Title Browning on the surface of cut lettuce slices inhibited by short term exposure to nitric oxide (NO)

Author R.B.H. Wills, P. Pristijono and J.B. Golding

Citation Food Chemistry, Volume 107, Issue 4, 15 April 2008, Pages 1387-1392

Keywords Nitric oxide; Cut lettuce; Postharvest life; Browning

Abstract

Freshly cut lettuce slices (*Latuca sativa* L.) were fumigated with nitric oxide (NO) gas at concentrations between 5 and 1000 μl/l in air at 20 °C for 1–4 h or dipped in an aqueous solution of the NO-donor compound, 2,2′-(hydroxynitrosohydrazino)-bisethanamine (DETANO) at concentrations between 10 and 1000 mg/l for 15 s to 60 min at 20 °C. Development of browning on the cut surfaces was inhibited during subsequent storage at 0 °C. The most effective treatments for extending postharvest life of lettuce slices were fumigation with 500 μl/l NO for 1 h, and dipping in 500 mg/l DETANO for 5 min. Dipping in DETANO solution was, however, more effective as it generated a 100% increase in postharvest life compared with 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 lettuce sequentially dipped in the same solution.