

Abstract

Pineapple fruit cv. 'Trad-seethong' at color break were stored in controlled atmospheres (CA) of combined low O₂ (3% or 5%) and high CO₂ (5% or 10%) or in air (control) at 8°C and the physical and respiratory changes associated with ripening were determined. CA inhibited shell yellowing indicated also as lower L* and h_a but had no marked effect on fruit softening. Low O₂ influenced shell yellowing more than high CO₂. 3% O₂ had greater inhibitory effect than 5% O₂ and increasing the CO₂ level as combined treatment from 5% to 10% had no added effect. Respiration rate increased in response to CA and high CO₂ appeared to have greater influence on this effect than low O₂. Respiration rates were greater at 10% CO₂ than at 5% CO₂ regardless of the low O₂ level. All CA treatments markedly reduced fruit weight loss to only 1% or lower throughout the 25-day storage. In air, weight loss was about 7% after 20 days storage.