

Title Use of nitric oxide to reduce surface browning of fresh cut lettuce and apple slices
Authors R.B.H. Wills, P. Pristijono, J.B. Golding
Citation ISHS Acta Horticulturae 746:237-244. 2007.
Keywords 2;2'-(hydroxynitrosohydrazino)-bisethanamine; DETANO; postharvest life

Abstract

Browning of the cut surfaces of fresh cut slices of apple and iceberg lettuce was inhibited by postharvest fumigation with nitric oxide (NO) gas or dipping in a solution of the NO-donor compound, 2,2'-(hydroxynitrosohydrazino)-bisethanamine (DETANO) and thus postharvest life was extended. For cut lettuce, the most effective treatments were fumigation with 500 $\mu\text{L/L}$ NO for 1 h, and dipping in 500 mg/L DETANO for 5 min while for apple, the most effective treatments were fumigation with 10 $\mu\text{L/L}$ NO for 1 h and dipping in 10 mg/L DETANO for 15 sec. For both produce, dipping in DETANO solution was the more effective as it generated a 100% increase in postharvest life compared to a 70% increase due to NO gas. Solutions of DETANO in water were found to be relatively stable as the same extension in postharvest life was obtained for five batches of produce sequentially dipped in the same solution.