

Modified Atmospheric Packaging (MAP) Extends the Postharvest Life of *Sesbania grandiflora* (L.) Pers Fresh Leaves

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Sesbania grandiflora (L.) Pers is a popular leafy vegetable. However, postharvest life of fresh leaves at ambient condition is about 2 days, leading to high postharvest losses. Therefore, it is important to extend the postharvest life to increase the usable life where, modified atmospheric packaging (MAP) is being used effectively to extend the postharvest life of perishables. Hence, this experiment was conducted to evaluate the effect of MAP on postharvest life of *S. grandiflora* leaves at ambient condition. Four treatments were used; Sealed non perforated polyethylene bags of gauge 150 (T1), Perforated polyethylene bags of gauge 150 (T2), Sealed polyethylene bags of gauge 300(T3), perforated polyethylene bags of gauge 300 (T4) and control without a package (CR). Physicochemical parameters (leaf color values of L*, a* and b*, total color difference, chlorophyll content, physiological weight loss and visual quality rating) were measured daily. There were significant differences ($p < 0.05$) among the treatments for tested quality parameters. Visual quality rating revealed that, T1 treatment showed highest postharvest life, which was 6 days while T3 and control samples showed lowest postharvest life of 2 days. Lowest total color difference was observed in T1 (2.12 ± 0.79) emphasizing the highest color retention while highest total color difference was observed in control samples (21.87 ± 2.47) showing lowest color retention. Highest physiological weight loss was observed in control sample (56.86 ± 1.07) while lowest in T3 samples (0.84 ± 0.13) at the end of their postharvest life. Experimental results revealed that the postharvest life of T1, T2, T3, T4 and control samples as 6, 4, 2, 4 and 2 days respectively. In conclusion, sealed non perforated polyethylene bags of gauge 150 could be used effectively to increase postharvest life of *S. grandiflora* leaves in fresh form.

Keywords: Leafy vegetable, MA packaging, Postharvest losses, Shelf life, Vegetable hummingbird