



Article history :

Received : 21.09.2016

Revised : 10.11.2016

Accepted : 22.11.2016

Thermal and chemical treatments for enhancing the shelf-life of sugarcane juice

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ABSTRACT : Present study was carried out to enhance the shelf-life of sugarcane juice so that it is available on commercial scale. Sugarcane juice were subjected to heat treatment at 85°C for 10 minutes followed by the addition of fresh lemon juice to maintain the pH of 4.2. After this the juice was subjected to the following treatments: in the first treatment (T₁) the juice was immediately bottled, in the second treatment (T₂), ascorbic acid (40 ppm), potassium sorbate (120 ppm) and sodium benzoate (120 ppm) were added. In the third treatment (T₃) cinnamon oil (0.4 ml) was added. The treated juices were bottled and pasteurized in hot water at 85°C for 10 minutes and stored under ambient conditions (30±5°C). Physico-chemical and microbiological observations like pH, total soluble solutes (T.S.S), colour (browning index), total plate counts, yeast and mould counts were taken along with sensory evaluation. The chemical preservatives used in T₂ enhanced the shelf-life for up to 45 days. However, the pasteurized juice T₁ also showed acceptable sensory and microbial properties upto 20 days of storage.

KEY WORDS : Sugarcane juice, Heat treatment, Storage, Sensory evaluation, Shelf-life

HOW TO CITE THIS ARTICLE : Verma, Ayushi, Kumar, Dilip, Singh, Priyanka and Yadav, Kailash Chandra (2016). Thermal and chemical treatments for enhancing the shelf-life of sugarcane juice. *Asian J. Hort.*, 11(2) : 373-378, DOI : 10.15740/HAS/TAJH/11.2/373-378.