Title Atmospheric compositions, respiration rate and quality of fresh-cut cabbages in active modified atmosphere packaging

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Abstract

The effects of perforated film package (PFP) on the gas concentrations and respiration rates of fresh-cut cabbage with initial O_2 concentrations of 5, 8, 10 and 21% were studied at 5 and 20°C. Microbial growth, appearance, flavor and ascorbic acid content were also determined. Respiration rate was suppressed with 5 and 8% initial O_2 during storage of 4 days. Anaerobic respiration did not occur under these low O_2 levels. It was also found that fresh-cut cabbages had better color retention and quality, and microbial population in PFP. The effect of initial 5% O_2 was the most effective in reducing the oxidation of ascorbic acid (AA) and browning of fresh-cut cabbage. Microbial analysis also showed that total count on the surface of fresh-cut cabbage was lowest among initial low O_2 treatments. Total ascorbic acid (TAA) decreased by AA oxidation after cutting. These results suggest that better quality retention of fresh-cut cabbage could be achieved with the combination of PFP with initial O_2 5-8% level and 5°C.