

Harvest maturity and storage temperature of low chilling requirement new pear cultivar 'Taichung No. 2' in Chinese Taipei

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Abstract

The high yield and good quality of 'Taichung No. 2' pear are very welcome to growers and consumers. However, watercore of fruits is still a problem. In order to investigate the optimum harvest maturity and storage temperature of this new cultivar, fruits harvested at 20, 21, 22, 23, 24 weeks after anthesis were stored at 1, 5 and 10°C, respectively. The quality and disorder occurrence of fruits were surveyed and analyzed. The results showed that the highest content of total soluble solids, total sugar, fructose, glucose and sorbitol were found in fruits harvested at 23 weeks after anthesis. Sucrose content, flesh firmness and calcium concentration were similar in fruits harvested at 23 and 24 weeks after anthesis. However, fruit weight, ethylene production and respiration rate continuously increased in fruits harvested from 23 to 24 weeks after anthesis. Therefore, the appropriate harvest stage was recommended on 22-23 weeks after anthesis. Total soluble solids and ethylene production were not significantly different among fruits stored at 1, 5 and 10°C, whereas flesh firmness was higher in fruits stored at 1 and 5°C for 16 weeks. Respiration rate was lower during 4 to 12 weeks storage at 1 and 5°C than storage at 10°C, and no significant difference was found at the end (16 weeks storage) of experiment among three treatments. The minimum weight loss and watercore occurrence were found in fruits stored at 5°C. The optimum storage temperature is suggested at 5°C.