

**Title** Methyl jasmonate reduces chilling injury and enhances antioxidant enzyme activity in postharvest loquat fruit

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#### **Abstract**

Loquat fruit were pre-treated with 10  $\mu\text{mol/l}$  methyl jasmonate (MeJA) for 24 h at 20 °C, and then stored at 1 °C for 35 days to investigate the effect of MeJA treatment on chilling injury and changes in the antioxidant system. Loquat fruit developed chilling injury, manifested as increased fruit firmness, decreased extractable juice rate and internal browning during storage. These chilling injury symptoms were significantly reduced by MeJA treatment. MeJA also markedly delayed the increases in  $\text{O}_2^{\bullet -}$  production rate and  $\text{H}_2\text{O}_2$  content. Meanwhile, the MeJA-treated fruit exhibited significantly higher activities of superoxide dismutase, catalase and ascorbate peroxidase, and lower activity in lipoxygenase than control fruit during the storage. The ratio of unsaturated/saturated fatty acid in MeJA-treated fruit was also significantly higher than that in control fruit. These results suggest that the reduction in chilling injury by MeJA may be due to enhanced antioxidant enzyme activity and higher unsaturated/saturated fatty acid ratio.