

RETAIL MOBILE STALL FOR EXTENDING THE SHELF LIFE OF SELECTED FRESH FRUITS AND VEGETABLES

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Large quantities of fruits and vegetables are wasted at retail selling due to high temperature and low relative humidity conditions. To overcome this, the Institute of Postharvest Technology, *Anuradhapura* has developed a prototype of a retail mobile stall, in view of improving the shelf life of fruits and vegetables. The objective of this study was to evaluate this prototype in extending shelf life of selected fruits and vegetables. There were two types of samples; S1-whole fruits (papaya, guava) and vegetables (egg fruit, tomato) and S2-sliced fruits (pineapple). Sample exposed to the ambient condition; 33 °C and 70-80% RH was used as the control. Fifteen kilograms of ice cubes was used per day to reduce the temperature to around 24 °C and 85% to 90% RH in prototype. S1 and S2 were kept on prototype during morning and weight loss percentage, color, firmness, pH and total soluble solids were measured at one day interval for the S1 and at every day for the S2. Total plate count of the S2 was measured when the visual quality of the S2 get deteriorated. Data were analyzed using Randomized Complete Block Design using ANOVA procedure. The results revealed that weight loss percentage of S1 and S2 was significantly reduced ($p < 0.05$) in samples kept on prototype mobile stall and there was a significant difference ($p < 0.05$) in color, total soluble solids and firmness in S1 compared to the control, though, the pH was not significantly different ($p > 0.05$) after seven days. The shelf life of selected whole fruits and vegetables was seven days without quality deterioration in the prototype retail mobile stall, and for control it was four days. The shelf life of the sliced fruits cannot be increased under the conditions provided in the prototype though S2 was microbiologically safer than the control.

Key words: Cooling, Fruits and vegetable, RH, Shelf life, Temperature