

THE EFFECTS OF 1-METHYLCYCLOPROPENE (1-MCP) AND DEASTRINGENCY TREATMENTS ON SHELF LIFE OF THREE STAGES OF MATURITY OF JAPANESE PERSIMMON (*Diospyros kaki* L.) HIRATANENASHI CULTIVAR

ABSTRACT

By:

ALICIA LIANA ATMADI

15/380067/TP/11268

Japanese Persimmon ‘Hiratanenashi’ as astringent cultivar needs deastringency treatment before being consumed. There are three maturity stages; early, optimum, and late harvest. 1-Methylcyclopropene (1-MCP), known as strong inhibitor of ethylene action, could delay ripening. To understand the application of 1-MCP on flesh firmness, peel color, and soluble tannin content in three stages also if combined with other treatment such as precooling and 80% CO₂ treatment in optimum harvest. The fruits were stored during five months. The application of 1 ppm of 1-MCP could maintain the shelf life of fresh Japanese persimmon during 5 months storage at 0°C in each maturity stage; 3 months in early harvest, 2 months in optimum harvest, and 1 month in late harvest. In optimum harvest, the combination between 1-MCP with other treatment were not effective to maintain the shelf life of Japanese persimmon. The deastringency treatment without the combining with other treatments in optimum harvest stage resulted the high flesh firmness value, maintaining the shelf life of Japanese persimmon during 5 months storage. The early stage resulted the best quality of Japanese persimmon among the other stages. The longer of harvesting time decreasing the quality of fruits.

Keywords: Japanese persimmon fruit; soluble tannin content; peel color; firmness; shelf life, ripening, storing, maturity stages

PENGARUH PERLAKUAN 1-METILSIKLOPROPENA (1-MCP) DAN DEASTRINGENSI TERHADAP UMUR SIMPAN DARI TIGA TINGKAT KEMATANGAN KESEMOK JEPANG (*Diospyros kaki* L.) KULTIVAR HIRATANENASHI

ABSTRAK

oleh:

ALICIA LIANA ATMADI

15/380067/TP/11268

Kesemek Jepang 'Hiratanenashi' sebagai kultivar buah sepat membutuhkan perlakuan deastringensi sebelum dikonsumsi. Ada tiga tahap masa panen; *early harvest*, *optimum harvest*, dan *late harvest*. 1-Methylcyclopropene (1-MCP), yang dikenal sebagai inhibitor kuat senyawa etilen, dapat menunda pematangan. Untuk memahami penerapan 1-MCP pada kekerasan buah, warna kulit, dan kandungan tanin terlarut dalam tiga tahap juga jika dikombinasikan dengan pra-pendinginan dan penambahan 80% CO₂ pada tahap *optimum harvest*. Buah-buahan disimpan selama lima bulan. Penerapan 1 ppm 1-MCP dapat menjaga umur simpan buah kesemek Jepang segar pada 0°C pada tiap tingkat kematangan buah, yaitu 3 bulan pada *early harvest*, 2 bulan pada *optimum harvest*, dan 1 bulan pada *late harvest*. Pada *optimum harvest*, kombinasi antara 1-MCP dengan perlakuan lain tidak efektif untuk mempertahankan umur simpan kesemek Jepang. Perlakuan deastringensi pada tahap *optimum harvest* menghasilkan nilai kekerasan buah yang tinggi, mempertahankan umur simpan kesemek Jepang selama penyimpanan 5 bulan. Tahap awal panen menghasilkan kesemek Jepang kualitas terbaik di antara tahap-tahap lainnya. Semakin lama waktu panen semakin menurunkan kualitas buah.

Kata kunci: buah kesemek Jepang; konten tanin terlarut; warna kulit; ketegasan; umur simpan, pematangan, penyimpanan, tahap kematangan