**Keywords:** Orchidaceae family, *Phalaenopsis* cultivars, Phenolic content, Flavonoid content

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