

Abstract

Pineapple fruit cv. 'Trad-seethong' at color break were subjected to high O₂ levels of 40%, 60% or 80% (balance N₂) or air (21% O₂, control) at 8°C with 90-95% RH and the physical and respiratory changes during ripening were examined. Shell yellowing proceeded at a slower rate in high O₂ indicated lower L* and higher h_o than that in air. High O₂ retardation of ripening was also evident in terms of reduced rate of softening. The different high O₂ levels did not differ much in causing these effects. Respiration rate appeared to be stimulated by high O₂, particularly at the earlier part of the storage period. The respiratory increase was highest at 40% O₂ and with increasing high O₂ level, respiratory stimulation decreased. Despite the high respiration rate, weight loss of high O₂-stored fruits was kept at 1% or lower throughout the storage period whereas weight loss in air increased to about 7% at the end of the 20-days storage period.