

**Title** Inhibition of browning on the surface of apple slices by short term exposure to nitric oxide (NO) gas

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#### **Abstract**

Freshly cut slices of apple (*Malus x domestica* Borkh cv. Granny Smith) were fumigated with nitric oxide (NO) gas at concentrations between 1 and 500  $\mu\text{l l}^{-1}$  in air at 20 °C for up to 6 h followed by storage at 0, 5, 10 and 20 °C in air. Exposure to nitric oxide delayed the onset of browning on the apple surface with the most effective treatment being fumigation with 10  $\mu\text{l l}^{-1}$  NO for 1 h. While nitric oxide inhibited browning in slices held at all temperatures, it was relatively more effective as the storage temperature was reduced with the extension in postharvest life over the respective untreated slices increasing from about 40% at 20 °C to about 70% at 0 °C. In a smaller study on ‘Royal Gala’, ‘Golden Delicious’, ‘Sundowner’, ‘Fuji’ and ‘Red Delicious’ slices stored at 10 °C, 10  $\mu\text{l l}^{-1}$  NO for 1 h was found to be effective in inhibiting surface browning in all cultivars.