

Comparison of Air-conditioned and Roadside-ventilated Sales of Banana (*Musa Sp.*) and Mangoes (*Mangifera indica*) in terms of Qualitative and Quantitative Postharvest Losses in Anuradhapura

*W. B. W. M. R. C. P. Aluwihare¹, Y. M. P. Samarasinghe¹, A. G. U. M. Gamage²
and A. M. T. N. Adikari²

¹National Institute of Postharvest Management, Sri Lanka

²Department of Postharvest Technology,
University College of Anuradhapura, Sri Lanka

*wmrcpalu@gmail.com

Fruits have huge postharvest losses at different stages of the traditional supply chain due to their perishable nature. The retailer is directly linked to the consumer and plays an important role in the fruit supply chain. This study was conducted to identify variations in qualitative and quantitative losses of selected fruits at different retail sites located in Anuradhapura. Two fruit spp. including bananas (*Musa sp.*) var. seeni and mangoes (*Mangifera indica*) var. Tom EJC were purchased from roadside retailers (T1) and air-conditioned outlets (T2) located from Thalawa to Thambuththegama. Readings of total soluble solids (TSS), physiological weight loss percentage (PWL%), firmness, pH, and color differences were taken daily while purchasing 4 kg from each fruit sample initially and keeping them in the same locations. A comparison between the two treatments was carried out according to an independent sample t-test and the data were analyzed using SPSS. Each treatment contained six replicates, and each replicate consisted of three fruit samples. The mean temperature and RH of T1 and T2 during the study period were 32±2 °C, 62±5% and 25±1 °C, 65±2%, respectively. The results showed that PWL% increased with time in both fruits, and the weight-decreasing rate was significantly higher in T1 than in T2 throughout the storage period. The firmness of both fruits decreased as the storage period progressed, irrespective of the type of retailer site. There was a significant difference in the TSS content of bananas over the past three days, while the TSS content of mangoes in both treatments increased during storage. In conclusion, the postharvest loss of bananas and mangoes in T1 and T2 were 21.7%, 9.4%, 15.7% and 9.8%, respectively. Comparatively, T2 fruit samples had good quality characteristics and could be kept longer periods (banana: 4 days and mango: 7 days). Air-conditioned retailer outlets are comparatively more efficient than roadside retail shops in terms of low postharvest losses.

Keywords: Fruits, Postharvest loss, Roadside retailers, Storage period