

## Evaluation of the Effectiveness of Modified Atmospheric Packaging on Postharvest Life of Curry Leaves (*Murraya koenigii* L.)

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Curry leaves (*Murraya koenigii* L.) is a popular leafy spice, leafy vegetable and medicinal plant which is being used for culinary purposes as well as medicinal treatments. However, postharvest shelf life (PSL) under ambient condition ( $31.64 \pm 1.84$  °C;  $53.21 \pm 9.40$  RH) is around two days. Modified atmospheric packaging (MAP) has been used as an effective method to extend the PSL of perishables including leafy vegetables. Therefore, present study was conducted to evaluate the effectiveness of MAP on PSL of curry leaves at the laboratory of National Institute of Post-Harvest Management, Anuradhapura. Curry leaves were harvested from Anuradhapura district. Experiment was conducted as completely randomized design with three replicates and data were analyzed using ANOVA. Four treatments were used where, T1 (Sealed polyethylene (SPE) bags of gauge 150), T2 (Perforated polyethylene (PPE) bags of gauge 150), T3 (SPE bags of gauge 300), T4 (PPE bags of gauge 300) and CR (control treatment without a package). Curry leaves (compound leaves) of 30 g bundles were used per treatment. As measurements, leaf color values ( $L^*$ ,  $a^*$  and  $b^*$ ), leaf defoliation percentage (defoliation of leaflets from compound leaf), physiological weight loss (PWL), chlorophyll content and total carotene content were measured. Leaf color values and physiological weight loss of control samples were significantly different ( $p < 0.05$ ) compared to other treatments. Chlorophyll content was significantly different ( $p < 0.05$ ) among the treatments, no significant difference ( $p > 0.05$ ) was observed for total carotene content. Control samples showed two days of PSL where completely dried out at 3<sup>rd</sup> day of storage. Irrespective of thickness, PPE packages extended the shelf life for 4 days which was 100% increment of PSL. SPE packages of gauge 300, showed one day of storage life where it produced unpleasant odor at 2<sup>nd</sup> day of storage. SPE packages of gauge 150, extended the shelf life up to 6 days which was 200% increment of PSL. It can be concluded that SPE packages of gauge 150 can be used to extend the postharvest shelf life of curry leaves.

**Keywords:** Leafy spice, Modified atmospheric packaging, Postharvest technology, Postharvest loss