Effect of different pre-treatments on physico-chemical parameters of raisins prepared from variety Thompson Seedless

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ABSTRACT
The present investigation was carried out at the Post Graduate Laboratory of the Department of Horticulture, Junagadh Agricultural University, Junagadh during the year 2008. The experiment consisted of 3 levels of olive oil concentrations viz., 0.5%, 0.1%, and 1.5% and 3 levels of potassium carbonate concentrations viz., 2.0%, 4.0%, and 6.0% and control, there were 10 treatment combinations employed in this study. Fully ripened, fresh, healthy, uniform size, shape and colour berries of Thompson seedless variety were taken for experiment. The berries treated with different treatments for 3 minutes at 42°C and treated berries were subjected to shade drying for 8-17 days. The dehydrated grape raisins were packed in polythene bags and kept at ambient conditions. The experiment was laid out in Completely Randomized Design with three replications. The dehydrated grape raisins samples were analyzed for various physical, biochemical and organoleptic changes. The results of the study indicated that, the combination of olive oil concentrations and potassium carbonate concentrations affect the quantitative and qualitative characteristics during the storage period. The treatment combination of olive oil 0.5% and potassium carbonate 4% concentrations, recorded the highest TSS, sugars, ascorbic acid and organoleptic score during the entire storage period. The chemical parameters viz., TSS, reducing sugar, total sugar content were increased with advancement and titrable acidity decreased during storage period. The organoleptic rating with regard to colour, texture, flavour, and taste was also found higher in the treatment combinations of olive oil 0.5% and potassium carbonate 4%. Among different treatments, T_{10} (dipping (1.5% olive oil + 6.0 % K_{2} CO_{3}) for 3 min. at 42°C) recorded the highest recovery % with lowest dehydration ratio. From the present investigation it is clear that, for quality production of raisins (dried grape berries) from fresh grape berries under shade drying by using treatment olive oil of 0.5% and potassium carbonate 4% would be beneficial.

Key words: Thompson seedless, Raisin, Grapes