Title Responses of different maturity stages of tomato fruit to different storage conditions

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Citation Abstracts of 7th International Postharvest Symposium 2012 (IPS2012). 25-29 June, 2012. Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia. 238 pages.

Keywords tomato; maturity stage

Abstract

In tomato as a climacteric fruit, fruit ripening can be completed after harvest. Provided that appropriate storage condition for a given harvesting stage is implemented, fruits are endowed with proper quality for the market. In order to study the effects of maturity stage on fruit storage life, tomato fruits were harvested at three ripening stages. They were stored at three storage temperature conditions including 5 °C, 13 °C, and a simulated condition (SC) of the interval between harvest and consumption by the consumer. Fruit color, Iycopene, firmness, pH, titratable acidity (TA), total soluble solids (TSS), ascorbic acid, weight loss, and chilling injury (CI) were measured and evaluated during the experiment. Results showed that at the end of the storage at 13 °C, mature green fruits had relatively similar values of color, lycopene content, TA, TSS, and firmness compared to the red ones; however ascorbic acid did not accord. While storage of different maturity stages of tomatoes at 13 °C developed normal ripening, storage at 5 °C and SC disturbed the normal ripening process.