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ABSTRACT BOOK



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Phenolic Composition of *Prunus armeniaca* L. ‘Shalakh’ Leaves: Quantification and Marker Compound Analysis

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Background: *Prunus armeniaca* L. is highly valued for its rich phytochemical composition, particularly its phenolic compounds, which are known for their strong antioxidant and health-promoting properties. While most research has concentrated on the nutritional and chemical profile of the fruit, other plant organs, especially the leaves, represent an important yet underexplored source of bioactive phenolics [1]. These compounds may exhibit significant antioxidant, antifungal, antimicrobial, and anticancer activities [2]. Investigating the distribution and composition of phenolic compounds in apricot leaves is therefore essential for evaluating their potential applications in food, pharmaceutical, and agricultural fields.

Aim: To determine the total phenolic content and identify marker phenolic compounds in the leaves of *Prunus armeniaca* L. ‘Shalakh’.

Materials and methods: *P. armeniaca* ‘Shalakh’ variety leaves have been harvested in the Tairov village of Armavir region (Armenia) in May, July and September of 2024. Phenolic compounds were extracted by ultrasonic-assisted extraction using 70% (v/v) ethanol as the solvent. The total phenolic content of the leaf extracts was determined using the well-established Folin–Ciocalteu colorimetric method and expressed as gallic acid equivalents (GAE) [3]. Marker phenolic compounds were identified by high-performance liquid chromatography (HPLC) using a Waters e2695 Alliance HPLC system equipped with a 2998 photodiode array (PDA) detector (Waters, Milford, MA, USA). The identification of individual phenolic compounds was based on a comparison of their retention times (Rt) and UV–Vis spectra with those of authentic reference standards [4].

Results: The total phenolic content of *Prunus armeniaca* ‘Shalakh’ leaves varied according to the collection period. The highest value was recorded in May (39.24 ± 0.45 mg/100 g DW), while lower values were observed in July (27.84 ± 0.39 mg/100 g DW) and September (27.37 ± 0.39 mg/100 g DW). HPLC analysis identified several phenolic marker compounds, including neochlorogenic acid, chlorogenic acid, cryptochlorogenic acid, cynarin, rutin, isoquercitrin, and kaempferol-3-O-rutinoside.

Conclusion: Leaves of *Prunus armeniaca* ‘Shalakh’ contain high levels of phenolic compounds, especially in early development, with 7 compounds identified as the main markers, highlighting their potential for nutraceutical and functional applications.

References:

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