

Title Beneficial effects of a pre-commercial application of SmartFreshsm (1-methylcyclopropene) on texture preservation and reduced weight losses of 'hayward' kiwifruit: potential commercial benefits of SmartFreshsm (1-MCP) for retarding ripening and extending the storage and shelf life of 'Hayward' kiwifruit

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Abstract

A pre-commercial application of SmartFreshSM (1-methylcyclopropene) was carried out in a coolstore, in Pieria, the main kiwifruit growing area of Greece, to determine the commercial benefits of the new technology for the Greek kiwifruit industry. The aim of this study was to evaluate under commercial storage conditions of kiwifruit whether SmartFreshSM (SF) shows the same effects found from previous pilot studies to extend the marketing period and to determine the commercial benefits of the application of SF technology. The study showed that the SF-treated fruit remained firmer than the control fruit, during storage and shelf life and consequently had an extended marketing period for wholesale and retail operations. However, during shelf life the SF-treated fruit resumed softening and by the end of the storage period had developed the melting flesh texture of eating-ripe kiwifruit. In terms of changes in soluble solids content, the SF-treated fruit reached, with no delay, by the end of the storage period a maximum soluble solids content no different to that of the control fruit. During the storage period the SF-treated fruit lost less weight (about 45%) than the control fruit. If we consider that weight losses are quantitative losses (loss of saleable weight) the above finding gives an important advantage in favor of SF technology.