

## عنوان مقاله:

The Effects of Gum Arabic and Warm Water Application on Physicochemical and Qualitative Parameters of Table Grape Fruits During the Postharvest Period

## محل انتشار:

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## نویسندگان:

Babak ValizadehKaji - *Department of Horticultural Sciences, Faculty of Agriculture and Natural Resources, Arak University, Arak, Iran*

Saied Maleki - *Department of Horticultural Sciences, Faculty of Agriculture and Natural Resources, Arak University, Arak, Iran*

Ahmadreza Abbasifar - *Department of Horticultural Sciences, Faculty of Agriculture and Natural Resources, Arak University, Arak, Iran*

## خلاصه مقاله:

Table grape is a non-climacteric fruit; however, it has a short shelf-life. Thus, some treatments that can prolong shelf-life and maintain the quality of table grape fruits are required. This study was carried out as a factorial based on a completely randomized design with two factors: the first factor was the storage period and the second factor was the combination of warm water treatments and gum arabic (GA). Fruits were stored at 5 °C and 80 % relative humidity in permanent darkness. On days 0, 2, 4, and 6, seven berries from each replicate were randomly sampled and analyzed for physicochemical and qualitative parameters. Although storage time had a negative effect on the measured traits of 'Bidaneh Ghermez' table grape fruits, this effect was lessened by the application of warm water treatments and GA coating, especially 45 °C+GA 5%. Compared to the uncoated controls, fruits that received 45 °C+GA 5%, showed more levels of vitamin C (30.43-160.00%), TSS/TA (total soluble solids/titratable acidity) (19.76-21.57%), anthocyanin (37.40-57.75%), antioxidant activity (7.35-36.40%), total phenol (12.01-24.49%), and sensory attributes (66.66-248.50%), but lower levels of weight loss (53.27-45.48%), H<sub>2</sub>O<sub>2</sub> (hydrogen peroxide) (9.90-26.55%), and MDA (malondialdehyde) (8.84-27.92%) during storage. Therefore, the application of warm water treatments and GA coating, particularly 45 °C+GA 5%, in the shelf-life extension of fruits has revealed remarkable promising potential. The advantages of warm water and GA include their low cost.

## کلمات کلیدی:

Antioxidant activity, Edible coating, H<sub>2</sub>O<sub>2</sub>, MDA, total phenol

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