Title Influence of packaging materials on changing of CO_2: O_2 during the storage of fresh cut red cabbage

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Abstract

Packaging materials and changing of CO_2:O_2 during the storage of fresh cut red cabbage was studied. The statistical model was a completely randomized design comprised of 5 treatment bags as following; the polypropylene (PP), polyethylene (PE), low density polyethylene (LDPE), laminate and PVC film with 4 replication and stored at 12°C. The results showed that before storage, CO_2 content had a range of 0.90-62.37% while O_2 content had a value of 20.30-32.07%. During 24 hours of storage, CO_2 content in PVC film slightly increased but in PP and PE it showed a slight decrease. The O_2 content in all treatments decreased dramatically according to the increase in storage time and showed significant difference between treatments. The results indicated that CO_2 and O_2 content was influenced by packaging materials and reflected on quality and storage life of fresh cut red cabbage. The highest TSS content of 6.21 Brix received from fresh cut red cabbage came from those stored in a PP bag while the highest TA content was obtained from those stored in an LDPE bag at a value of 0.07% and showed significantly difference. The fresh cut red cabbage stored in film PVC showed the most fresh weight loss of 10.15% while the least was found from those stored in a PP bag at the mean of 2.59% on 10 days storage and showed significantly difference. The fresh cut red cabbage in a PP bag had the longest storage life of 18 days while those stored in a laminate bag had the shortest storage life of 8 days which significantly differed. The physical appearance of those fresh cut red cabbage in a PP bag had better performance than those stored in other packaging and maintained a good quality with 14 days in storage.