Title Impact of cold storage on glucosinolate levels in seed-sprouts of broccoli, rocket, white radish and kohl-rabi

Author Lesleigh E. Force, Timothy J. O'Hare, Lung S. Wong and Donald E. Irving

Citation Postharvest Biology and Technology, Volume 44, Issue 2, May 2007, Pages 175-178

Keywords Brassicas; Refrigeration; Isothiocyanates; Cancer

Abstract

The effect of cold storage on glucosinolate concentration was examined in 7-day-old seed-sprouts of broccoli, kohl rabi, white radish and rocket. Principal glucosinolates identified were glucoraphanin and glucoerucin (in broccoli, kohl rabi and rocket), glucoiberin (in broccoli and kohl rabi), and glucoraphenin and glucodehydroerucin (in white radish). Generally, sprouts showed no significant changes in individual glucosinolate concentrations during storage at 4 °C for 3 weeks. The exception to this was rocket, which showed a significant decline in glucoerucin and glucoraphanin after 1 and 2 weeks, respectively. These preliminary results indicate that as there is no significant loss of glucosinolates in broccoli, radish and kohl rabi sprouts, these sprouts may be stored under domestic refrigeration conditions without significant loss of potential anti-cancer compounds. Rocket sprouts, on the other hand, should be consumed soon after purchase if glucosinolate levels are to be maintained.