

IMPACT OF DIFFERENT POSTHARVEST TREATMENTS AND PACKAGING SYSTEM ON THE QUALITY AND SHELF LIFE OF LITCHI

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Executive Summary

Litchi is a good source of dietary fiber and is excellent for weight loss. High in water content and low in calories, it is an ideal fruit for weight loss. The fruit also contains other essential minerals like magnesium, phosphorus, iron, manganese, and copper, which are great for stronger bones. The experiment was carried out at the Post-harvest Laboratory, Dr. M.A. Wazed Miah Research Centre, Department of Horticulture, Sher-e-Bangla Agricultural University, Dhaka. The experiment was laid out in a Completely Randomized Design with three replications. The present research was conducted on the aspect of shelf life of litchi through six postharvest treatments (T_0 : Control; T_1 : CaCl_2 dips; T_2 : Oxalic acid 2mM + Bavistin dips; T_3 : Ice dips; T_4 : Ice + Oxalic acid 2mM + 0.05% Bavistin dips; T_5 : Ice + Oxalic acid 2mM dips; T_6 : Clean water dips), 2 post-harvest packaging system (P_0 : Non-Packaging; P_1 : LDPE Packaging) and 2 temperature management (C_0 : Ambient temperature, $26\pm 1^\circ\text{C}$; C_1 : 5°C temperature). Results revealed that the lowest pericarp browning (0.00%, 0.00%, 5.00%, 10.00%, 20.00% and 40.00% at 3rd, 6th, 12th, 18th, 24th, and 30th days after storage, respectively) was found when litchi fruits treated with Ice and 2mM oxalic acid with 0.05% fungicide (Bavistin) solution and packaged with LDPE bag and stored at 5°C temperature ($T_4P_1C_1$). Again, the highest amount of vitamin C content (26.89 mg/100g at the end of shelf life) and the longest shelf life was observed in $T_4P_1C_1$. The best performance was observed in the hydro cooled litchi fruits dipped into 2mM oxalic acid with 0.05% fungicide (Bavistin) solution and packaged with LDPE bag and stored at 5°C for long term storage.

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