

Title Effect of temperature abuse during transport of modified atmosphere packaged broccoli
Author D. Ihringer, W. Schotsmans, A.J. Mawson and B. MacKay
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Abstract

International trade in horticultural crops often requires lengthy transport during which interruption in the cool chain can have detrimental effects on product quality. Modified atmosphere packaging presents a possibility to extend storage life even under less than favourable temperature conditions. The influence of the extent, timing and duration of temperature abuse on the quality of broccoli stored in modified atmosphere packages was investigated. Minor fluctuations around the desired air temperature did not markedly influence broccoli quality and the established atmosphere was generally favourable for protection against imposed temperature changes. Overall weight loss was increased by storage at 20°C but not by temperature increases to 10°C. Yellowing occurred in larger heads as soon as temperature changes took place. Although a sensory panel did not detect a decrease in overall quality, temperature abuse towards the end of storage resulted in faster yellowing. Rots occurred on some larger heads due to the presence of condensation water resulting from the temperature fluctuations.