

Title The effect of Smartfresh™ (1-methylcyclopropene) on post harvest storage quality of 'Bon Chretien' pears

Author I. Crouch

Citation ISHS Acta Horticulturae 671: 333-340. 2005

Keywords 1-MCP, *Pyrus communis*, fruit softening, cold storage

Abstract

Due to its ethylene blocking effect, SmartFresh™ has potential to maintain the quality of a range of fresh produce during cold storage and shelf life. SmartFresh™ applied at concentrations between 50 nL•L⁻¹ and 1000 nL•L⁻¹ proved effective in extending cold storage duration and shelf life of 'Bon Chretien' pears. Application of 500 nL•L⁻¹ and 1000 nL•L⁻¹ SmartFresh™ resulted in fruit that did not ripen normally. Fruit remained too firm and skin colour development was inadequate. Application of SmartFresh™ at lower concentrations (50 nL•L⁻¹, 100 nL•L⁻¹ and 200 nL•L⁻¹) to fruit at more advanced maturities enabled effective improvements in fruit storage duration and shelf life without adversely affecting eating quality. SmartFresh™ application (100 nL•L⁻¹ and 500 nL•L⁻¹) to fruit stored at -0.5°C for 8 weeks indicated no benefit, regardless of concentration applied.