Title Evaluation of 1-MCP on storage quality of Bramley's apple seedling under cold storage and barn storage conditions

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Abstract

SmartFresh (1-MCP) prevents the ripening of fruit by blocking ethylene receptors. Bramley's apple seedling is highly sensitive to ethylene. SmartFresh has been shown to work under local barn storage conditions up until December (three months) but for an economic return on the use of SmartFresh, a much longer storage period is required. Therefore in 2004 a large scale experiment was set in which bins of Bramleys were treated with SmartFresh (7 or 14 days after picking), +/- fungicide, or untreated and stored in non-temperature regulated barns, or refrigerated at 4.3°C. The apples were sub-sampled at monthly intervals from December 2004 through March 2005. Over the storage period SmartFresh decreased the loss of quality as recorded by pressure tests, weight loss and colour loss. SmartFresh treated apples in cold storage were of much higher quality in all respects over Barn stored apples. Where the application of SmartFresh was delayed from seven to fourteen days after picking its effectiveness was reduced across all parameters measured.