

### **Abstract**

The effects of high O<sub>2</sub> atmosphere (HOA) on peel browning and phenolic metabolism in longan were determined. Fruit cv. 'Daw' at the commercial ripe stage were held in controlled atmosphere (CA) chambers flushed with 50%, 60%, 70% or 80% O<sub>2</sub> or air (control) at 4°C and 95% relative humidity. Pericarp browning rapidly increased during storage accompanied by increases in polyphenol oxidase (PPO) activity. All HOA levels markedly reduced browning and PPO activity, with 70% O<sub>2</sub> as the most effective. Consequent to the reduction of PPO activity, phenolics content of HOA stored fruits was higher than the control. In contrast to PPO, phenylalanine ammonia lyase (PAL) activity was decreased with storage period. The magnitude of decrease in PAL was higher in HOA than in air.