

Title Postharvest effects on the quality of horticultural products : using 1-MCP to understand the effects of ethylene on ripening and senescence processes

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Abstract

Many definitions of quality exist as it is judged according to personal preference and need. Quality varies though the distribution pathway, only ending with the expectations of the consumer. Meeting expectations of quality can be difficult, as while the consumer has access to a greater variety of products than ever before, concerns about flavor and quality exist. Postharvest physiologists have provided leadership in developing technologies to manipulate ripening and senescence of products, but the physiological and biochemical understanding of these processes is not always clear. The advent of 1-methylcyclopropene (1-MCP) as an inhibitor of ethylene perception is contributing greatly to understanding of ethylene-dependent and ethylene-independent events during ripening and senescence. In this presentation the effects of 1-MCP on ethylene metabolism, respiration, pigment metabolism, cell wall metabolism, volatile compound metabolism, nutritional quality and physiological and pathological storage disorders will be reviewed. Emphasis will be given to insights that 1-MCP is providing on the responded of fruit and vegetables to temperature and atmosphere modification.