

Title Quality changes in balata (*Manilkara bidentata*) fruit as affected by modified atmosphere packaging during refrigerated storage

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Abstract

Quality changes of balata (*Manilkara bidentata*) were investigated by storing fruits in low density polyethylene bags (LDPE) and in paper bags (PB) up to 7 days at 6-7°C. The dark orange yellow, glossy skin colour with L, a, b values of 51.7, 9.9, 36.3 changed after 7 days under refrigerated conditions to 32.6, 21.1, 18.9 for fruits kept in PB and to 36.1, 23.3, 21.1 for fruits held in modified atmosphere storage in sealed LDPE bags. Likewise, the light creamy-brown flesh changed from an initial L, a, b reading of 53.2, 2.3, 27.1 to 47.5, 1.7, 15.4 for control fruit and to 45.5, 1.7, 13.4 for sealed LDPE fruit. The modified atmosphere created within the sealed LDPE bags effectively controlled fresh weight losses to only 0.13% compared to 6.2% for fruit in paper bags over the entire 7 days at 6-7°C. In addition, fruit kept in LDPE bags attained higher total soluble solids (TSS), pH, TSS:TTA and vitamin C retention compared to their counterparts in PB. Fruit in LDPE bags maintained their glossy appearance and had a more acceptable taste and flavor than fruit stored in PBs. Generally, balata fruit with a mean fruit weight ranging from 9.06 to 13.18 g have a juicy, sweet tasting flesh that accounts for 43% of the fruit weight. The remainder of the fruit is made up of inedible skin (34.8%) and seed (22.2%).