

Shade Curing Reduce the Postharvest Loss of Big Onion (*Allium cepa*) Selection 'Dambulla Red' at Ambient Storage Conditions

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Big onion (*Allium cepa*) is considered as a high value cash crop in Sri Lanka, where it is one of the largely consumed condiment. However, big onions are subjected to high postharvest losses during the storage period due to many reasons even though it is a semi-perishable crop. One of the major reasons is improper or no curing before or after harvesting. Major reason for improper or no curing is the rainy weather condition prevailed during the harvesting period. Therefore, this experiment was conducted to evaluate the effectiveness of shade curing as an alternative to field curing. Hence, shade curing and field curing (control treatment) considered as treatments with complete randomized design and three replicates were used. Onions were harvested from selected fields in Anuradhapura district. As measurements, Physiological weight loss (PWL), Rotting Percentage (RP), Sprouting percentage (SP), Total Soluble Solids (TSS), and Total Post-harvest Loss (TPL) were recorded at two weeks intervals for three months. PWL was higher at field cured samples where it was significantly different ($p < 0.05$) after 1st, 2nd, and 3rd months of storage period compared to shade cured samples. PWL of field cured and shade cured onions after three months of storage were 12.62 ± 1.62 and $8.04 \pm 1.6\%$, respectively. No significant differences ($p > 0.05$) were observed for TSS, RP and SP between treatments. Total postharvest loss was significantly different ($p < 0.05$) between two treatments where it was 9.15% and 13.7% for shade cured and field cured onions, respectively. Therefore, the results of the present study emphasized that the shade curing can be considered as an appropriate and important alternative method over conventional field curing. However, further research activities should be planned to reduce the storage loss of big onion through artificial curing coupled with controlling the relative humidity and temperature conditions during the storage period.

Keywords: Big onion, Condiment, Curing, Postharvest loss, Shelf life