Title An integrated technology including 1-MCP to ensure quality retention and control of microbiology in fresh and fresh-cut fruit products at non-ideal storage temperatures

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Abstract

Many fruits and fruit products cannot be stored at ideal temperatures for any number of reasons including susceptibility to chilling injury or lack of adequate cooling during latter stages of the distribution chain. In such cases 1-MCP could provide control of ripening at the higher temperature. However, problems with growth of fungi and bacteria increase when ideal temperature control is lost. The problem relating to microbial growth is considered the limiting criterion for handling product at higher temperatures. Therefore a set of measures are required to deal with microbial growth under high temperature handling conditions. In response to this problem, an integrated technology was developed to utilize 1-MCP for ripening control of climacteric fruit under non-ideal temperature conditions, incorporating other features that ensured control of microbial growth in a modified atmosphere packaging format. The full details of the technology will be disclosed and examples of the performance will be given for storage of modified atmosphere packaged whole stone fruit and fresh-cut fruits and vegetables.