Title Effect of 1-MCP treatment on postharvest quality characters, antioxidants and glucosinolates of Chinese kale

Author Bo Sun, Huizhuan Yan, Na Liu, Jia Wei and Qiaomei Wang

Citation Food Chemistry, Volume 131, Issue 2, 15 March 2012, Pages 519–526

Keywords Chinese kale; 1-Methylcyclopropene; Bolting stems; Antioxidants; Glucosinolates

Abstract

The effect of 1-methylcyclopropene (1-MCP) on postharvest characters, antioxidants and glucosinolate contents in bolting stems of Chinese kale (*Brassica alboglabra* Bailey) was investigated. Chinese kale was treated with air (control) and 10 $\mu l\,l^{-1}$ of 1-MCP for 24 h, followed by storage for up to seven days at 20 °C. 1-MCP treatment obviously extended the shelf life, delayed weight loss and decreased the rate of softening, chlorophyll degradation and changes in hue angle. In addition, ethylene production was suppressed and the respiration rate declined. Moreover, 1-MCP treatment postponed the decrease of ascorbic acid, carotenoids and glucosinolates. 1-MCP treatment of bolting stems also delayed the accumulation of total phenolics, and maintained a high level of antioxidant capacity. These results demonstrate that 1-MCP treatment is a good practice for extending shelf life, maintaining the appearance and nutrient value, and reducing the loss of health-promoting compounds, particularly antioxidants and glucosinolates in the Chinese kale.