

Abstract

Longan fruit cv. 'Daw' harvested at the commercial stage were held in controlled atmosphere (CA) chambers applied with 2-4% O₂ and 5-15% CO₂ gas mix (balance N₂) or air (control) at 4°C with 95% relative humidity. All CA levels effectively inhibited pericarp browning relative to the control. Polyphenol oxidase (PPO) activity correspondingly decreased resulting to reduced phenolics oxidation indicated by retention of higher phenolics content than that in air. Phenylalanine ammonia lyase (PAL) also decreased and may have contributed to the reduction of browning. Most effective CA level was 2% O₂ combined with 15% CO₂, retarding browning by 10 days. However, pulp ethanol content increased in CA-stored fruits compared to control fruit.