

**Title** Effects of short-term N<sub>2</sub> treatment on quality of loquat fruit during cold storage

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#### **Abstract**

Freshly harvested loquat (*Eriobotrya japonica* Lindl. cv. Dahongpao) fruit were exposed to 100% N<sub>2</sub> for 6 h at 20°C and then stored at 5°C for 35 days to investigate the effect of short-term N<sub>2</sub> treatment on quality of the fruit. Fruit decay rate, total soluble solids (TSS) and total titratable acidity (TA) contents, membrane permeability, malondialdehyde (MDA) content were measured. The short-term N<sub>2</sub> treatment significantly delayed the increase of fruit decay rate and delayed the decreases of total soluble solids (TSS) and total titratable acidity (TA) contents, thereby maintaining better eating quality and extending the storage life of the fruit. The short-term N<sub>2</sub> treatment also markedly delayed the increases in membrane permeability, malondialdehyde (MDA) content. These results suggest that a pre-storage pure N<sub>2</sub> treatment for 6 h can effectively reduce fruit decay, delay the peroxidation of membrane lipid and maintain quality of loquat fruit. Therefore, a short-term N<sub>2</sub> treatment in combination with low temperature could be a useful technique to maintain quality of postharvest loquat fruit.