

Title Effect of time and temperature on the quality and stability of ascorbic acid in progressed kinnow mandarin juice

Author N. Pebam, V. M. Prasad, R. K. Roshan and D. B. Singh

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Abstract

The juice from fruit and vegetables has powerful healing and rejuvenating properties that can help people with all sorts of health problem. Juices are easily digested and absorbed and are superb for those with poor appetite, nausea, digestive problems etc. Fresh kinnow mandarin fruits cannot be kept as such for a long period and needed to be processed to extent its shelf life. The present investigation was conducted with a view to determine the appropriate temperature and time for better retention physicochemical properties of kinnow mandarin juice in the Department of Horticulture, AAI-DU, Allahabad during 2004-2005. The kinnow mandarin juice were treated at the following temperature and time, 1) T₀-control (ambient temperature), 2) T₁-80°C for 10 min., 3) T₂-80°C for 15 min., 4) T₃-80°C for 20 min., 5) T₄-90°C for 1 min., 6) T₅-90°C for 5 min., 7) T₆-90°C for 10 min., 8) T₇-100°C for 1 min., 9) T₈-100°C for 3 min., 10) T₉-100°C for 5 min. Amongst all the treatments, the juice treated with 90°C temperature for 10 min. was found best to retain the maximum possible amount of ascorbic acid in the kinnow mandarin juice (90%). TSS and total sugar of the treated juice maintain it highest at the temperature of 100°C for 5min. At this temperature density of the juice was best and cloudiness was minimum. The acidity and pH of the juice remain unaffected.