عنوان مقاله:

Characterization of Four Famous Red Grapevine Cultivars

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خلاصه مقاله:

The grape berries due to containing organic acids, sugars, aromatic compounds, phenolic compounds (including anthocyanins, flavanols, flavonols, stilbenes (resveratrol)), tannins, and oil in the pulp, skin, and seed have numerous health benefits for human health. In this study, we investigated genetic and phytochemical characteristics of four famous grapevine cultivars (Shiraz, Sirch, Panje Arous, and Yaghouti) at the maturity stage in 10-20º Brix on a cultivar basis. This research was performed at university of Hormozgan in 2017. The results indicated that Sirch cultivar had the highest total anthocyanin content (2733 mg kg-1 FW), total phenolic content (1666 mg kg-1 FW) and total carotenoid in the skin. High correlation (R2 = 0.951) was observed between cultivars skin's total anthocyanin and total carotenoid contents. The highest quercetin content (1593 mg kg-1 FW) among the studied cultivars was obtained in Panje Arous cultivar (a pink grape) and Sirch cultivar had the highest delphinidin specific anthocyanin content (65.03 mg kg-1 FW). Among the studied cultivars, Shiraz had the highest total soluble sugar (%19.90) and amount of vinegar (950 ml Kg -1 grapes). Analysis of GC-MS results of vinegar, indicated that the highest rate of ethanol (%98.442) was found in Panje Arous cultivar. DNA sequencing and alignment analysis of F3H, UFGT, DFR, and MybA1 gene sequences showed that there was high homology (> %99) among the studied cultivars, therefore it can be concluded that they are derived from a common ancestor.

کلمات کلیدی:

Grape anthocyanin, Phenolic content, Antioxidant activity, HPLC, GC mass, DNA sequencing