Effect of water stress on qualitative and quantitative characters and storage longevity of peach fruit.

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To evaluate the effects of water stress at various phenological stages of peach fruit development on qualitative and quantitative characters and storage longevity of fruit, an experiment was conducted during 1996-97 at the experimental orchard of Agricultural College of Tehran University, in Karaj. A split-plot design arranged in randomized completely block with four replications was used. Four cultivars (G.H. Hale, Red Haven, Mashad's white and Mashad's Red & White) were put in main plots and five water stress treatments (water stress in stage I of fruit growth, water stress in stage III, water stress in stage II, Water stress in stage I plus stage III and full Irrigation as control) in sub-plots.

There was no difference between water stress in stage I and control for qualitative and quantitative characters of fruit. water stress at phase III of fruit growth (pit hardening) increased fruit weight and fruit size significantly (at 1% level) compared with other treatments. water stress at phase II of fruit growth significantly increased total soluble solids (TSS) and acidity of fruit, while mean fruit weight, fruit size and fruit water content were decreased. there was no sigificant difference between water stress treatments for water loss after two weeks storage at 25^{C} and 60% R.H. condition. TSS and fruit acidity after storage were maximum by the water stress at phase II of fruit growth.