

**Title** Physiological changes in longan (*Dimocarpus longan* Lour.) fruit during controlled atmosphere storage

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#### **Abstract**

Longan (*Dimocarpus longan* Lour.) fruit cv. Daw harvested at the commercial stage were enclosed in controlled atmosphere (CA) chambers ventilated with 2 or 4% O<sub>2</sub> combined with 5 and 15% CO<sub>2</sub> (balance N<sub>2</sub>) or air (control) at 4°C and 95% relative humidity. The changes in respiration, ethylene production and weight loss were evaluated at 5 day interval. CA-stored fruits had lower rates of respiration than those fruits stored in air throughout storage. CA totally inhibited the rise in ethylene production as manifested by fruits in normal atmosphere. CA also reduced weight loss, with the CO<sub>2</sub> level exerting a more dominant effect than low O<sub>2</sub>. Of the atmospheres applied, the combination of 2% O<sub>2</sub> and 15% CO<sub>2</sub> had the greatest impact at reducing respiration, ethylene production and weight loss.