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ANTIOXIDANT ACTIVITY, TOTAL PHENOL, ANTHOCYANIN, AND ASCORBIC ACID CONTENTS IN FOUR CULTIVARS OF STRAWBERRY FRUITS

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Strawberry is one of the most important small fruits in most countries of the world. It is considered as an important source of bioactive compounds due to its high vitamin C and phenolic compound levels; this provides high antioxidant effects that are beneficial for the consumer's health. The present work studied four commercial strawberry cultivars (*Fragaria x ananassa* Duch.) sampled in Kordestan province due to some biochemical properties, such as anthocyanins, total phenolics, antioxidant activity, and ascorbic acid. The results showed that Anthocyanin index varied between 18.43 to 39.15 while the phenol content ranged from 211.0 to 295.5 mg/100 g FW. Also, Ascorbic acid content ranged from 27.5 to 41.7 mg/100 g FW and the highest and lowest antioxidant activities were 422 and 381 mg AA/100 g FW in 'Kordestan' and Selva' cultivars respectively. Compared with the other cultivars, Kordestan cultivar exhibited higher antioxidant activity and vitamin C amount. Thus, it can be concluded that 'Kordestan' strawberry is a rich source of polyphenols, vitamin C, and antioxidants. Moreover, there were differences in the occurrence and concentration of the phenolic compound profiles of the four cultivars, but 'Camarosa' strawberry showed higher contents of Phenol and Anthocyanin. Generally, interaction between the climatic conditions and type of cultivar affected the biochemical compounds, thus cultivar choice is the most important factor before planting.

Keywords: Fragaria x ananassa, Vitamin C, Biochemical parameters, DPPH assay